

Mechatronics Cylinder

PC Tool Kit

TBVST-EN

Operation Manual

(TBVST. CTA-1EX, MVST)

Table of Contents

1. Summary of PC Programming software (TBVST-EN) -----	3
1.1. Installation of PC software (TBVST-EN) -----	3
2. Initial operation using TBVST -----	4
2.1. Quick Start – Setup of 3 Basic Positions -----	6
2.2. Quick Start – Setup of a Push Force Move -----	8
3. Detailed Review of TBVST -----	11
3.1. Serial port selection -----	11
3.2. Main Menu -----	11
JOG operation: -----	12
Menu bar: -----	13
3.3. Position Data Save Menu -----	14
3.4. Actuator Set Up Menu -----	17
3.5. File (Upload / Download) Menu -----	20
3.6. Trace Menu -----	21
4. CTA-1EX (Expert Mode Programming Software) -----	23
4.1. Serial port selection -----	23
4.2. Main Menu -----	23
4.3. System Parameter Data -----	26
5. MVST ServoMotor Configurator -----	28
5.1. Procedure for Changing the Axis Number -----	29
5.2. Mechanism Data Setup -----	30

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.

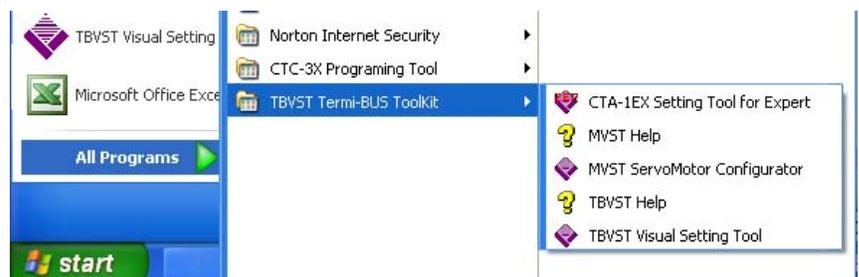
If the main menu doesn't appear, please double-click [opdr.exe] in the CD to start.

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.

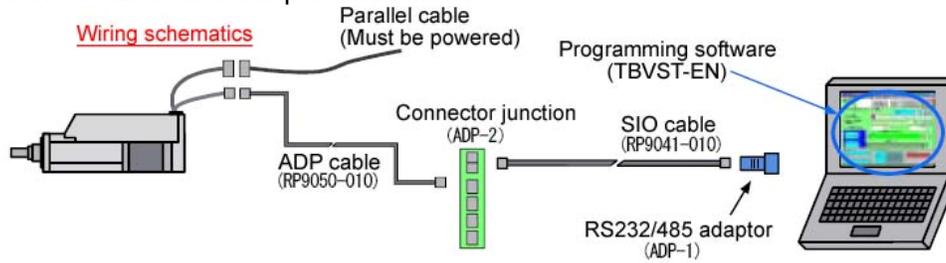


After installation is complete, the "TBVST Termi-BUS Toolkit" folder will appear as follows:

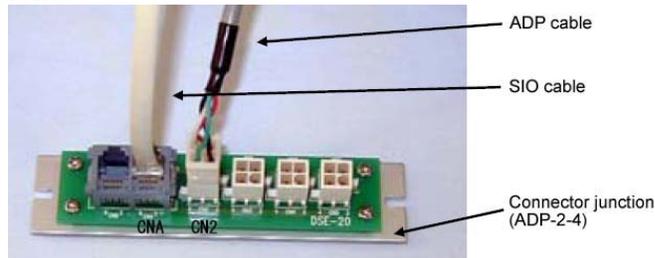


2. Initial operation using TBVST

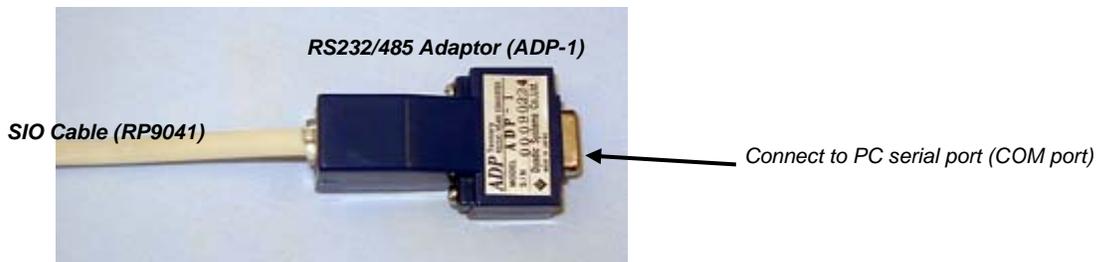
Please connect cables and adaptors as follows:



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:

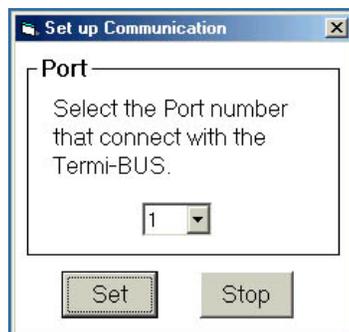


Please connect the SIO cable with ADP-1 and connect it to the serial port (COM port) of the PC. If the PC has only USB ports, please install a commercially available USB-Serial converter adaptor. Some USB-Serial converters may not work with Dyadic products. When choosing a converter please look for "High-Speed" or 115kbps capability listed on the package. Keyspan is one manufacturer that seems to make reliable converters.

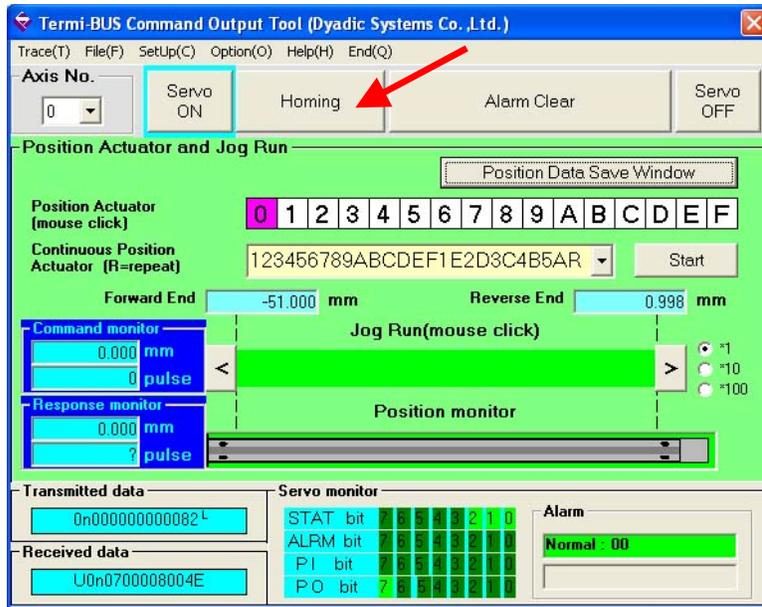


Notes: The ILK conductor should be wired (to +24VDC for PNP, 0V for NPN). If there are unused conductors, please make sure they don't short.

