Wiring schematics

Parallel cable
(Must be powered)

Programming software
(TBVST-EN)

Connector junction
(ADP-2)

SIO cable
(RP9041-010)

ADP cable
(RP9050-010)

RS232/485 adaptor
(ADP-1)

Mechatronics Cylinder
PC Tool Kit
TBVST-EN

Operation Manual
(TBVST. CTA-1EX, MVST)

Table of Contents

1. Summary of PC Programming software (TBVST-EN)

The Mechatronics Cylinder programming software consists of the following 4 programs:
(1) TBVST
(2) CTA-1EX
(3) MVST
(4) CTCTOOL

[TBVST] is an easy-to-use operation and teaching tool which allows the Mechatronics Cylinder to be programmed by GUI (Graphical User Interface) operation. TBVST will run only when the actuator is connected (online)

[CTA-1EX] is a spread-sheet type parameter editor which allows access to program files online and offline.

[MVST] is a parameter set up tool for Mechatronics Cylinder Servo Motors (RSA models).

[CTCTOOL] is an easy-to-use PLC programming tool which allows Dyadic sequence devices (from the CTC product line) to be programmed by GUI operation.

WARNING – PLEASE ENSURE YOUR ACTUATOR HAS 24VDC POWER BEFORE RUNNING PCTOOL. RUNNING PCTOOL WITH AN UNPOWERED AXIS CONNECTED MAY RESULT IN DAMAGE TO YOUR SERIAL PORT.

1.1. Installation of PC software (TBVST-EN)

When you insert the CD into the drive, the main menu should automatically appear.
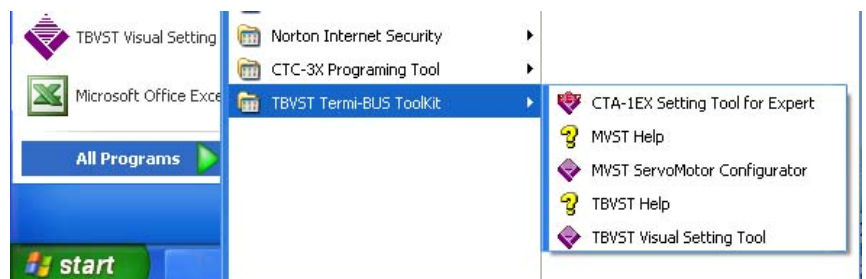If the main menu doesn't appear, please double-click [opdr.exe] in the CD to start.
If you experience any errors during the installation process please call Mirai Inter-Tech at 905-763-9442.

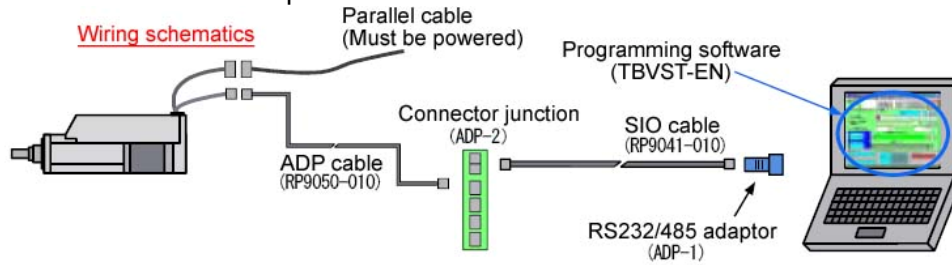*Please click the TBVST button and follow the instructions to install.*

After installation is complete, the "TBVST Termi-BUS Toolkit" folder will appear as follows:
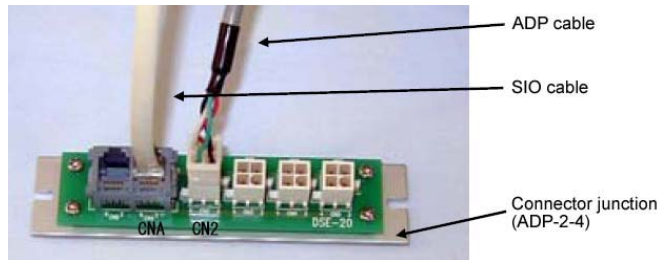
2. Initial operation using TBVST

Please connect cables and adaptors as follows:

Please note that the ADP cable from the Mechatronics Cylinder should be connected in CN2 of the connector junction (ADP-2-4) and the SIO cable should be connected in CNA of the connector junction (ADP-2-4) as follows:

Please connect the SIO cable with ADP-1 and connect it to the serial port (COM port) of the PC. If the PC has only USB ports, please install a commercially available USB-Serial converter adaptor. Some USB-Serial converters may not work with Dyadic products. When choosing a converter please look for "High-Speed" or 115kbps capability listed on the package. Keyspan is one manufacturer that seems to make reliable converters.
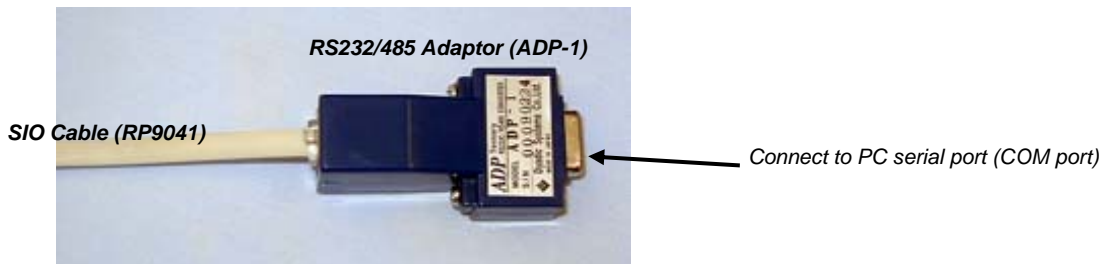
Notes: The ILK conductor should be wired (to +24VDC for PNP, 0V for NPN).
If there are unused conductors, please make sure they don't short.

After turning the Actuator power ON and starting TBVST you will see the serial port selection dialog as follows. Please select the serial port number to which the actuator is connected now.
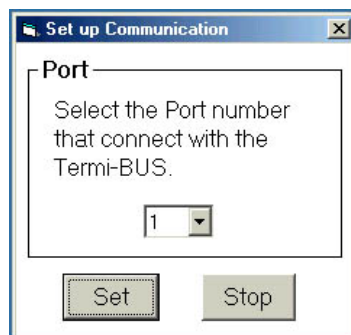
After communication is established, the following main menu will be displayed.
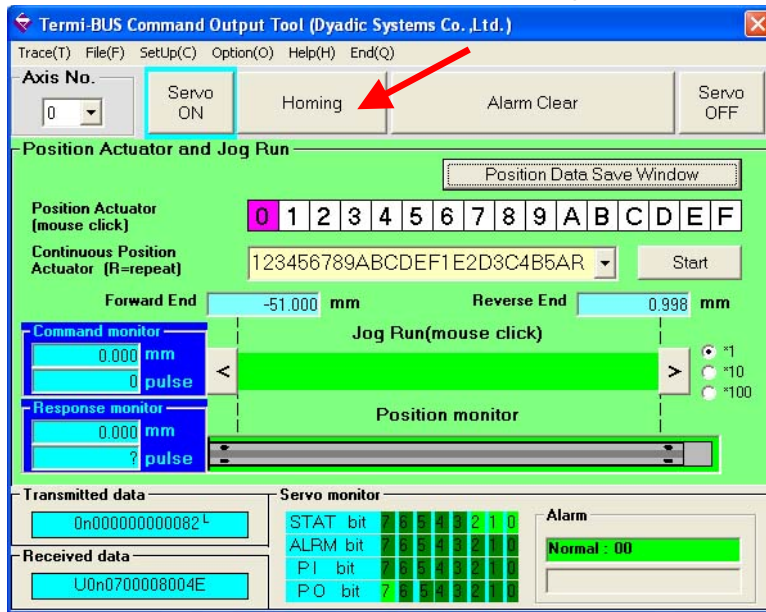
Please click [Homing], so that the Mechatronics Cylinder will home itself.
If the Mechatronics Cylinder doesn't move to home, please check all wiring, with particular attention to the ILK wiring (to +24VDC for PNP model, 0VDC for NPN model).
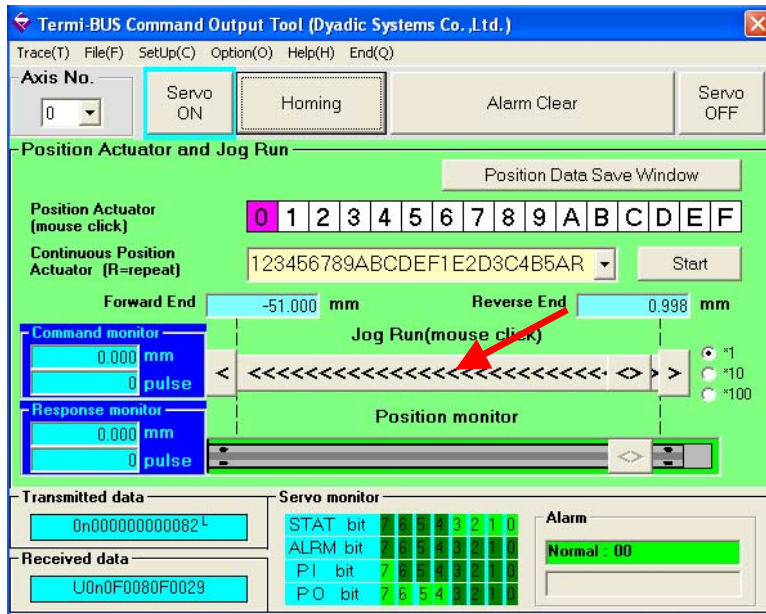
After homing, the menu screen will appear as above, with the jog function (see red arrow) now available.

2.1. Quick Start – Setup of 3 Basic Positions

	Target stop position	Move speed
Position 0	- 0 mm (Note 1)	400 mm/sec
Position 1	- 45 mm (Note 1)	200 mm/sec
Position 2	- 25 mm (Note 1)	300 mm/sec

Position 1 (- 45mm)
Position 2 (- 25mm)
Position 0 (-0mm)

Notes: Values will deviate from whole numbers by several hundredths of a mm due to encoder resolution.

If the setup is factory default (home to motor end), the position values are negative.
If homing is set to the extended direction, the position values will be positive.
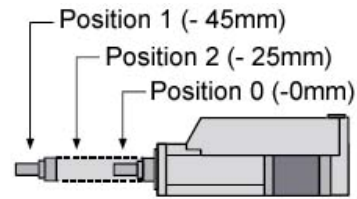
(1) Position 1 programming

Click [1] of the "Position Actuator" bar.

Drag the handle of the jog bar and move it to about [-45mm]; the actuator shaft will move.
When the actuator shaft is in the desired position, click the "Position Data Save Window" button to go to the [Position Data Edit Menu].

The dialog box at right will pop up.
We want to teach the controller the current position of the actuator, so click [Yes].

Select edit mode of position editor
Do you want to replace the target position of this number as the actual position ?
Yes   No

The "Position Data Edit" window as follows will pop up next. Note that your position has been entered.
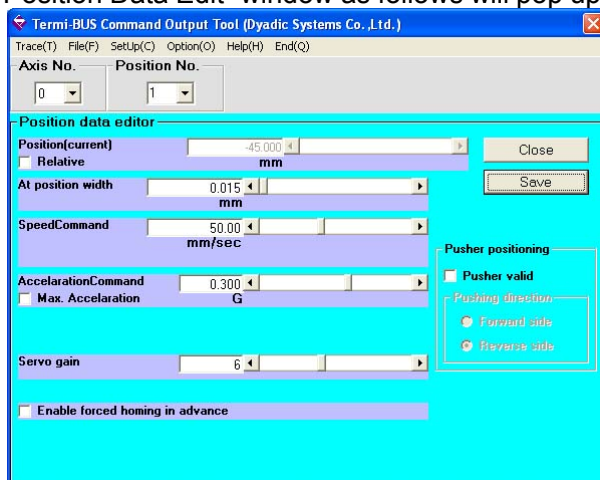
Next is the speed data setting. Type the desired value [200] in the "SpeedCommand" data box. Another way to edit speed data is to drag the slide bar shown.