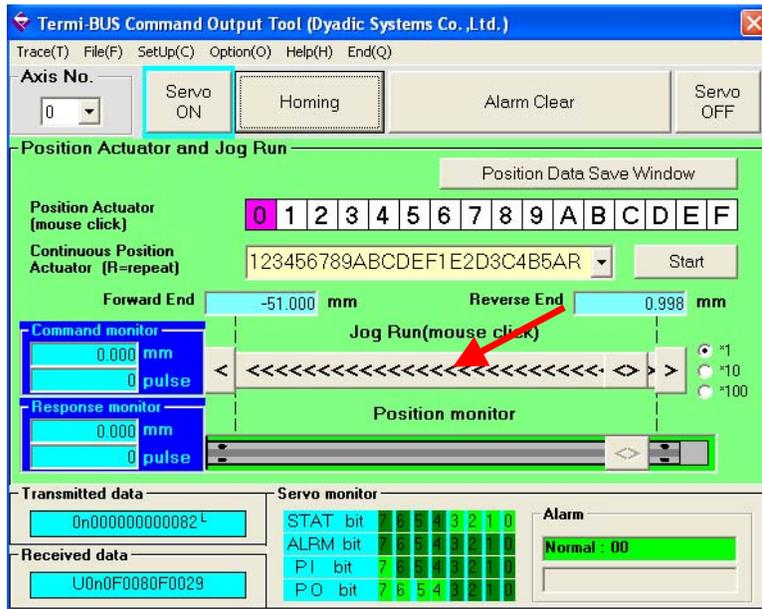
After turning the Actuator power ON and starting TBVST you will see the serial port selection dialog as follows. Please select the serial port number to which the actuator is connected now.



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



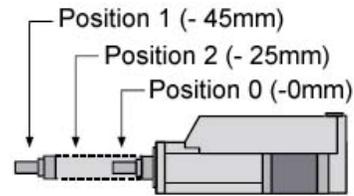
Please click [Homing], so that the Mechatronics Cylinder will home itself. If the Mechatronics Cylinder doesn't move to home, please check all wiring, with particular attention to the ILK wiring (to +24VDC for PNP model, 0VDC for NPN model).



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

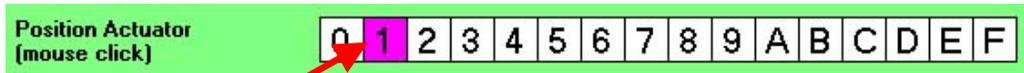


Notes: Values will deviate from whole numbers by several hundredths of a mm due to encoder resolution.

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.

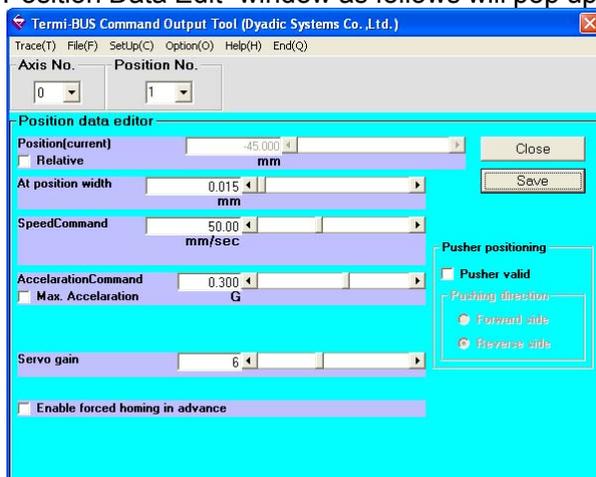


Drag the handle of the jog bar and move it to about [-45mm]; the actuator shaft will move. When the actuator shaft is in the desired position, click the “Position Data Save Window” button to go to the [Position Data Edit Menu].

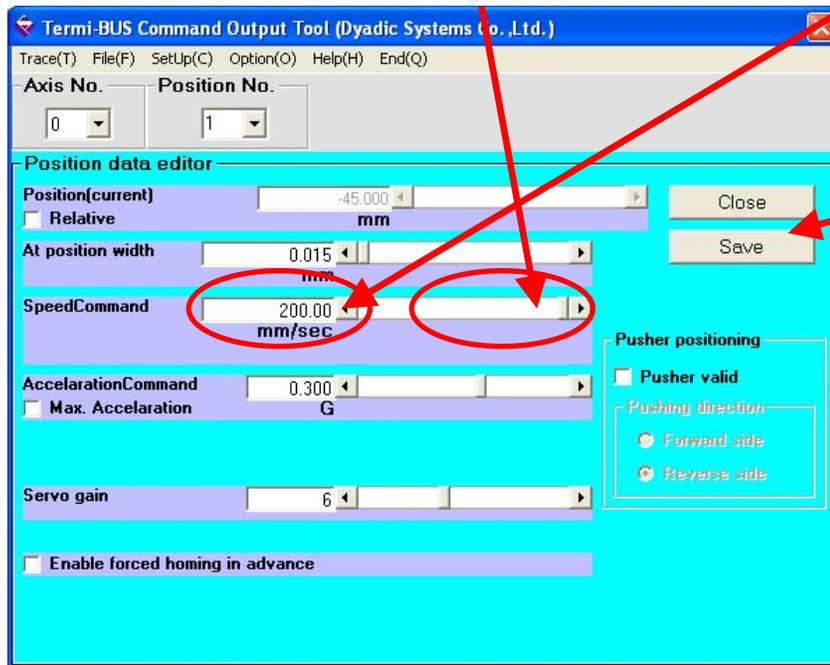
The dialog box at right will pop up. We want to teach the controller the current position of the actuator, so click [Yes].



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.



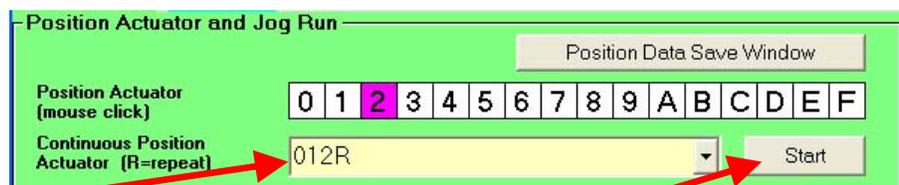
Click “Save” to store in controller

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



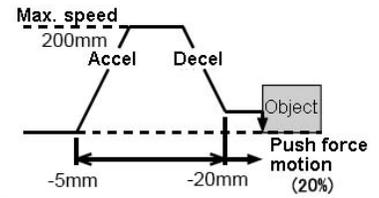
Please type “012R” in the Position Actuator window, then click [start].

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.

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.

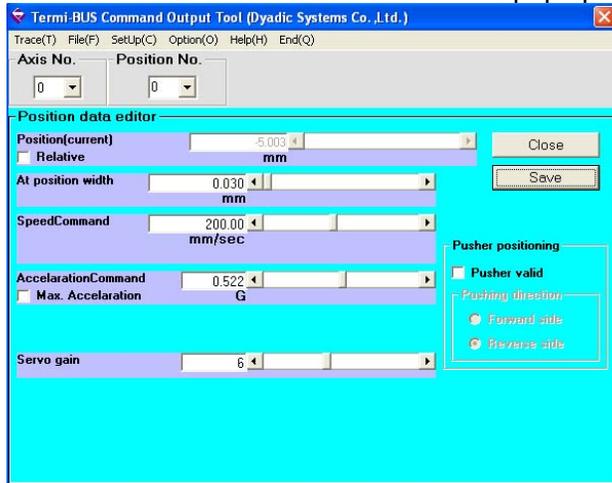


Drag the handle of the jog bar and move it to about [-5mm]; the actuator shaft will move. When the actuator shaft is in the desired position, click the “Position Data Save Window” button to go to the [Position Data Edit Menu].

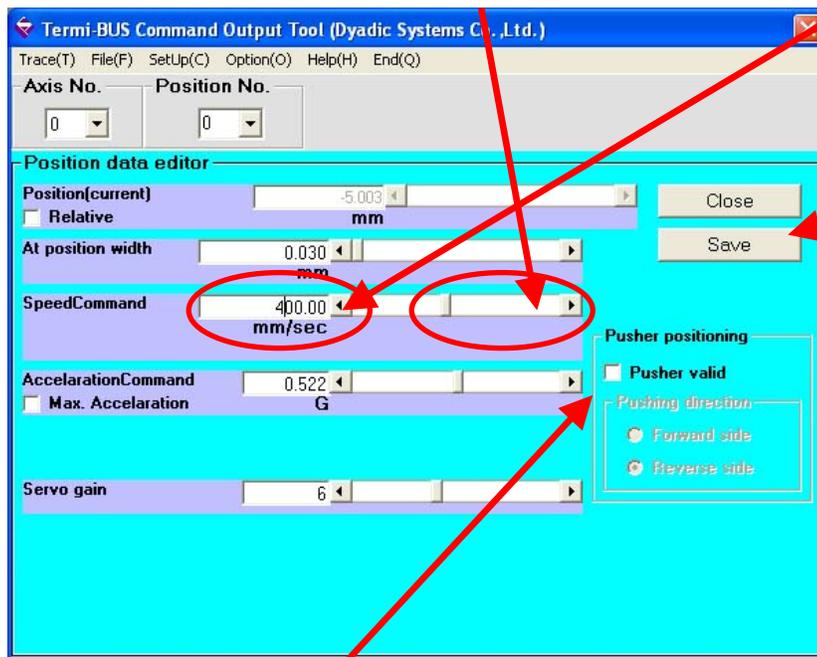
The dialog box at right will pop up. We want to teach the controller the current position of the actuator, so click [Yes].



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.



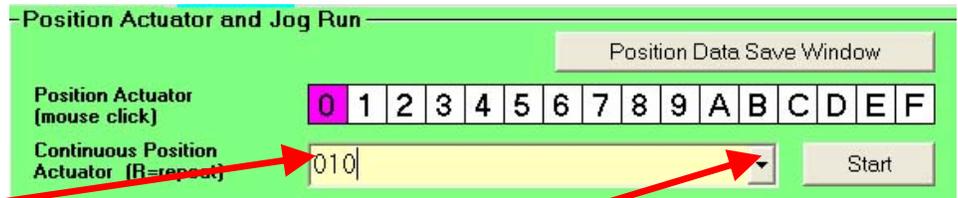
Click “Save” to store in controller

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.

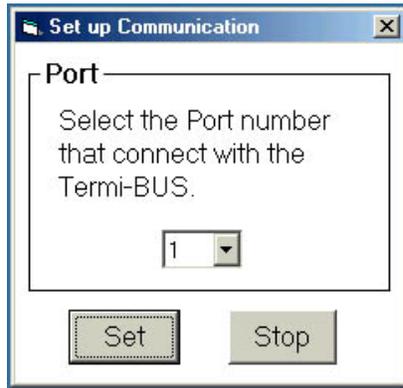
3. Detailed Review of TBVST

TBVST is the programming software for Dyadic Mechatronics Cylinder products.

3.1. Serial port selection

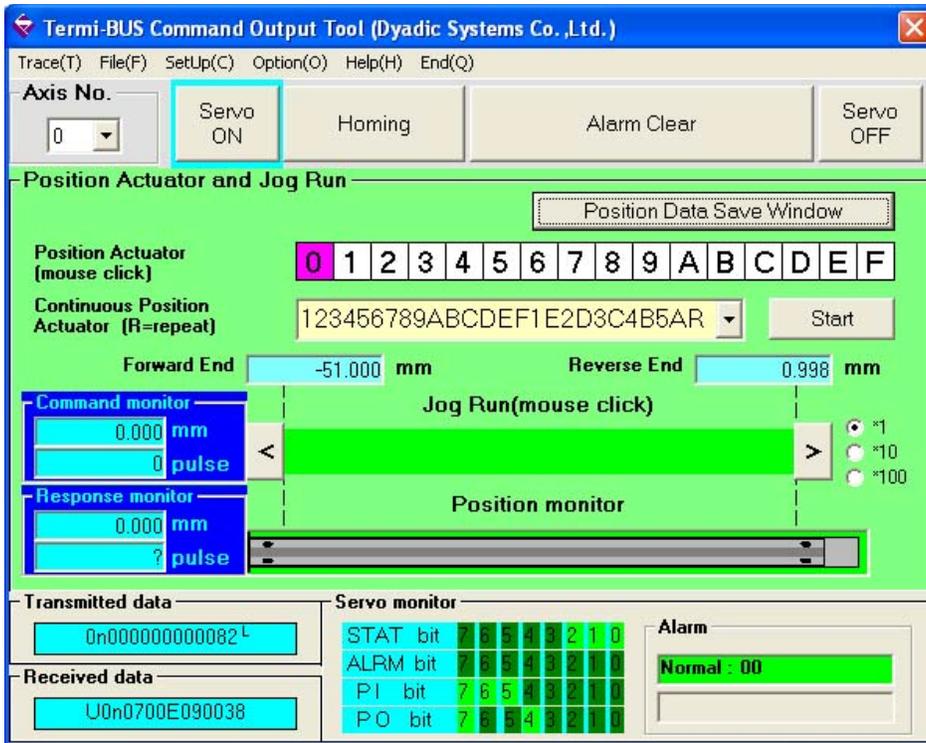
Please connect the Mechatronics Cylinder as per section 2: Initial Operation...”.

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.





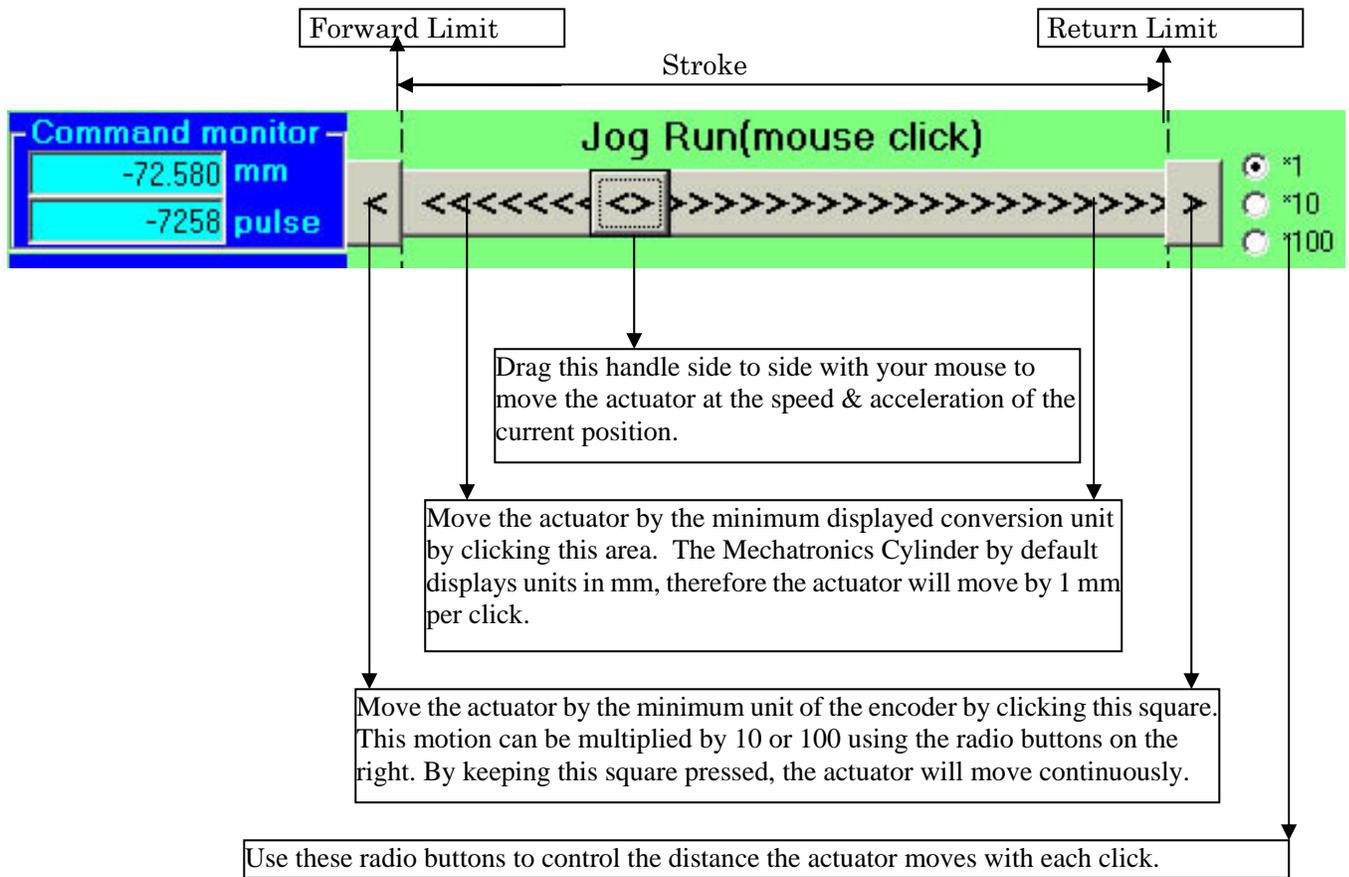
Please select the actuator axis number that is connected. When only one axis is connected, it will not be necessary to change this value. The default axis number is 0 and it is written on the EEPROM memory in the controller of the Mechatronics Cylinder. To connect multiple-axes, unique axis numbers must be assigned for each axis. 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.