Click "Save" to store in controller

Note that if your actuator is made for a lower top speed than the value you have typed your value will not be accepted by the software. Please review published spec sheets for max speed and acceleration of all actuators.

Now position 1 programming is complete, so please click the [Close] button (above the [Save] button) to go back to the main window of TBVST.

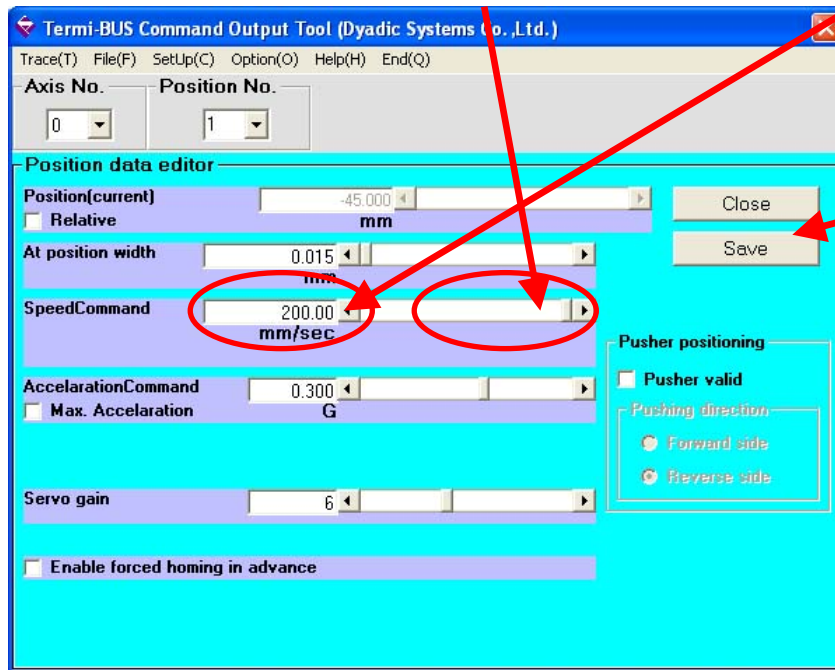Program position 2 by repeating the position 1 programming.

(4) Demo operation
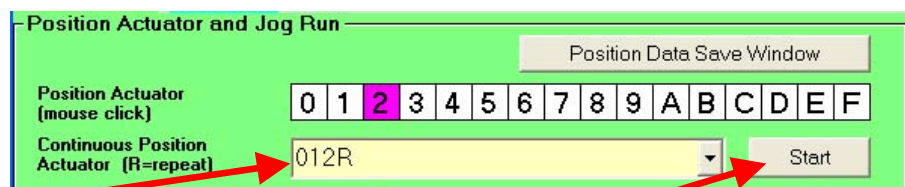
Please type "012R" in the Position Actuator window, then click [start].
This will repeated motions of [Position 0] → [Position 1] → [Position 2] → [Position 0] →[Position 1] → [Position 2] → [Position 0] → continuously.
Please click "Stop" to stop the demo loop. Note that this loop just runs from the PC – it is not stored in the servo controller.

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2.2. Quick Start – Setup of a Push Force Move

This example will move the Mechatronics Cylinder to the position of -5mm at a speed of 200mm/sec, then transition to a low-speed, force controlled move which seeks to push the target object at 20% of peak force.
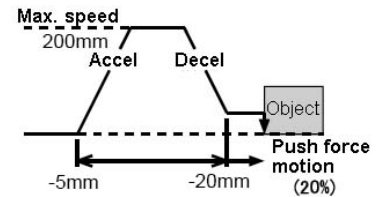
	Target stop position	Move speed	Push force
Position 0	- 0 mm	400 mm/sec	
Position 1 (push force)	- 5 mm (Note 1)	200 mm/sec	32%

Note 1: If the homing parameters are factory default (home to reverse), position values are negative.

(1) Position 1 programming

Please click [1] on the "Position Actuator" menu.

Drag the handle of the jog bar and move it to about [-5mm]; the actuator shaft will move. When the actuator shaft is in the desired position, click the "Position Data Save Window" button to go to the [Position Data Edit Menu].

The dialog box at right will pop up.
We want to teach the controller the current position of the actuator, so click [Yes].

The "Position Data Edit" window as follows will pop up next. Note that your position has been entered.

Next is the speed data setting. Type the desired value [200] in the "SpeedCommand" data box. Another way to edit speed data is to drag the slide bar shown.

Click "Save" to store in controller

Now we will set up the push direction and the amount of force desired for the force-controlled portion of the move. Click the "Pusher Valid" check box – the "PusherForceCommand" control will be visible. Set the force to a value between 15 and 40% and click the "Reverse Side" radio button to set the direction of force. Click "Save".

Now position 1 is set as a force-controlled move. Click the [Close] button (above [Save]) to go back to the main window of TBVST.

---

(3) Test Operation
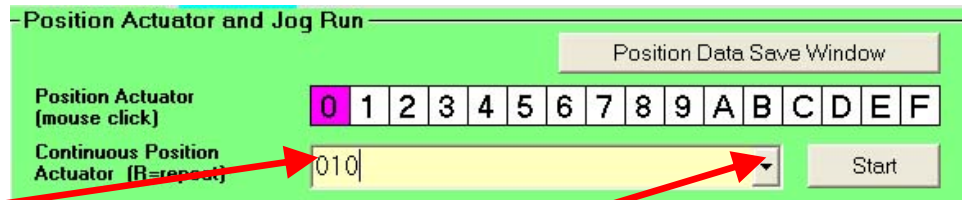
Please type "010" in Position Actuator window. Get ready to stop the shaft of the actuator while position 1 is running, then click [Start].

The software will run motions as follows:

[Position 0] → [Position 1] → (Please stop the shaft) → [Position 0] → << Click Stop>>

You can adjust the "PusherForceCommand" parameter to change the amount of force the actuator applies to your hand.

3. Detailed Review of TBVST

TBVST is the programming software for Dyadic Mechatronics Cylinder products.

3.1. Serial port selection

Please connect the Mechatronics Cylinder as per section 2: Initial Operation…".
Start the TBVST software. The serial port selection dialog box as follows will appear; please select the number of your COM port.
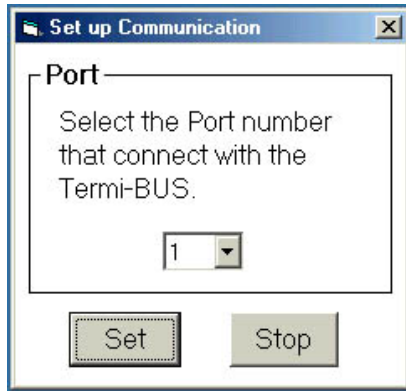
3.2. Main Menu

After communication is established, the following main menu will be displayed.

Axis No.

[0 ▼]

Please select the actuator axis number that is connected. When only one axis is connected, it will not be necessary to change this value.

The default axis number is 0 and it is written on the EEPROM memory in the controller of the Mechatronics Cylinder. To connect multiple-axes, unique axis numbers must be assigned for each axi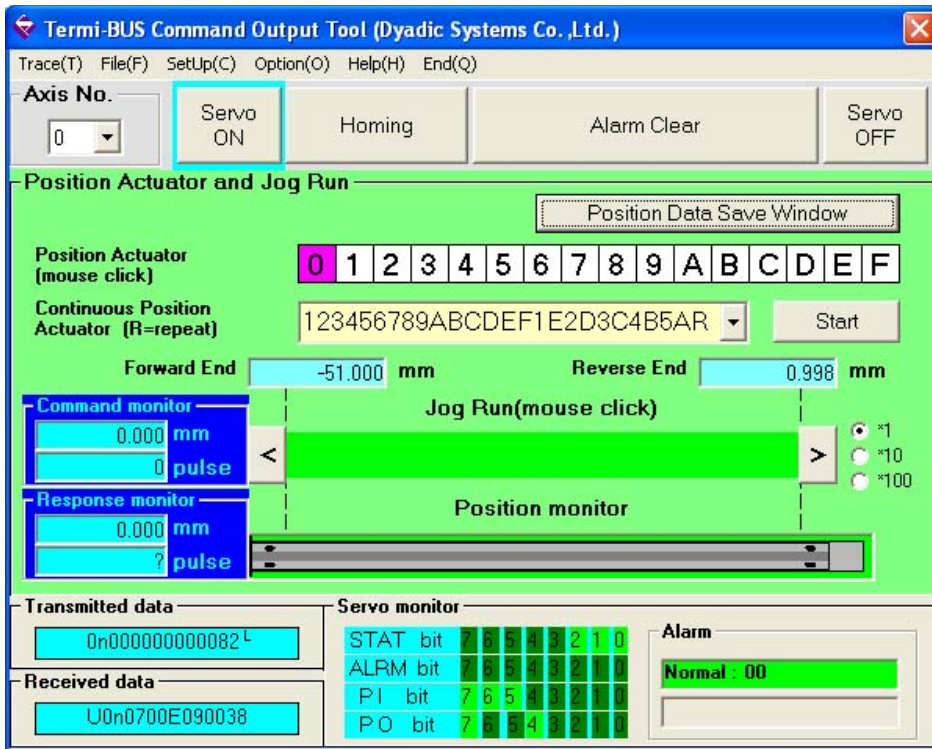s. Use MVST or the Axis Number Configuration Program to change your axis numbers as necessary. When changing axis numbers only 1 actuator may be connected to the PC at once.

[Homing]

Before initiating position teaching, please press this button to home the actuator.

JOG operation:

The JOG operation bar can move the actuator to desired position. This feature can be useful for teach-style programming (when the actuator has been jogged to the desired position, click the "Position Data Save Window" Button – more detail in section 3.3).

Forward Limit		Return Limit

Stroke

Command monitor
-72.580 mm
-7258 pulse

Jog Run(mouse click)

◉ ×1
○ ×10
○ ×100

Drag this handle side to side with your mouse to move the actuator at the speed & acceleration of the current position.

Move the actuator by the minimum displayed conversion unit by clicking this area. The Mechatronics Cylinder by default displays units in mm, therefore the actuator will move by 1 mm per click.

Move the actuator by the minimum unit of the encoder by clicking this square. This motion can be multiplied by 10 or 100 using the radio buttons on the right. By keeping this square pressed, the actuator will move continuously.

Use these radio buttons to control the distance the actuator moves with each click.

The actual position of the actuator is displayed below the JOG bar as follows:

Response monitor
-79.730 mm
-7973 pulse

Position monitor

[Position Data Save Window]

In order to save position data to the actuator, please press this button to open "Position Data Save Window".
Please refer to "3.3. Position Data Save Menu".