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).



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



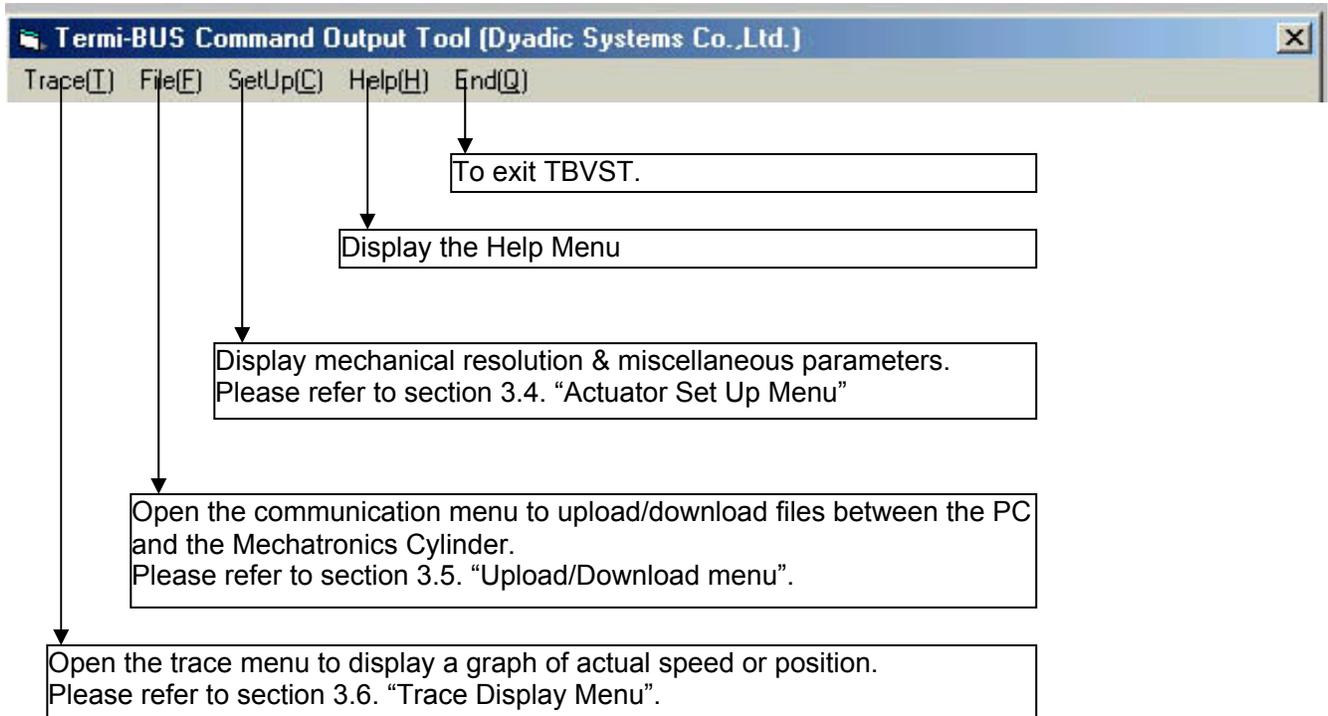
In order to save position data to the actuator, please press this button to open “Position Data Save Window”. Please refer to “3.3. Position Data Save Menu”.

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



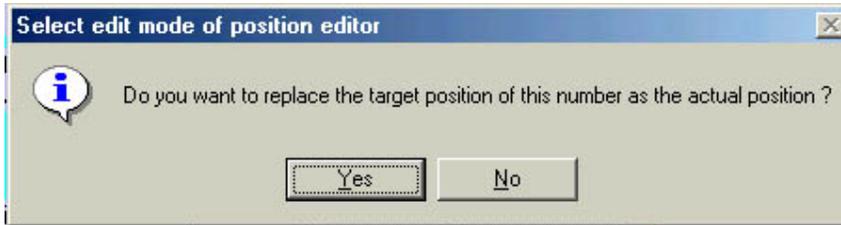
Menu bar:

The menu bar has the following functions:



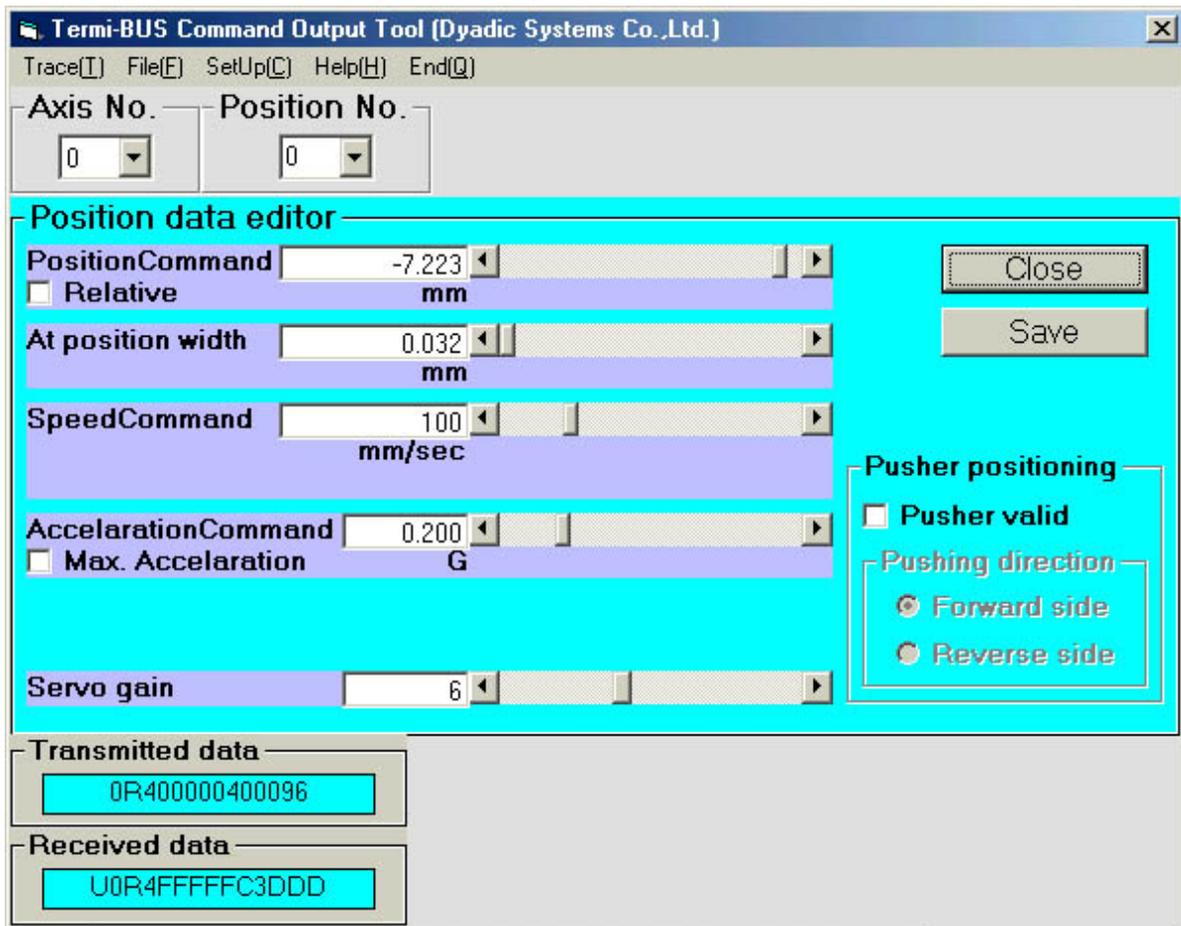
3.3. Position Data Save Menu

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).

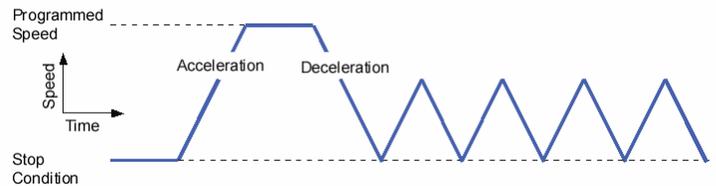
If “No” is selected, the target position data can be programmed in this menu by moving the slide bar or typing data. Note that the appearance of this box can be deactivated using the “Options” menu.





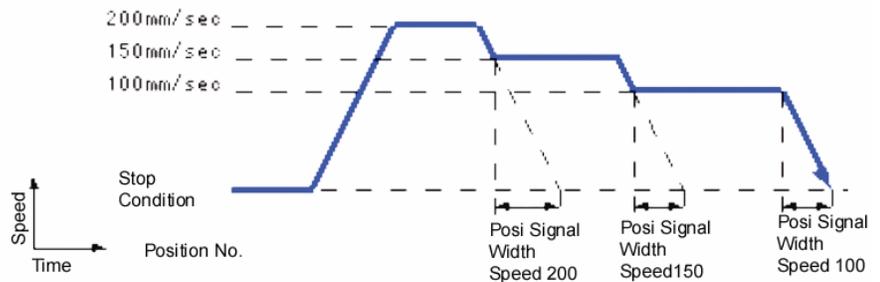
The PositionCommand box displays the current position of the actuator (if “Yes” was answered in the previous dialog box) or the target position data stored in the EEPROM of the amplifier for the current motion (if “No” was answered). If “No” was answered in the previous dialog box the target position 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.



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).

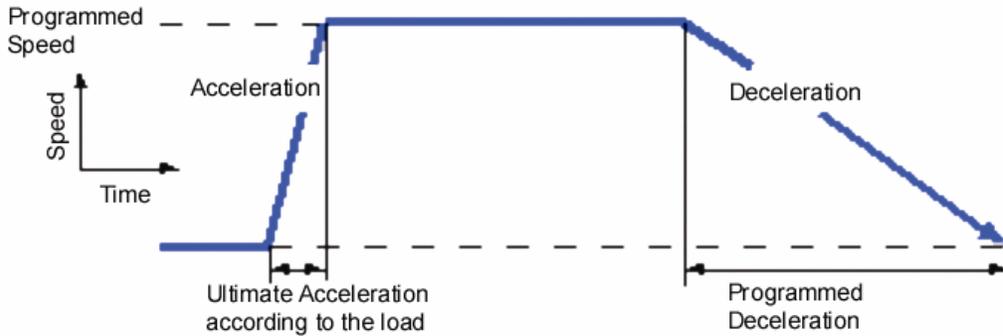
A larger setting for “At position width” would for example enable the actuator to make a continuous motion with several different speeds. The completion signal would be sent before the axis is stopped, which would allow a new position to be executed without stopping.



This data entry box allows target speed to be set for a given position.



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)



Servo gain

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.

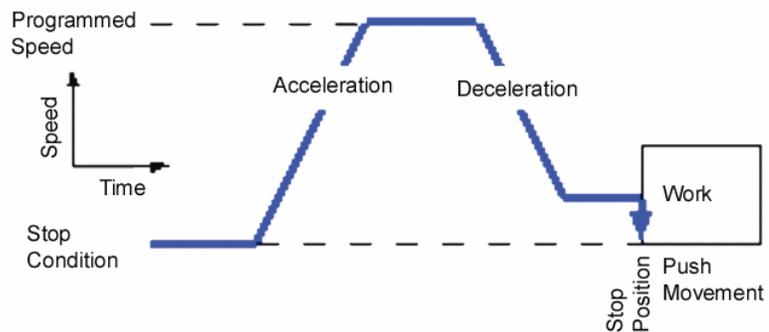
Pusher positioning

Pusher valid

Pushing direction

Forward side

Reverse side



PusherForceCommand %

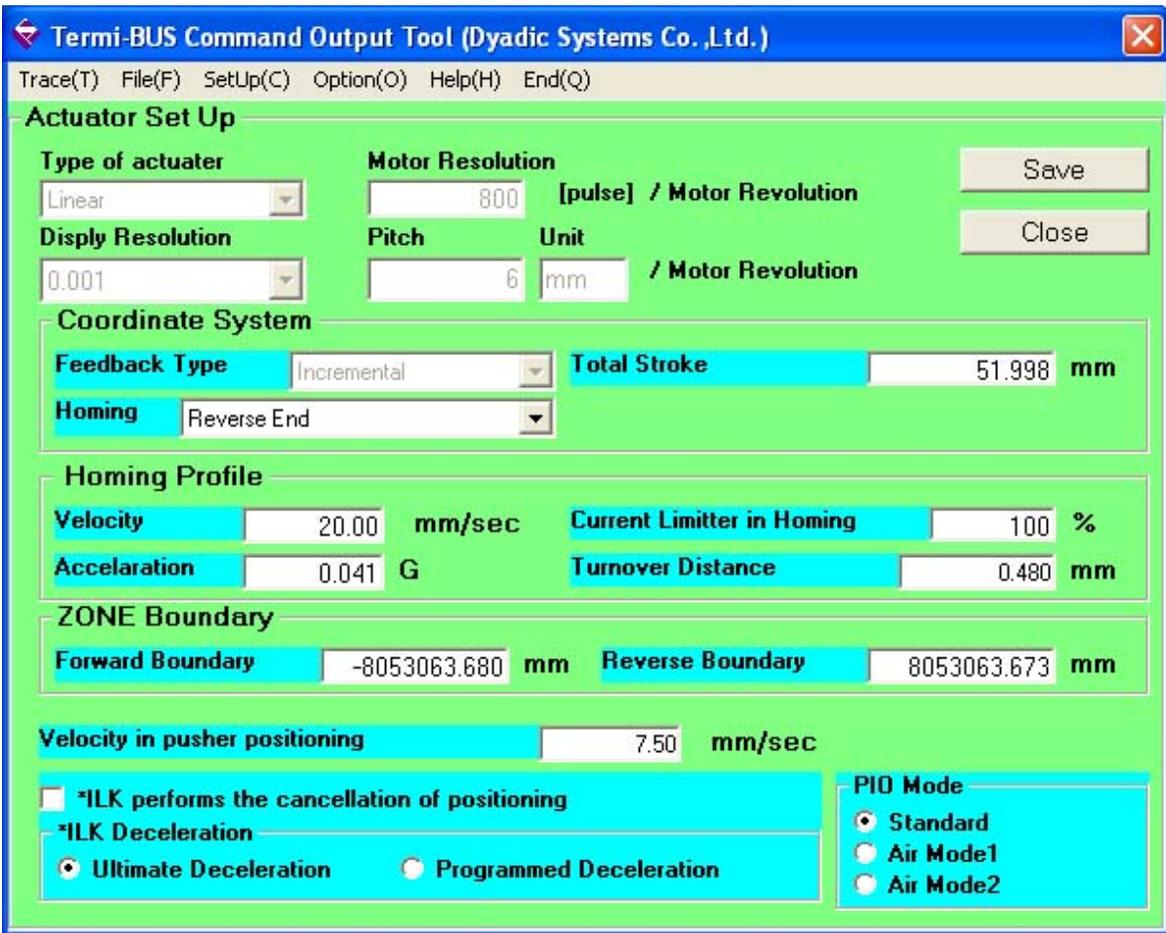
If the “Pusher Valid” check box is marked, Push Force Mode will be used for the given position. This mode consists of a position-controlled movement and a force-controlled movement.