Saved position data can be executed by clicking the position number in the Position Run bar as follows:

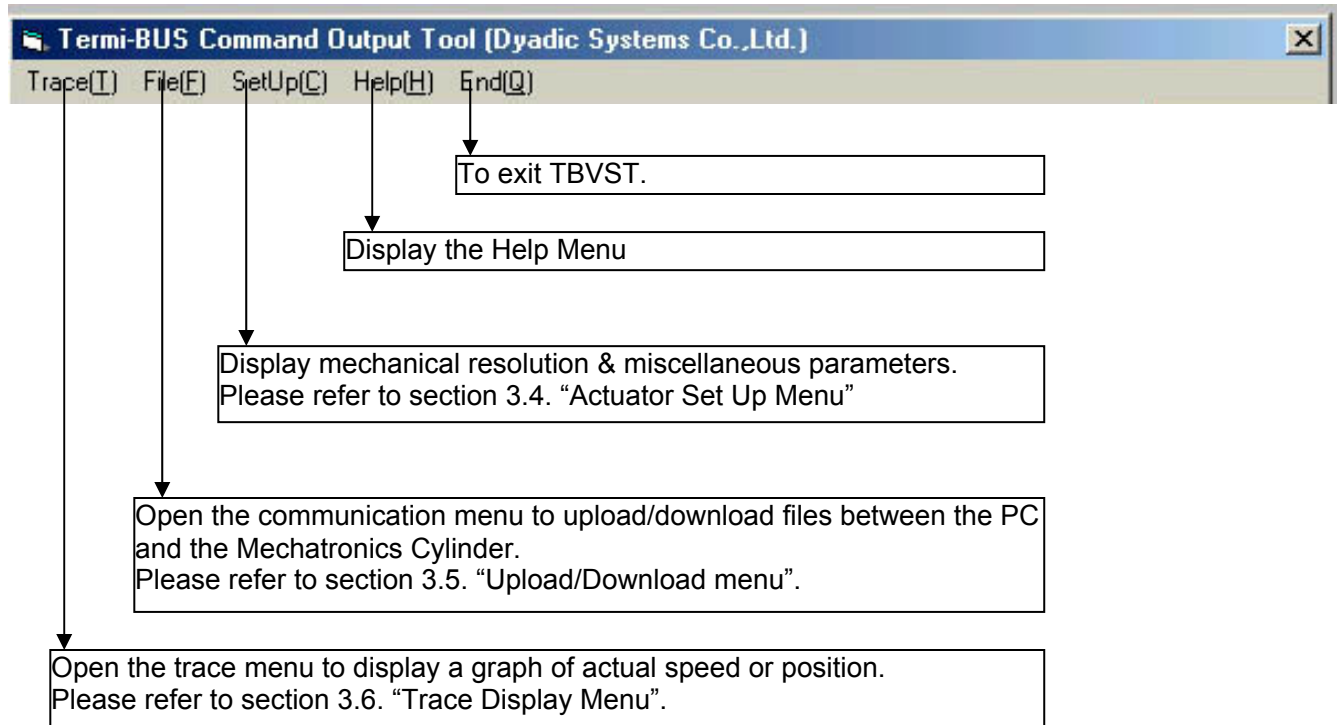| Position Actuator (mouse click)	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

Menu bar:

The menu bar has the following functions:

Termi-BUS Command Output Tool (Dyadic Systems Co.,Ltd.)

Trace(T) File(F) SetUp(C) Help(H) End(Q)

To exit TBVST.

Display the Help Menu

Display mechanical resolution & miscellaneous parameters.
Please refer to section 3.4. "Actuator Set Up Menu"

Open the communication menu to upload/download files between the PC and the Mechatronics Cylinder.
Please refer to section 3.5. "Upload/Download menu".

Open the trace menu to display a graph of actual speed or position.
Please refer to section 3.6. "Trace Display Menu".

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3.3. Position Data Save Menu

When the Position Data Save Window is opened or a new position number is selected, the following question is displayed:
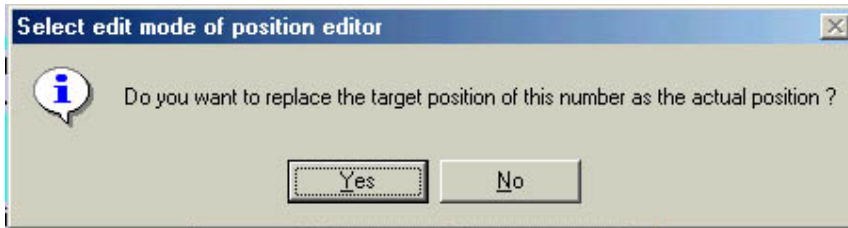
If "Yes" is selected, the actual current position of Mechatronics Cylinder shaft rod/Slider carriage will be saved as the target position (Position Teaching).
If "No" is selected, the target position data can be programmed in this menu by moving the slide bar or typing data. Note that the appearance of this box can be deactivated using the "Options" menu.

PositionCommand `-7.223`
☐ **Relative** **mm**
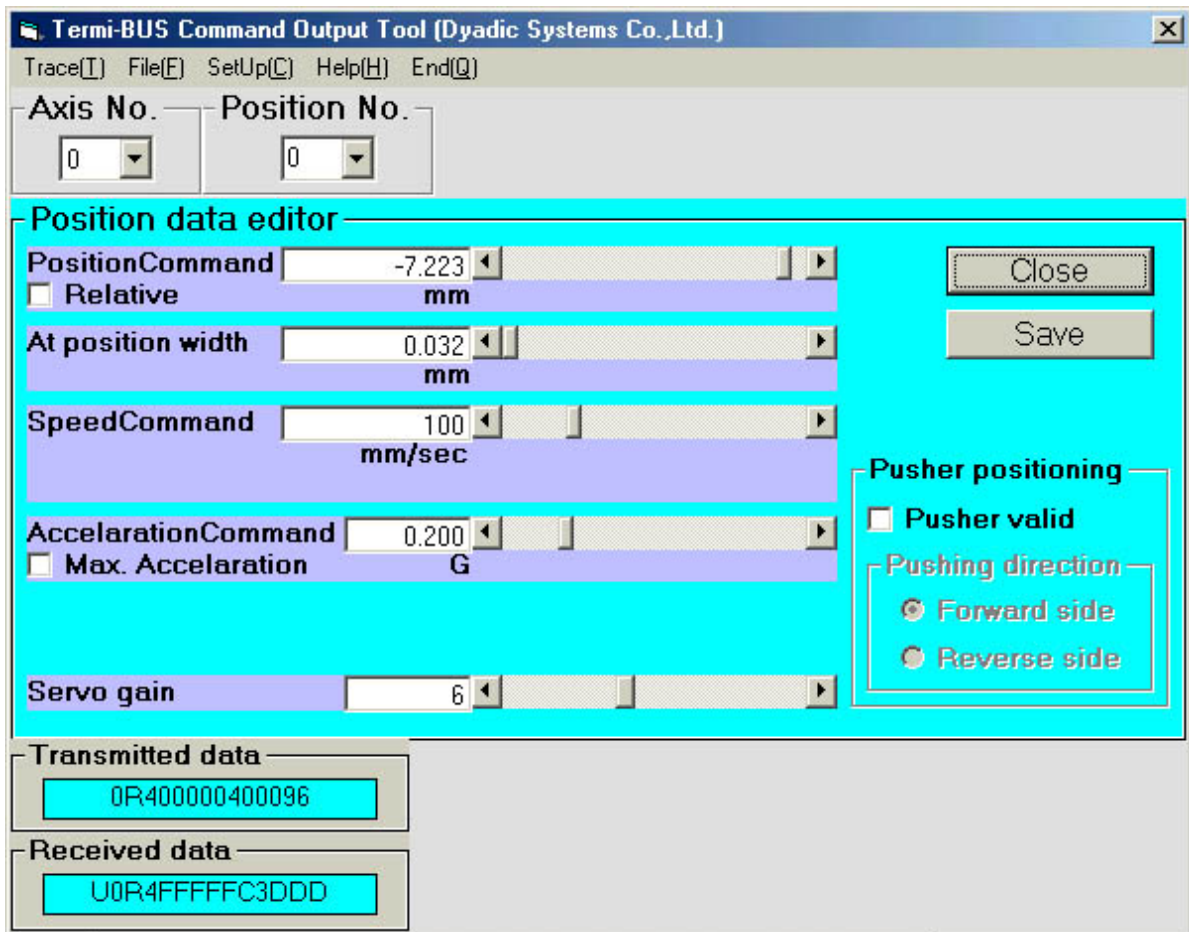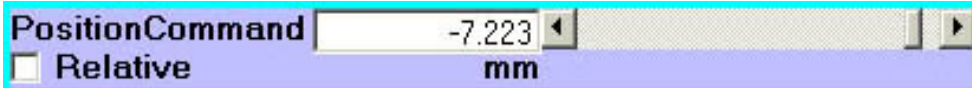
The PositionCommand box displays the current position of the actuator (if "Yes" was answered in the previous dialog box) or the target position data stored in the EEPROM of the amplifier for the current motion (if "No" was answered). If "No" was answered in the previous dialog box the target position data can be edited by moving the slide bar or typing new data.

The "Relative" option under "Position Command" is used to run incremental movements.
If this box is checked, the "Position Command" becomes the increment by which the cylinder will move when it receives the start signal for that motion. By using this incremental movement a Mechatronics Cylinder can move to more than 16 positions as long as some of the positions are executed with constant displacement.

At position width `0.032`
mm
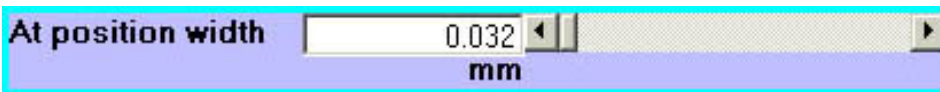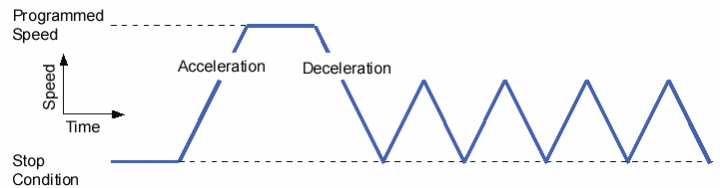
The "At position width" parameter allows the user to customize the distance from the target position at which the actuator outputs the "Position Complete" signal. The default data is about 4 motor pulses (converted to mm).
A larger setting for "At position width" would for example enable the actuator to make a continuous motion with several different speeds.
The completion signal would be sent before the axis is stopped, which would allow a new position to be executed without stopping.

SpeedCommand `100`
mm/sec
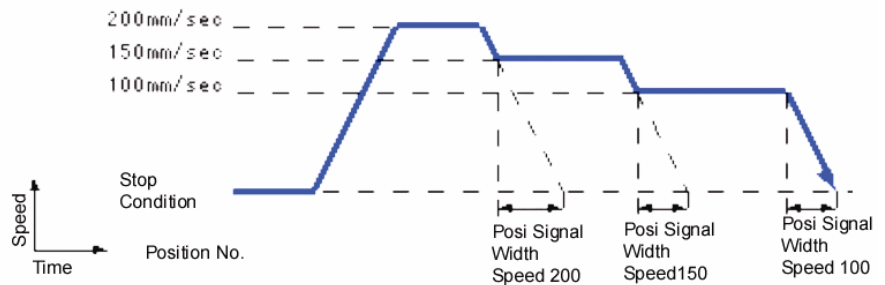
This data entry box allows target speed to be set for a given position.

AccelerationCommand `0.200`
☐ **Max. Acceleration** **G**
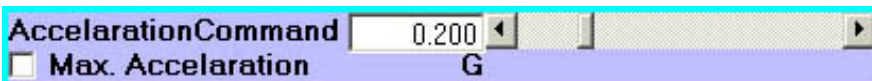
The acceleration set in this box is by default applied to both the start and finish of motion for a given position. The "Max. Acceleration" selection box tells the axis to move as quickly as possible at the start of motion and use the identified acceleration rate to reduce velocity at the end of motion (see motion graph below)

Programmed Speed

Acceleration   Deceleration

Speed
Time

Ultimate Acceleration according to the load   Programmed Deceleration
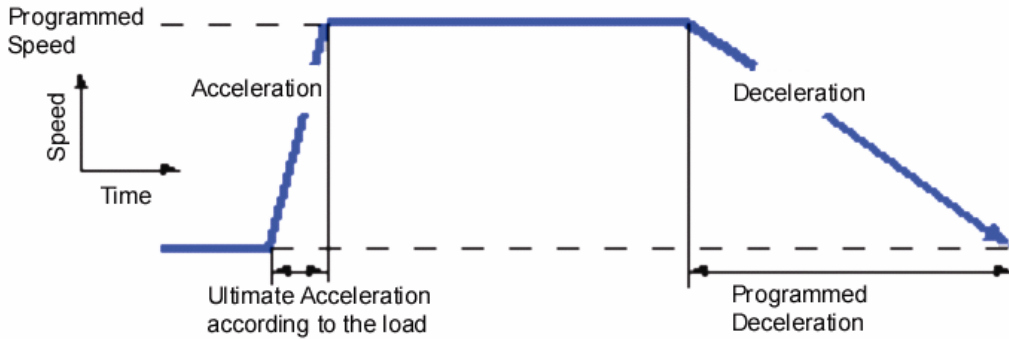
Servo gain [6]

This control specifies the gain used to drive the servo to the given position. There is no unit of measurement for this. The max. gain is 15, and the default setting is 6. Usually there is no need to change this data, but if fast positioning time is critical, it may be possible to reduce positioning time by changing this value to finely tune the servo control parameters to your load. See section 3.6 (Trace Mode) for further detail on testing the effects of different servo gain settings.
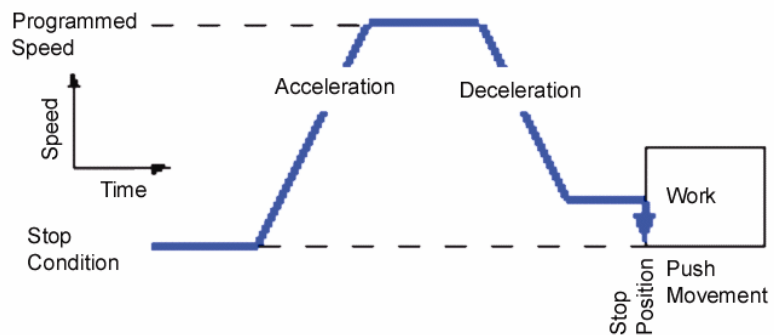

Pusher positioning
☑ Pusher valid
Pushing direction
● Forward side
○ Reverse side

Programmed Speed

Acceleration   Deceleration

Speed
Time

Stop Condition

Work

Stop Position

Push Movement

PusherForceCommand [32] %

If the "Pusher Valid" check box is marked, Push Force Mode will be used for the given position. This mode consists of a position-controlled movement and a force-controlled movement.
• Approach movement data: Set Position, Speed and Acceleration (same as regular positioning).
                 The approach position is the position where Push Force movement starts.
• The force controlled movement will start from the approach position if the current position is before the approach position. If the current position is past the approach position already, the axis will immediately commence the push motion when the start signal is given.
• The force direction is set by selecting Reverse Side (push away from motor end) or Forward Side (push towards motor end).
• The force can be set by sliding the select bar or typing force in %.

Close
Save

By clicking "Save", the edited data will be saved.
By clicking "Close", the display will go back to the main menu.

3.4. Actuator Set Up Menu

After communication is established the following menu will be displayed when "SetUp" is clicked. Most settings are typically done for you at the factory so you should not need to use this menu for basic operation.
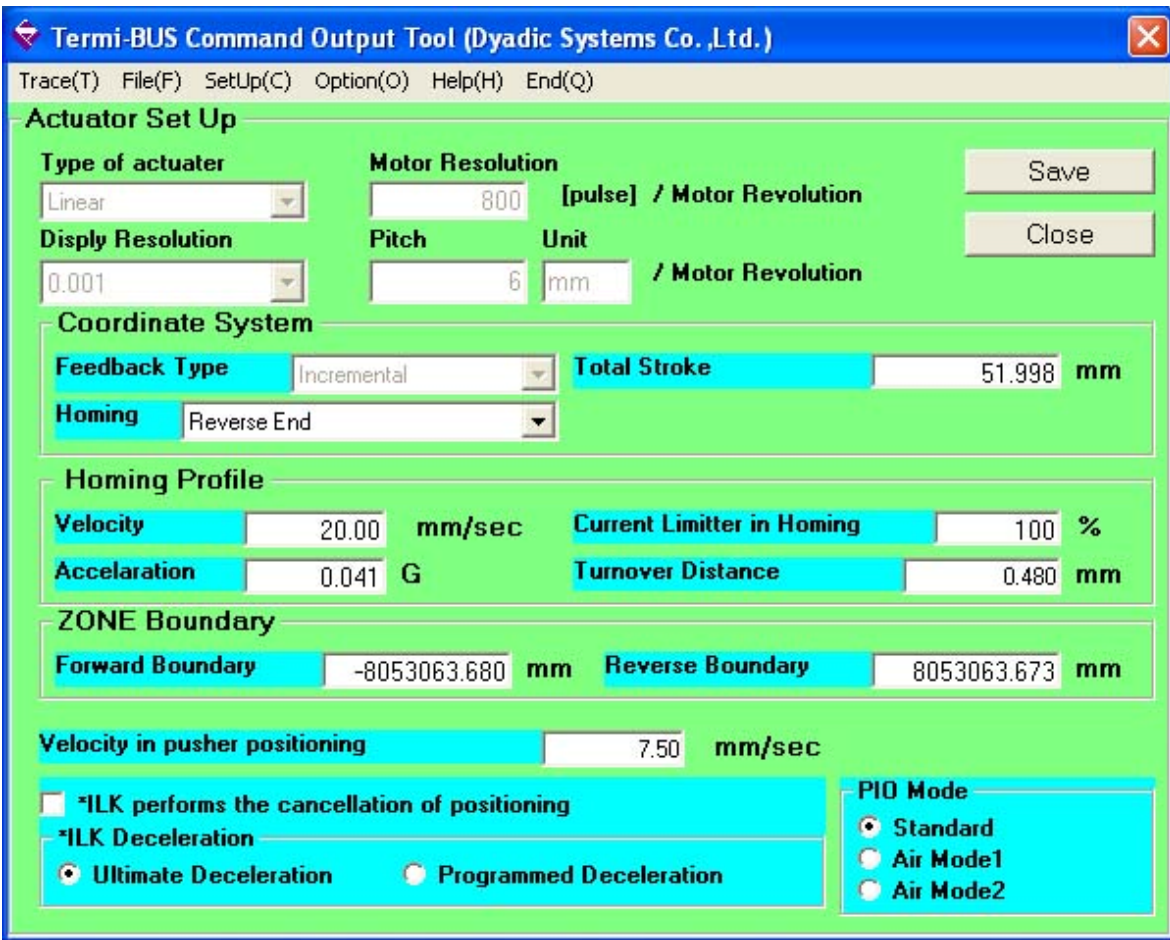
This menu displays values for Encoder resolution and mechanism positioning distance conversion data, and allows customization of Homing behavior and Zone Boundaries.

Encoder resolution units and axis mechanical data are read from the connected axis, so the area shown above is used for display only.

This control will set the stroke limit for motion. Please do not change this.

This Coordinate System area sets the home direction. Forward end and backward end positions are available. Changing the direction of homing will invert the sign of the coordinate system.
This menu can also set the profile of the homing motion as follows:
- Speed
- Acceleration
- Current limit
These settings typically don't need to be changed.
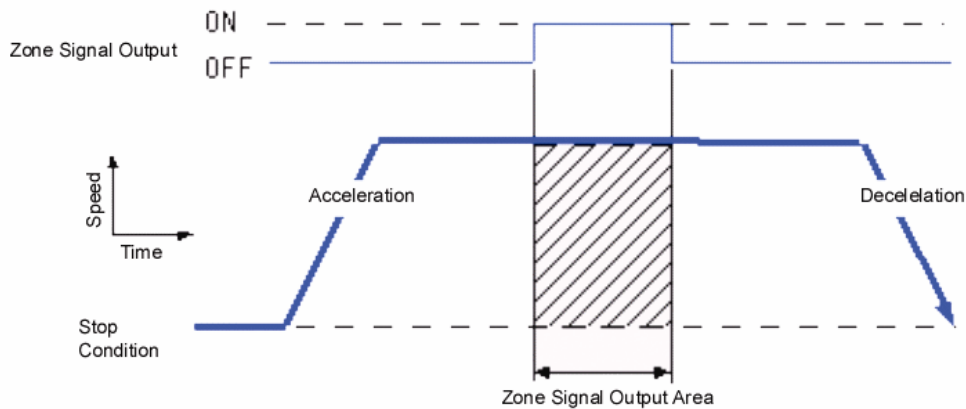
This function energizes the "Zone" signal when the actuator is in the zone defined by these end points. Units are shipped with the forward boundary set to zone signal start position, and reverse boundary set to zone signal end position, such that the Zone output will always be on.

The ILK (Motion Interlock) function has 2 options, [Pause] and [Cancel].

[Pause] (default)
If the ILK input is turned OFF during motion, the actuator will stop by maximum or programmed deceleration. This stopped position becomes the temporary target position. The actuator will initiate a move from the stopped position to the original target position when the ILK input comes back ON. An exception to this situation is when a new move is commanded (using the CSTR bit) while the ILK is off.

[Cancel] (Check "ILK Performs Cancellation of Positioning" to select)
If the ILK input is turned OFF during motion, the actuator will stop by maximum or programmed deceleration. This stopped position becomes the temporary target position. The original move is cancelled – no motion will occur when the ILK comes back on.

PIO Mode:
This area sets the function of the 24VDC I/O.
In "Standard" mode the I/O operate as BCD selectors, as described in the SCN-SCL manual.

"**Air Mode 1**" can directly replace air cylinders which are operated by **continuous signals** as follows:

Inputs Used	Completion Signal	Actuator position No.
PC1	PFIN	0
PC2	ZFIN	1
PC4	ZONE	2

Notes:
Start signals are PC1, PC2 and PC4 (selects and initiates the motion on the rising edge)
PC1, 2, 4 signals should be continuously high until the position is completed. If the signal drops low the motion will pause at the current location.
PC1, PC2, and PC4 do not operate as BCD inputs; please do not mix these inputs. Please turn one input ON at a time.
The ILK (Interlock), CSTR and PC8 inputs have no function in this mode.
The PM* outputs are not used in this mode

"**Air Mode 2**" can directly replace air cylinders which are operated by **pulse signals** as follows:

Inputs Used	Completion signal	Program position No.
PC1	PFIN	0
PC2	ZFIN	1
PC4	ZONE	2

Notes:
Start signals are PC1, PC2 and PC4 (selects and initiates the motion on the rising edge)
The PC* signals are intended to be pulse inputs, at least 10ms long.
PC1, PC2, and PC4 do not operate as BCD inputs, however as the PC1 input is dominant it is possible to run 2 positions (motion 0 and motion 1) by leaving PC2 high and cycling PC1.
The ILK (Interlock) signal retains traditional function.
The CSTR and PC8 inputs have no function in this mode.
The PM* outputs are not used in this mode
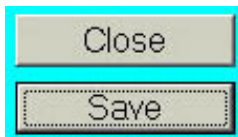
By clicking "Save", the edited data will be saved.
By clicking "Close", the display will go back to the main menu.