- 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 %.

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.

Coordinate System

Feedback Type: Incremental Total Stroke: 51.998 mm

Homing: Reverse End

Homing Profile

Velocity: 20.00 mm/sec Current Limiter in Homing: 100 %

Acceleration: 0.041 G Turnover Distance: 0.480 mm

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

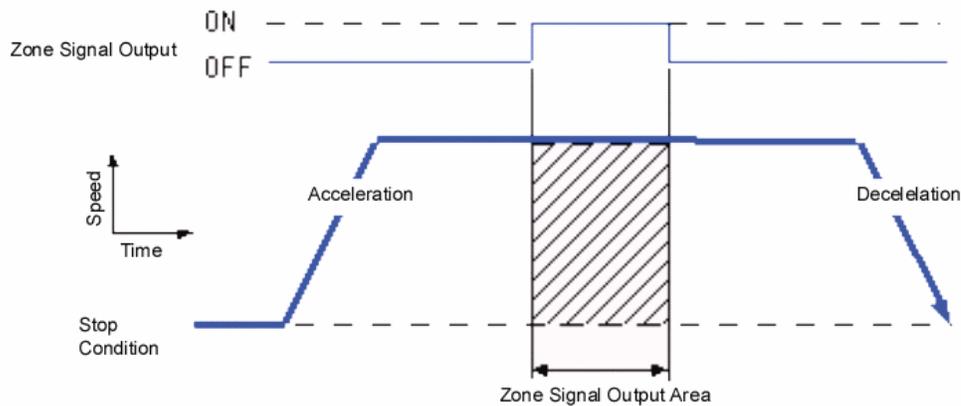
This Coordinate System area sets the home direction. Forward end and backward end positions are available. Changing the direction of homing will invert the sign of the coordinate system. This menu can also set the profile of the homing motion as follows:

- Speed
- Acceleration
- Current limit

These settings typically don't need to be changed.

ZONE Boundary

Forward Boundary: -8053063.680 mm Reverse Boundary: 8053063.673 mm



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.

*ILK performs the cancellation of positioning

*ILK Deceleration

Ultimate Deceleration Programmed Deceleration

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:

<u>Inputs Used</u>	<u>Completion Signal</u>	<u>Actuator position No.</u>
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:

<u>Inputs Used</u>	<u>Completion signal</u>	<u>Program position No.</u>
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)

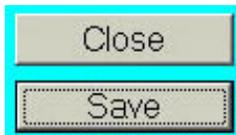
The PC* signals are intended to be pulse inputs, at least 10ms long.

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

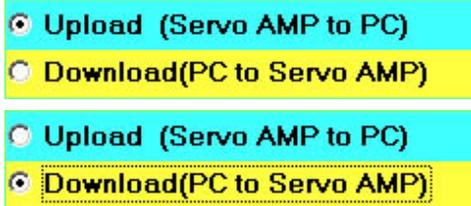
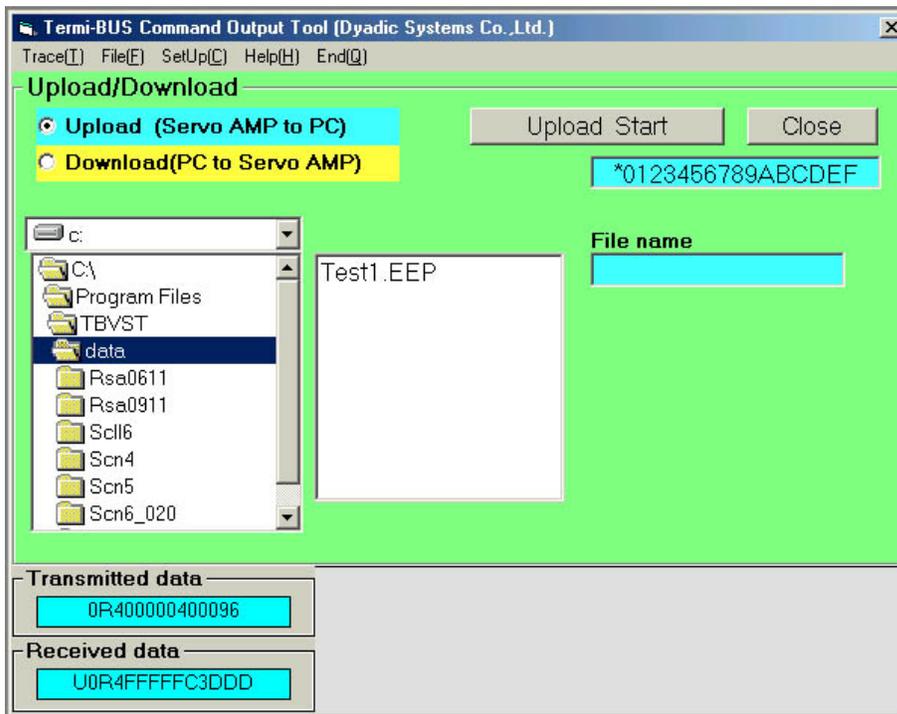


By clicking “Save”, the edited data will be saved.

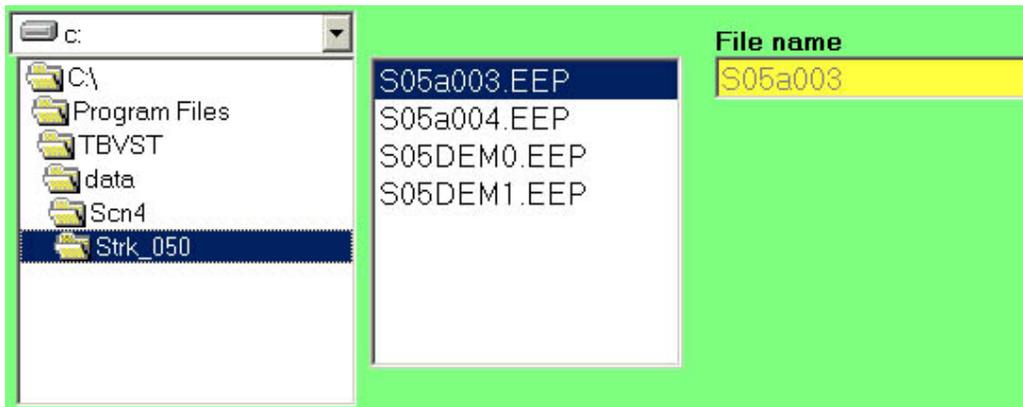
By clicking “Close”, the display will go back to the main menu.