3.5. File (Upload / Download) Menu

Click "File" to view this screen. This menu is used to transfer position data files between the EEPROM of the servo controller and the PC.
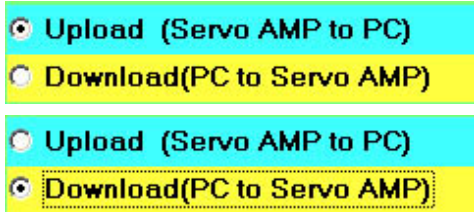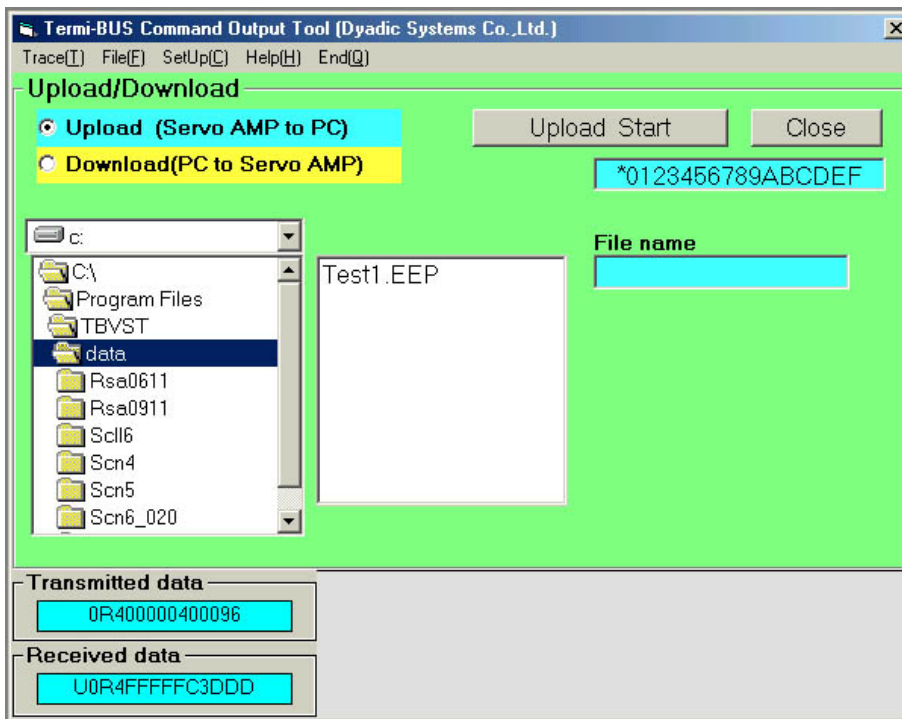
These buttons select Upload operation or Download operation.
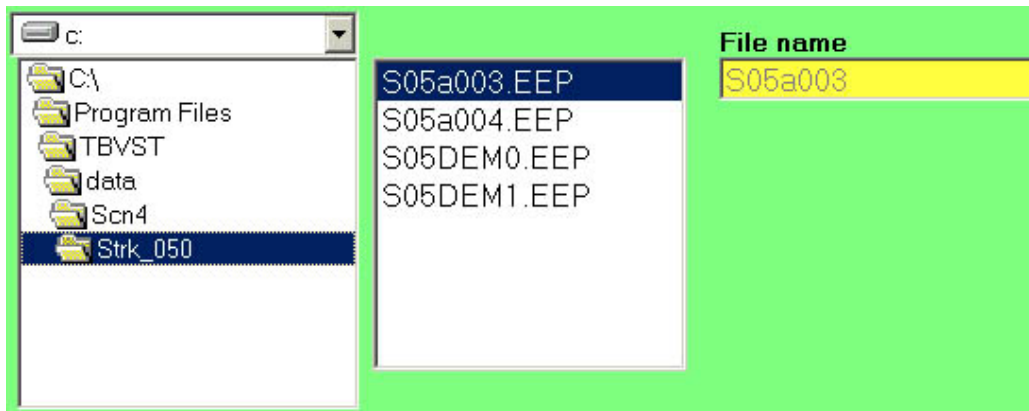
The Termi-Bus Tool Kit comes complete with sample files for each Mechatronics Cylinder product. This menu is used to select the file to upload or download. To transfer setup data from the axis to your PC simply type the name of the file you want to save it to (without extension) in the "File Name" box and click "Upload Start".

This operation is useful to back up position data and other parameters as well. Please back up the program so that this program can be simply downloaded to a new actuator if the actuator is replaced.

Upon any concerns about actuator motion, please upload the parameters from the actuator and e-mail the EEP file to Mirai Inter-Tech so that our support group can simulate the problem and identify the cause of the problem easily.

If you have concerns about the way your actuator is operating you can always try to reset the setup data and position data by transferring an appropriate EEP file into your actuator from the Data directory installed with TBVST. This can serve as a reset for the actuator.

or
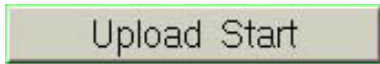
These buttons start uploading or downloading.
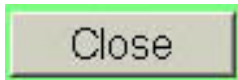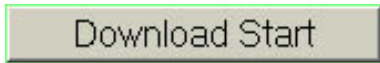
Upon clicking "Close", the display will go back to the main menu.

3.6. Trace Menu

This function allows the user to display and print the behavior for the last movement sequence of the axis (shown as speed or position vs. time).
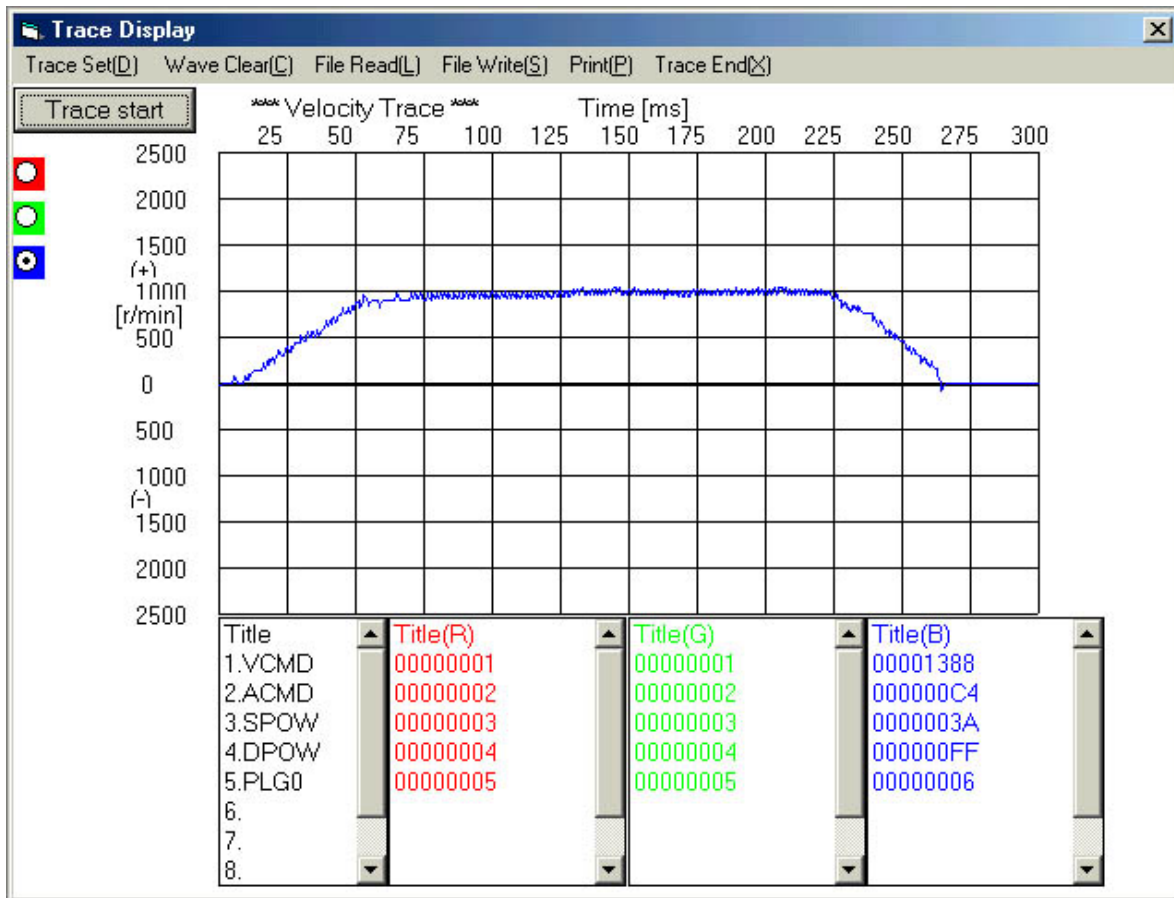
Trace start

Click this button to display a graph of the last axis movement according to the settings chosen in the "Trace Set" menu.

Trace Display

Trace Set(D)   Wave Clear(C)   File Read(L)   File Write(S)   Print(P)   Trace End(X)

Return to main menu.

Print out the displayed trace curve.

Save the displayed trace curve in a file.

Read and display a saved trace curve.

Clear the displayed trace curve.

Edit the trace display set up. After a change, these settings become effective from next trace.
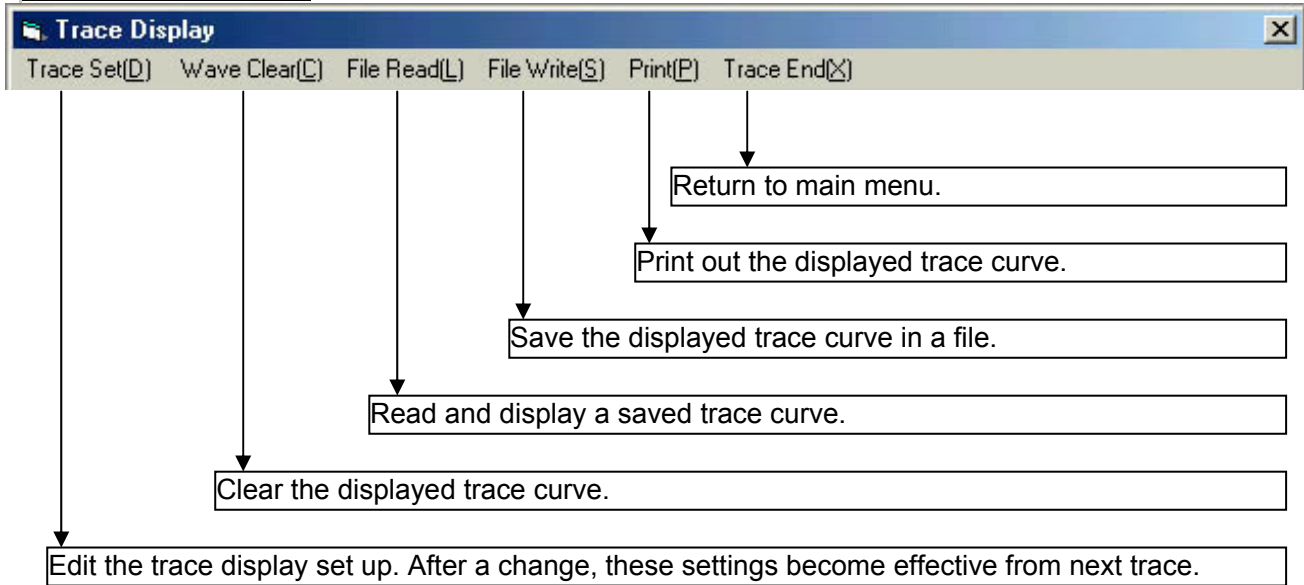
Trace set (D):   To select the trace type (velocity or position) and the scales of the X and Y axes of the graph.

Trace Set(D)

Max value

⊙ (Velocity)   2500 [r/min]

○ (Position)   5000 [pulse]

Time   300 [ms]

Set

Close

Max value

⊙ (Velocity)   2500 [r/min]

○ (Position)   5000 [pulse]
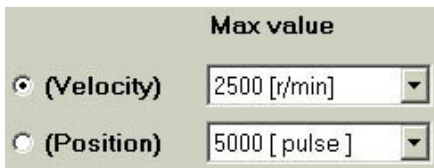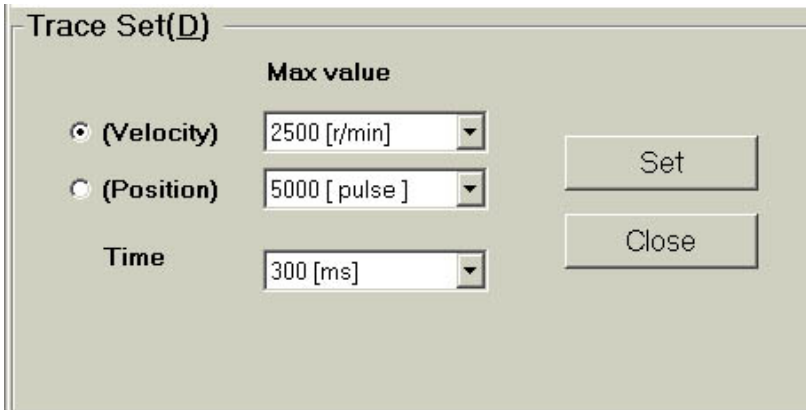
To set the maximum value of the vertical axis of the curve.

Time   300 [ms]

To set the maximum value of the horizontal time axis of the curve.

Set

To save the trace profile settings and go back to the Trace menu. Changed settings will be effective from the next trace execution.
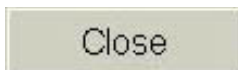
Close

Cancels data editing and closes this display (returns to Trace menu).

4. CTA-1EX (Expert Mode Programming Software)

This software is typically used by people who have gained some familiarity with setup and operation of Dyadic servo actuators. It can be used to edit all actuator data in a spreadsheet-style environment, and also allows the user to access EEP files without connecting to a cylinder (offline mode).
The TBVST software is recommended for beginners.