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.

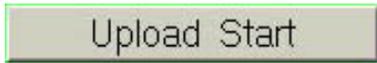


The Termi-Bus Tool Kit comes complete with sample files for each Mechatronics Cylinder product. This menu is used to select the file to upload or download. To transfer setup data from the axis to your PC simply type the name of the file you want to save it to (without extension) in the “File Name” box 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.

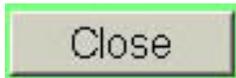
Upon any concerns about actuator motion, please upload the parameters from the actuator and e-mail the EEP file to Mirai Inter-Tech so that our support group can simulate the problem and identify the cause of the problem easily.

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.



These buttons start uploading or downloading.

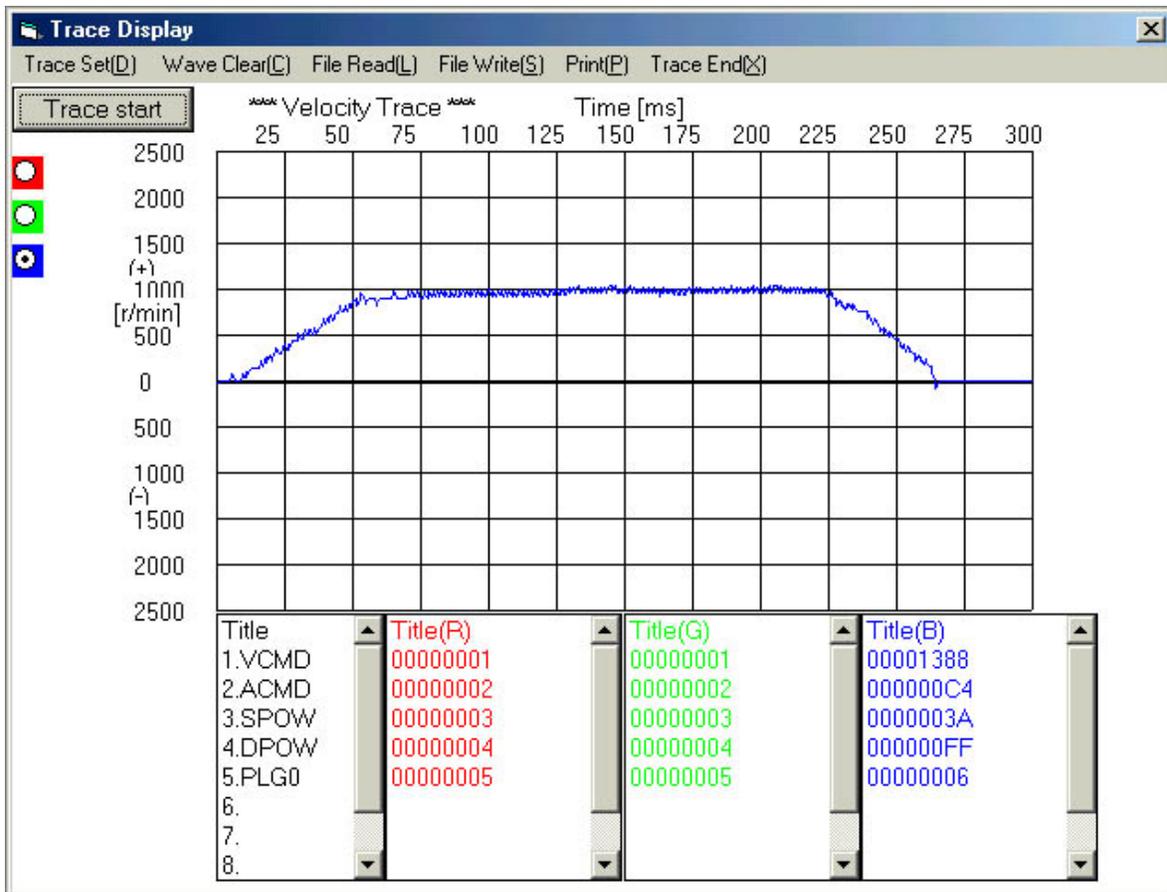
or



Upon clicking "Close", the display will go back to the main menu.

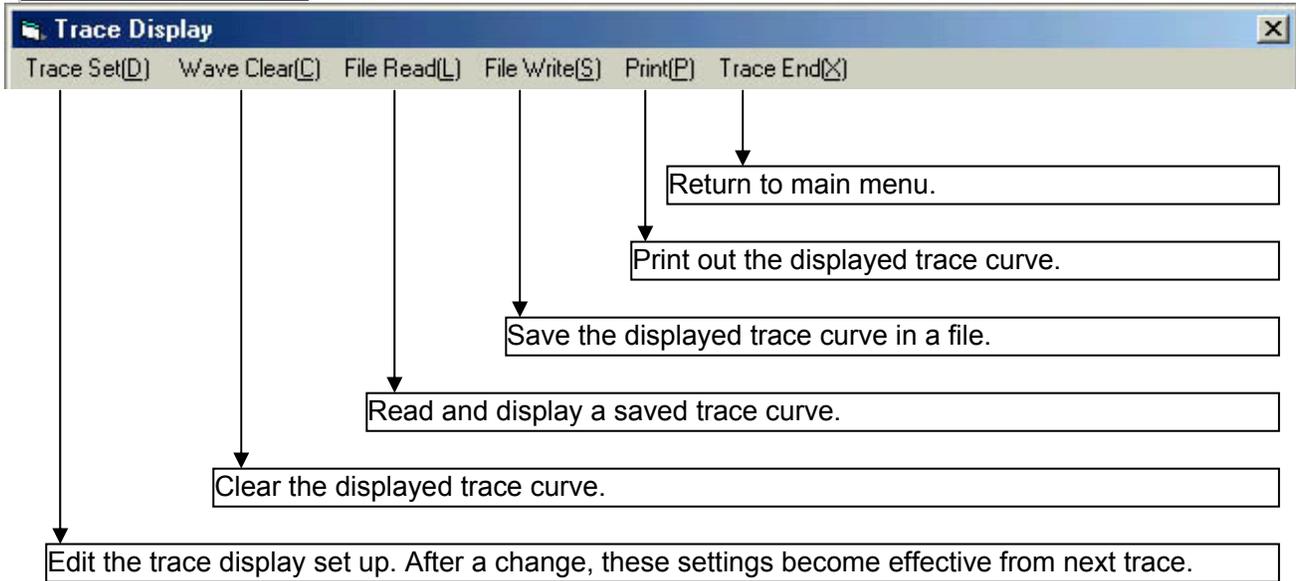
3.6. Trace Menu

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).



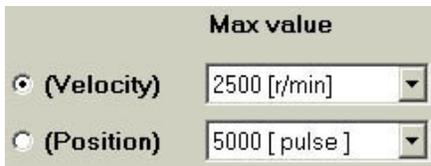
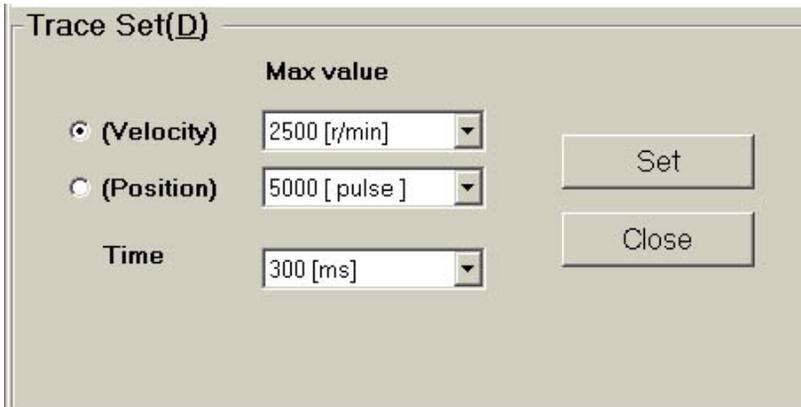
Trace start

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



Trace set (D):

To select the trace type (velocity or position) and the scales of the X and Y axes of the graph.