4.1. Serial port selection

When [CTA-1EX] starts the user can select the serial port number that is connected with the actuator or select "Offline" to work without an actuator.
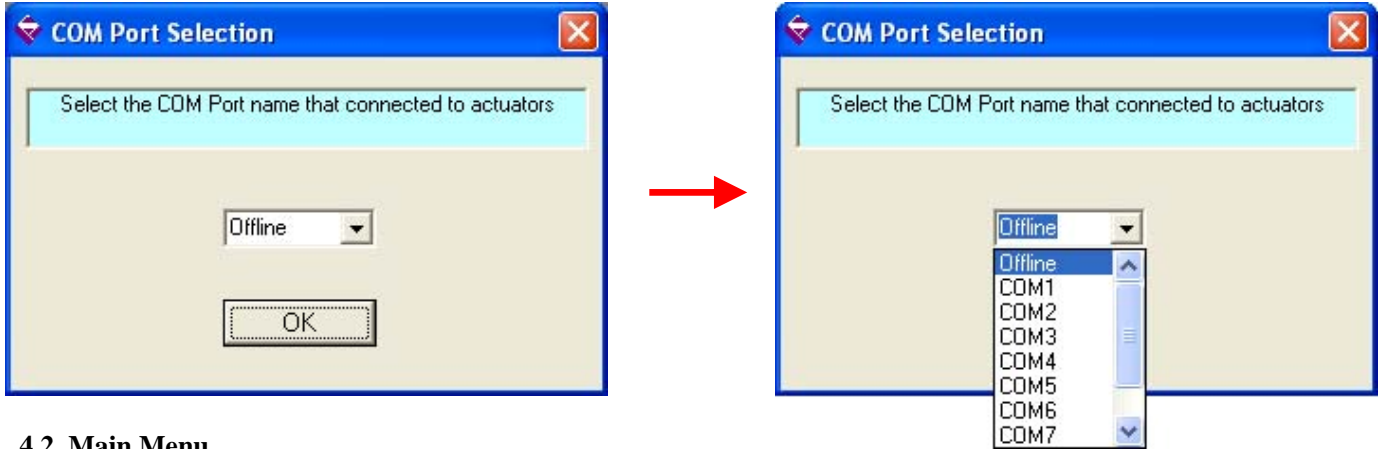
4.2. Main Menu

After communication is established the following main menu will be displayed.
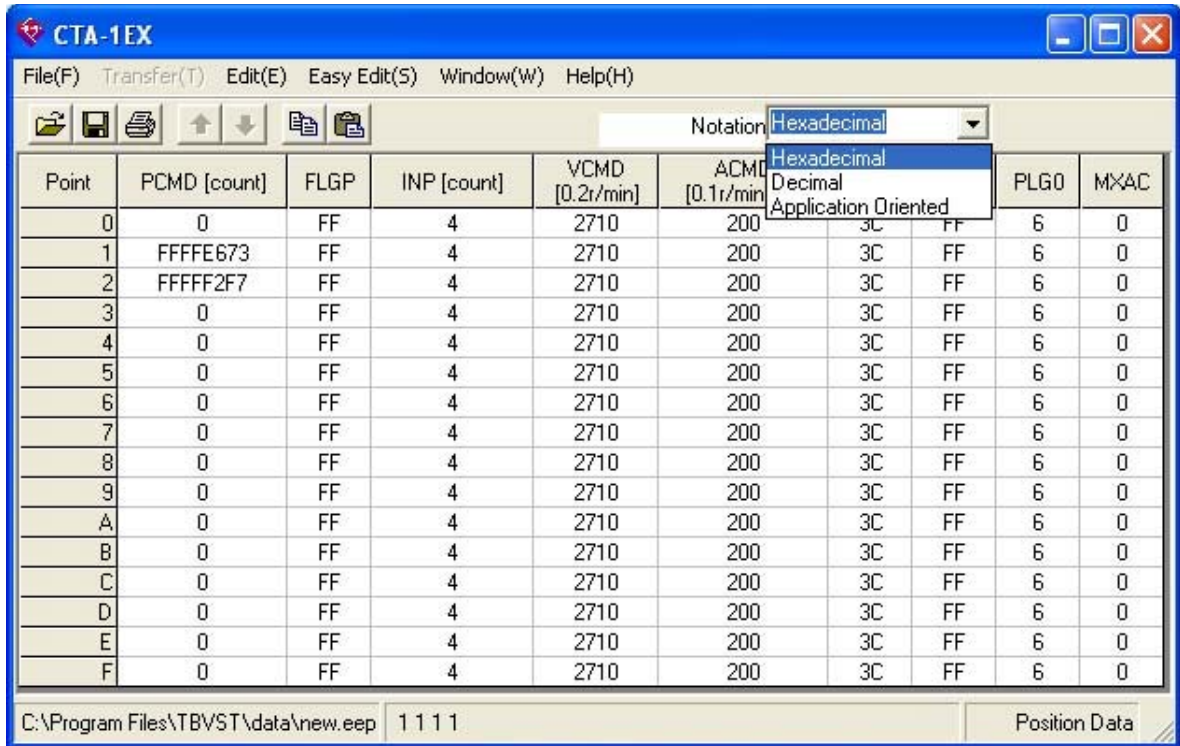
Please select [Application Orientated] in the "Notation" drop-down list. This will display the data from the file in decimal numbers, converted to engineering units as shown in the top of each column.

CTA-1EX

File(F) Transfer(T) Edit(E) Easy Edit(S) Window(W) Help(H)

Notation [Application Oriented ▼]

Point	PCMD [mm]	FLGP	INP [mm]	VCMD [mm/sec]	ACMD [G]	SPOW	DPOW	PLG0	MXAC
0	0.000	255	0.030	200.00	0.522	60	255	6	0
1	-49.058	255	0.030	200.00	0.522	60	255	6	0
2	-25.028	255	0.030	200.00	0.522	60	255	6	0
3	0.000	255	0.030	200.00	0.522	60	255	6	0
4	0.000	255	0.030	200.00	0.522	60	255	6	0
5	0.000	255	0.030	200.00	0.522	60	255	6	0
6	0.000	255	0.030	200.00	0.522	60	255	6	0
7	0.000	255	0.030	200.00	0.522	60	255	6	0
8	0.000	255	0.030	200.00	0.522	60	255	6	0
9	0.000	255	0.030	200.00	0.522	60	255	6	0
A	0.000	255	0.030	200.00	0.522	60	255	6	0
B	0.000	255	0.030	200.00	0.522	60	255	6	0
C	0.000	255	0.030	200.00	0.522	60	255	6	0
D	0.000	255	0.030	200.00	0.522	60	255	6	0
E	0.000	255	0.030	200.00	0.522	60	255	6	0
F	0.000	255	0.030	200.00	0.522	60	255	6	0

C:\Program Files\TBVST\data\new.eep   1111   Position Data

These are the [Upload/Download] buttons used to transfer files to and from the Mechatronics Cylinder. In "Offline" mode, these buttons are not available.

Notation [Application Oriented ▼]

The notation can be set to [Hexadecimal], [Decimal], and [Application oriented]

Point	PCMD [mm]	FLGP	INP [mm]	VCMD [mm/sec]

Speed data for each motion

PFIN window size for each motion

No need to change this data. (Please consult Mirai technicians for details.)

Target position for each motion

Motion number (0-F represents motions 0-15, selected using BCD inputs PC1, 2, 4, 8)

ACMD [G]	SPOW	DPOW	PLGO	MXAC

Motion type (max accel, relative, force controlled, etc.)
It is recommended to set this parameter from the "Easy Edit" screen or from TBVST.

Servo gain (typically it is not necessary to adjust this value)

Max current the motor can draw while the motion is running (can limit the force)

Max force the actuator can apply while stopped – used in the "Push Force" mode

Acceleration value for each motion

Please double click the data that needs to be changed, change the data, then press enter.

VCMD [mm/sec]
200
200
200
200
200

→

VCMD [mm/sec]
200
200
200
200
200

Clicked

→

VCMD [mm/sec]
100
200
200
200
200

Data change

→

VCMD [mm/sec]
100
200
200
200
200

Hit enter
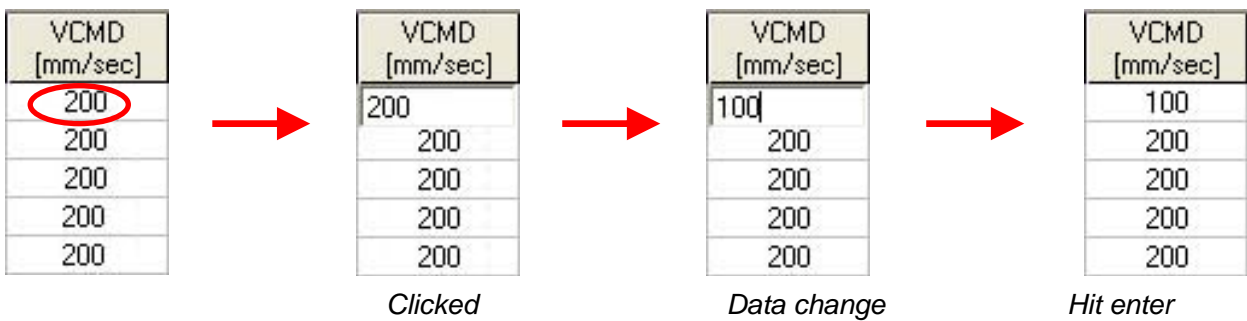
Menu bar has following functions:

CTA-1EX

File(F)   Transfer(T)   Edit(E)   Easy Edit(S)   Window(W)   Help(H)

Display the version info of the software

Switch the menu screen between the main menu (Position Data) and the System Parameter menu (refer to section 4.3).

Open the position data edit menu. (Refer to 3.3 Position Data save menu)

Allows the user to copy and paste

Upload and Download

Allows the user to save, open and print files

4.3. System Parameter Data

The following screen displays global system parameters for your actuator, in various number systems (selected by the "Notation" control).

The System Parameter can be easily changed by clicking [Easy Edit (S)].
Please refer to section 3.4. [Actuator Setup Menu] for details.

Following is a brief description of each of the items in the System Parameter Date list. **[Please take care if changing these values as you may incapacitate the controller.]**

000: CNTM [mm]   Coordinate system range + side max
001: CNTL [mm]   Coordinate system range - side max
002: LIMM [mm]   Software stroke limit + side
003: LIML [mm]   Software stroke limit - side
004: ZONM [mm]   Zone border value + side
005: ZONM [mm]   Zone border value - side
006: ORG   Homing pattern selection code
007: PHSP   Motor activate phase signal detection motion parameter
008: FPIO   I/O function mode parameter
009: BRSL   Serial communication speed selection code
00A: OVCM [mm/sec]   Homing motion speed command
00B: OACC [G]   Homing motion acceleration
00C:RTIM [msec]   Slave transmitter activation minimum delay time parameter
00D: INP [mm]   In position width default value
00E: VCMD [mm/sec]   Speed command default value
00F: ACMD [G]   Acceleration command default value
010: SPOW   Position stop status electrical current limit default
011: DPOW   Position moving status electrical current limit default
012: PLF0   Servo gain number default value
013: MXAC   Motion Type (max accel, relative, push force, etc.) default value
019: ODPW   Homing motion electrical current limit value
01A: OTIM [msec]   Homing time out value
01B: ZRCT   Homing return stroke (turnover distance)
01C: PVCM [mm/sec]   Push force target speed

5. MVST ServoMotor Configurator

The purpose of the MVST software is to facilitate the parameter setup for Dyadic servo motors.
MVST can also be used to change the axis number of an actuator.
After starting MVST, please enter values and/or select items according to the following flow chart depending on the nature and specifics of the application:
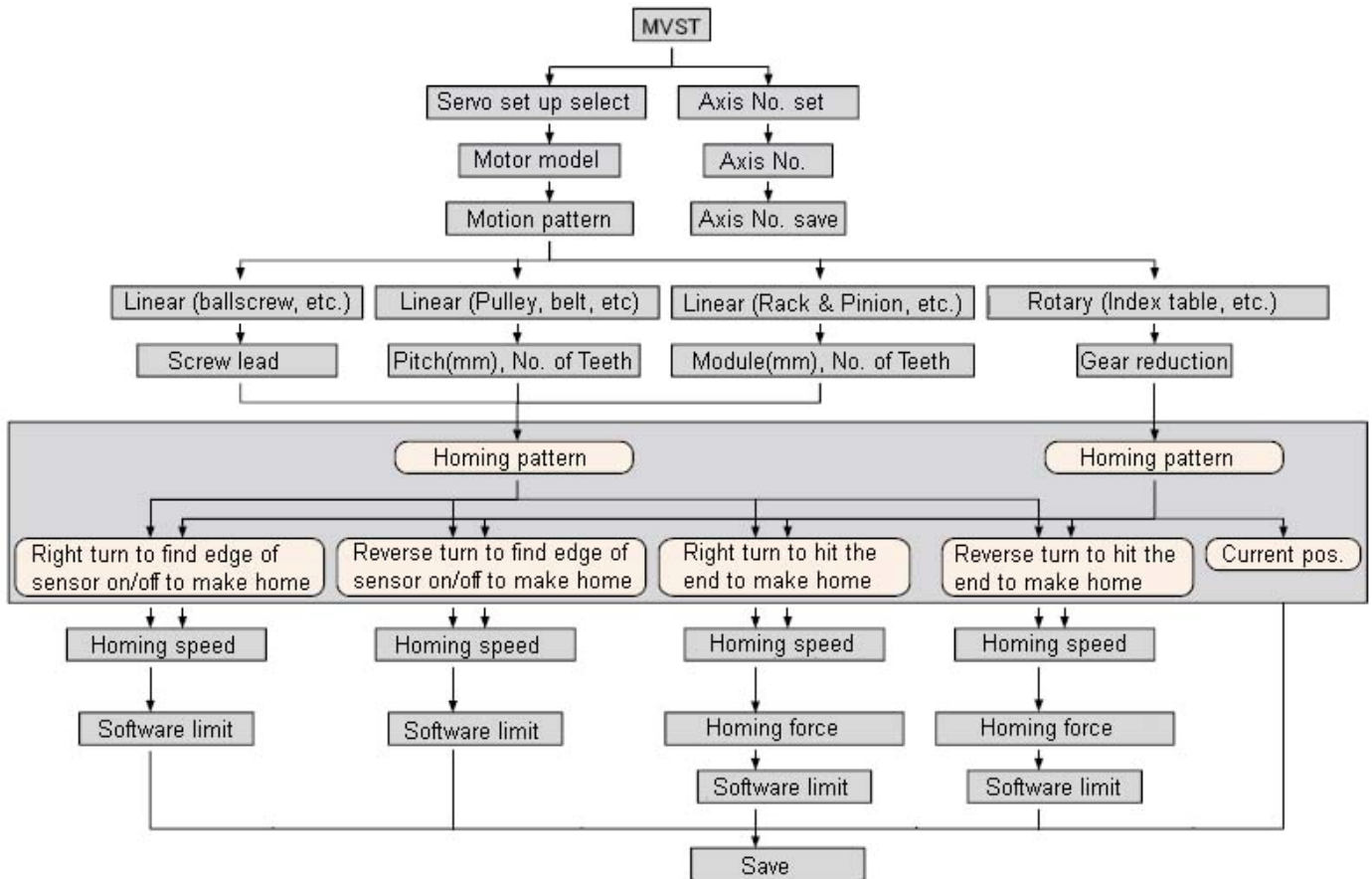
This is the start up menu.
Please click [Next] to go to the next menu.
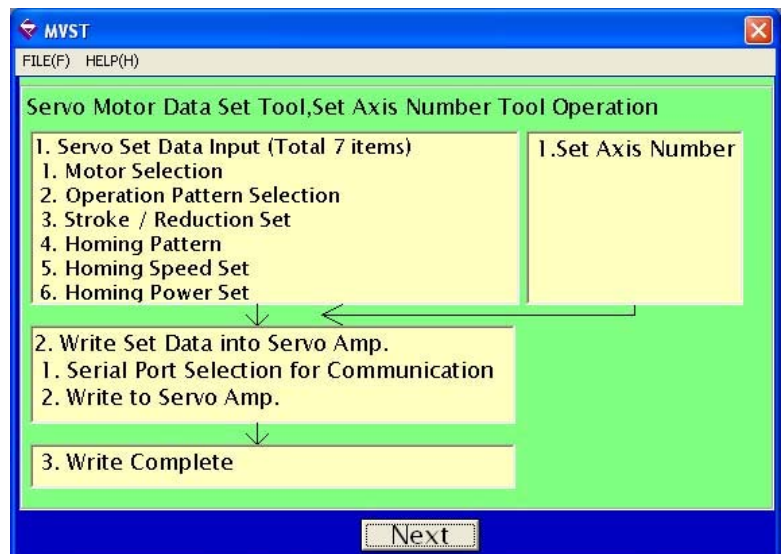
Click [System Parameter Setup]
to go to the Parameter setup menu.

Click [Set Axis Number]
to go to the axis number set menu.

System Parameter Setup

Set Axis Number

Notes .
 Please ensure only one axis is
connected when this data is
changed.
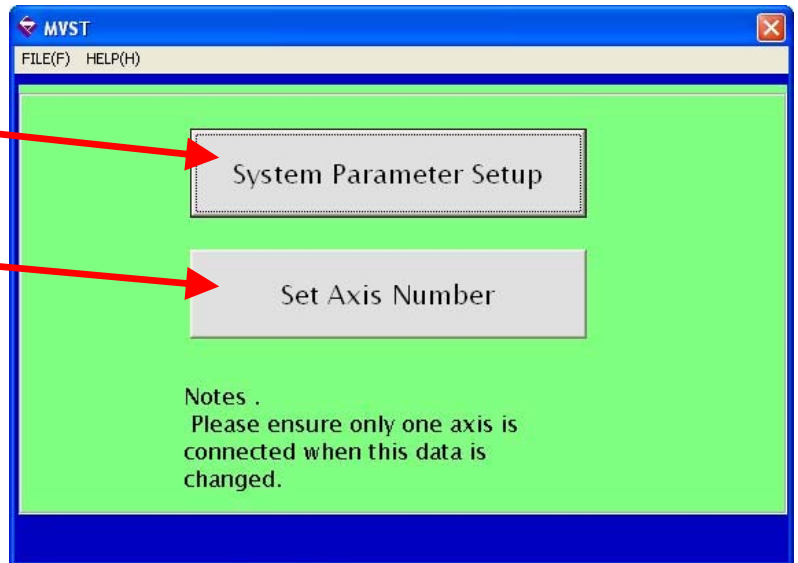
5.1. Procedure for Changing the Axis Number

Please click [Set Axis Number]. The following menu will appear.

Please choose the new
number for your axis.
Then click [Next].

If this operation should be
cancelled, please click [Back].
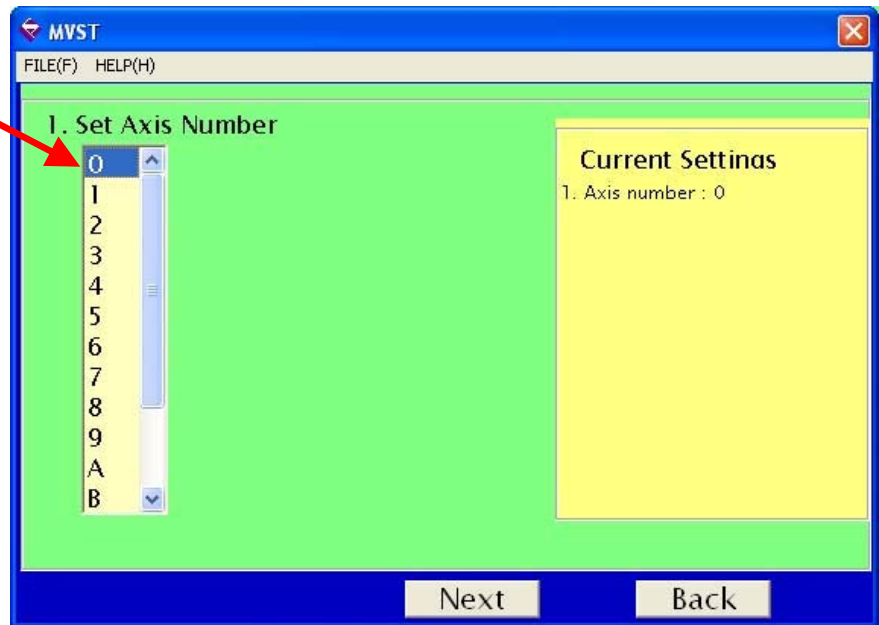
1. Set Axis Number

0
1
2
3
4
5
6
7
8
9
A
B

Current Settings
1. Axis number : 0

Next   Back

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Ensure only one actuator is connected to your PC and click [Write to Controller]

Current Settings
1. Axis number : 0

Data to Servo Amp. Save

[Data Change] will return The screen to the previous menu.

Write to Controller

Data Change

The serial port number selection menu as shown at right will appear. Select the serial port that the Mechatronics Cylinder is connected to.

Click "Set" to start communication.

Set up Communication

Port

Select the Port number that connect with the Termi-BUS.

1

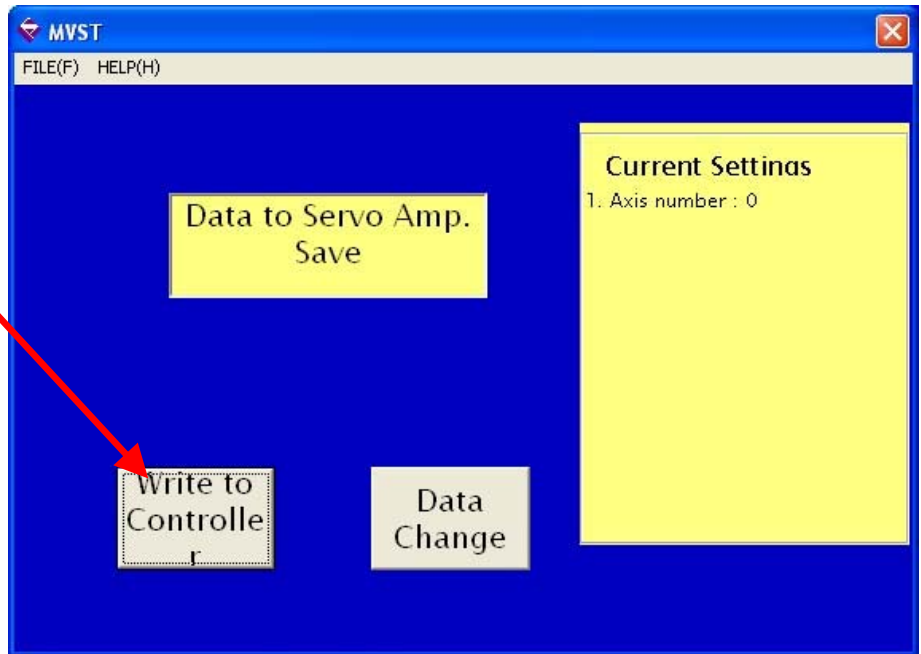Set   Stop
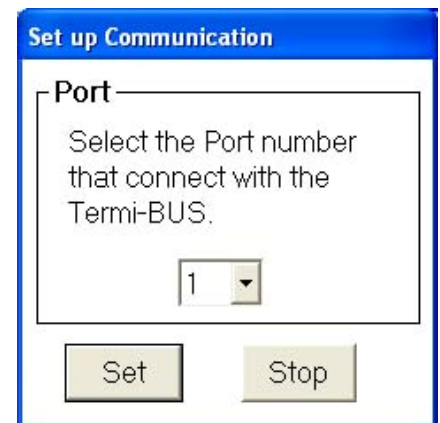
5.2. Mechanism Data Setup

Please click [System Parameter Setup]. The "Motor Selection" menu will appear. This screen is used to establish the basic mechanical ratio in case your system uses the G1 or G2 motor. Please select the motor that is closest to what you are using, and then click [Next].
Click [Back] to go back to the previous Menu.

1. Motor Selection

RMJ0211-01
RMJ0411-01
RMJ0611-01
RMJ0911-01
RMJ0611-G1-0

Current Settings
1.Motor : RMJ0611-01

Next   Back
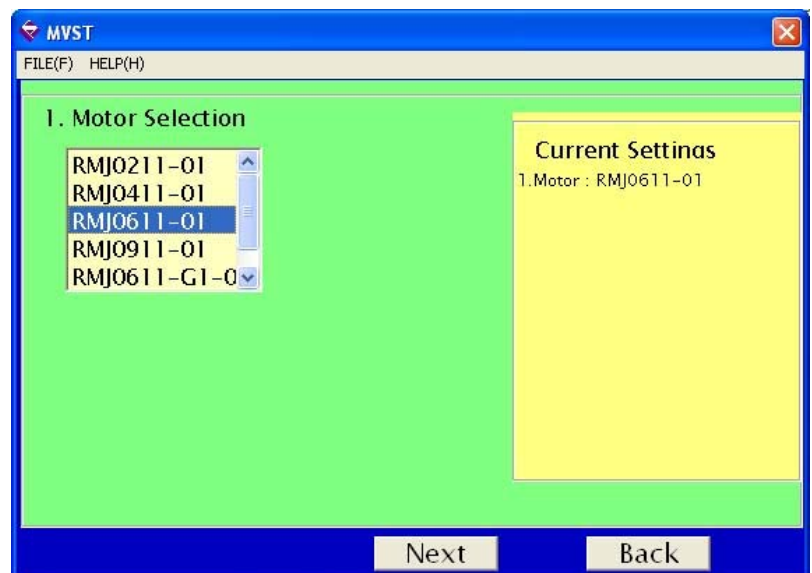
[Operation Type Selection]
Please select the mechanism type.
Then please click [Next] for next set up,
Please click [Back] to go back to the
previous screen.

```
MVST
FILE(F)  HELP(H)

2. Operation Pattern Selection

Linear system (Ball Screw, etc.)        ●
                                                    Current Settings
Linear system (Pulley, Belt, etc.)      ○           1. Motor : RMJ0611-01
                                                    2. Linear System (Ball Screw)
Linear system (Rack, Pinion, etc.)      ○

Rotary system (Index Table, etc.)       ○

                        Next          Back
```
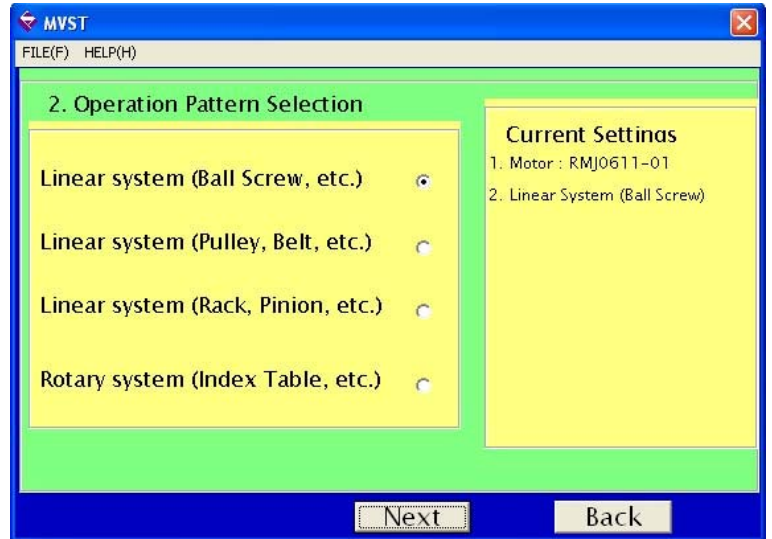
[Screw Pitch] menu
Please select the displacement of the
tooling per revolution of the motor
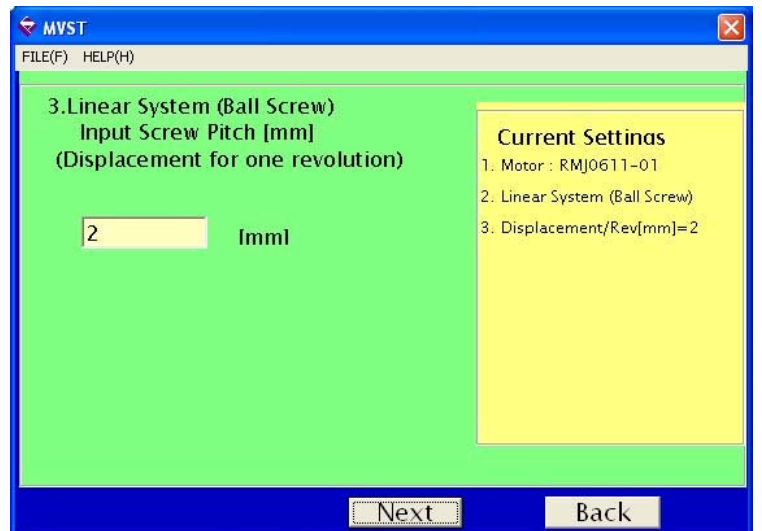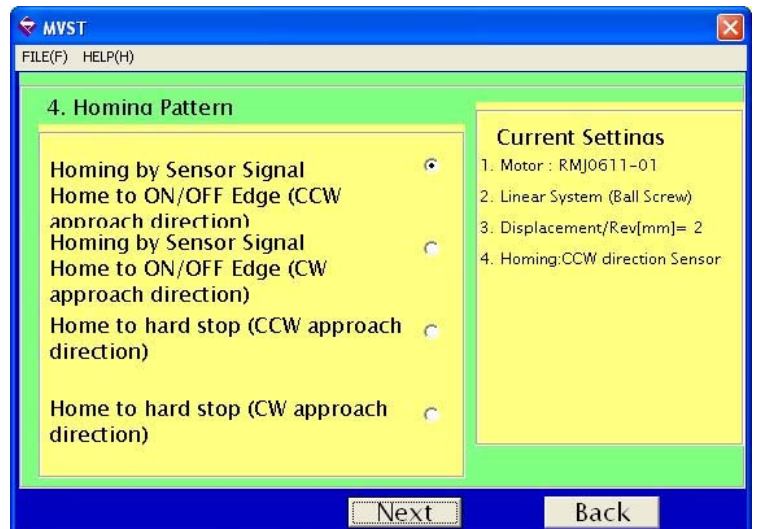selected in step 1.
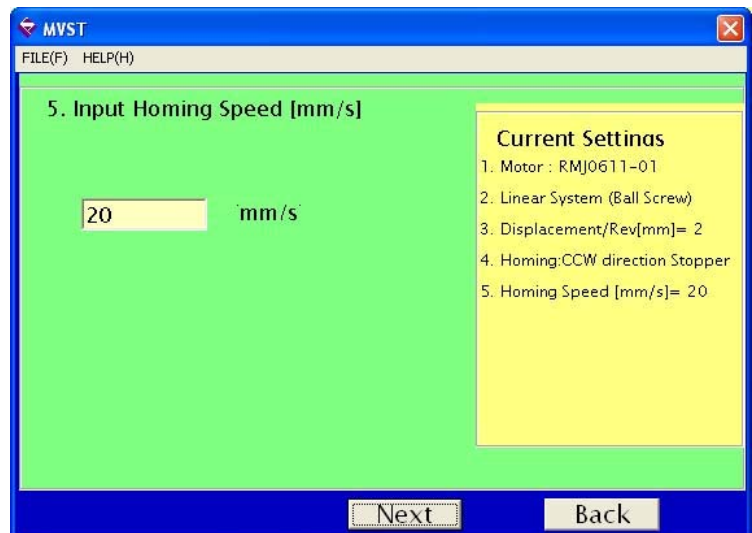Then click [Next].
Click [Back] to go to the previous Menu.

```
MVST
FILE(F)  HELP(H)

3.Linear System (Ball Screw)
   Input Screw Pitch [mm]               Current Settings
   (Displacement for one revolution)    1. Motor : RMJ0611-01
                                        2. Linear System (Ball Screw)
                                        3. Displacement/Rev[mm]=2
   2          [mm]

                        Next          Back
```

[Homing Pattern] menu
Please select the required Homing pattern,
then click [Next]. See the RSA manual for
more information on Homing.
Click [Back] to go to the previous Menu.

```
MVST
FILE(F)  HELP(H)

4. Homing Pattern
                                            Current Settings
Homing by Sensor Signal              ●      1. Motor : RMJ0611-01
Home to ON/OFF Edge (CCW
approach direction)                         2. Linear System (Ball Screw)
Homing by Sensor Signal              ○
Home to ON/OFF Edge (CW                     3. Displacement/Rev[mm]= 2
approach direction)
                                            4. Homing:CCW direction Sensor
Home to hard stop (CCW approach      ○
direction)

Home to hard stop (CW approach       ○
direction)

                        Next          Back
```
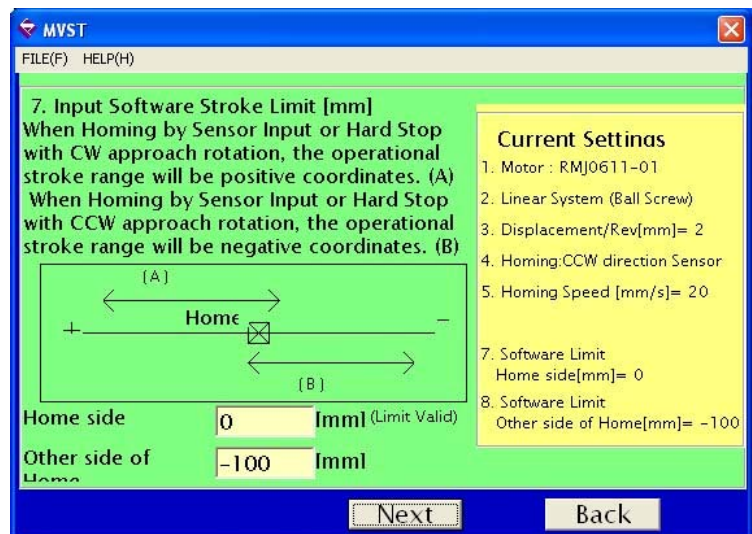
[Homing Speed] menu
Please enter the homing speed.
This screen is skipped if the system is
set to home to the current position.
Then click [Next].
Click [Back] to go to the previous Menu.

[Software Limit Setup] menu
Please enter the stroke limits.
This menu is not used for rotary systems.
Then click [Next].
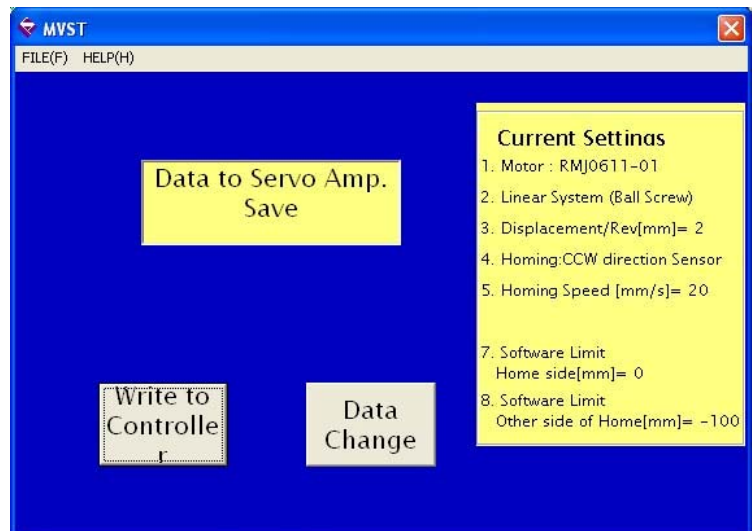Click [Back] to go to the previous Menu.

[Parameter Save] menu
Click [Write to Controller] to save
system parameters you have set.

Choose your COM Port and click
"Set" in the next dialog to transfer data.

Click [Data Change] to go back
To the previous menu.

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