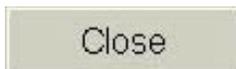
To set the maximum value of the vertical axis of the curve.



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



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



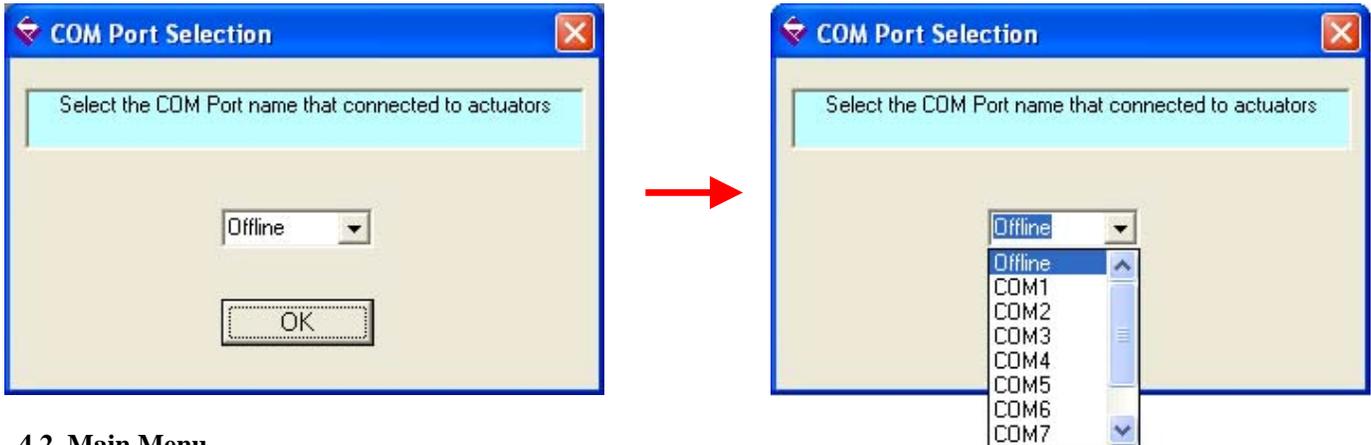
Cancel data editing and closes this display (returns to Trace menu).

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.

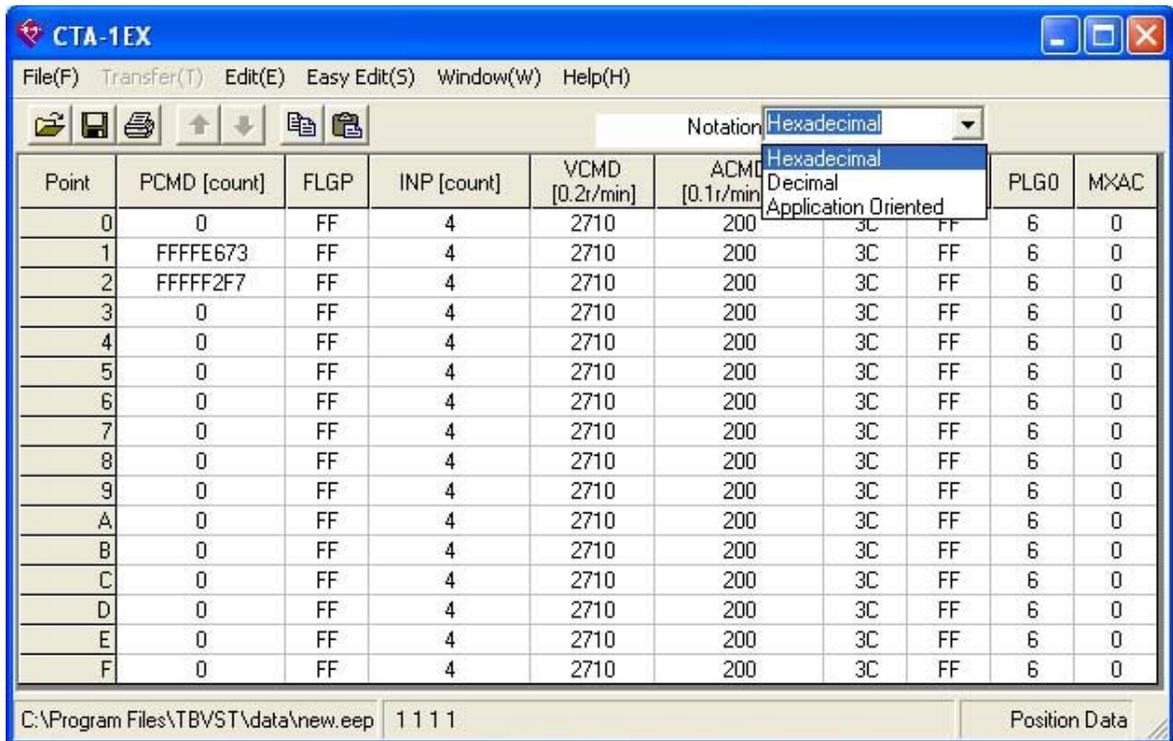
4.1. Serial port selection

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

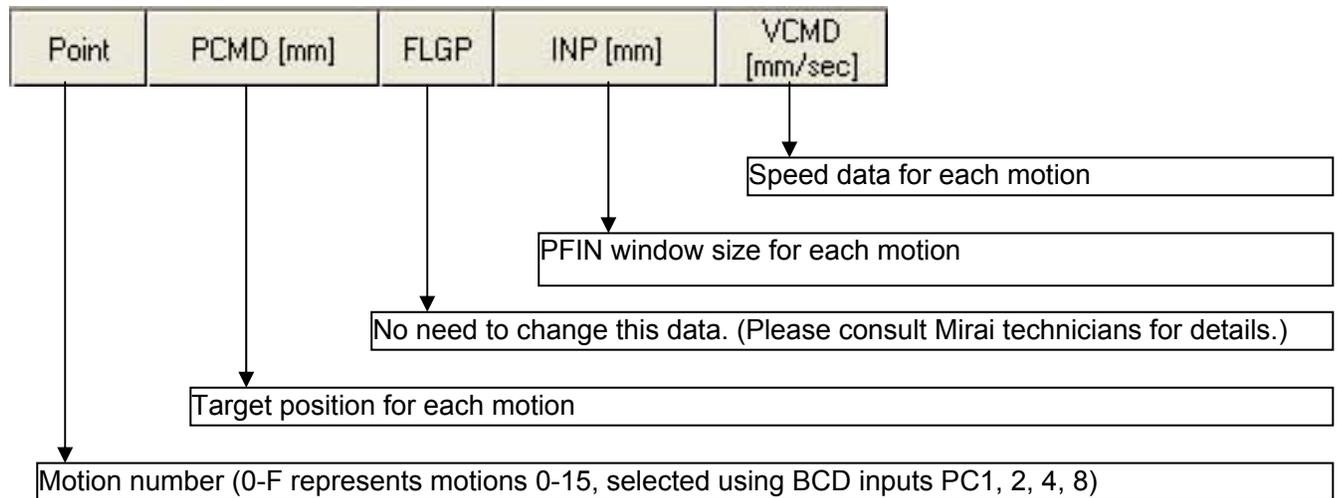
C:\Program Files\TBVST\data\new.eep 1 1 1 1 Position Data

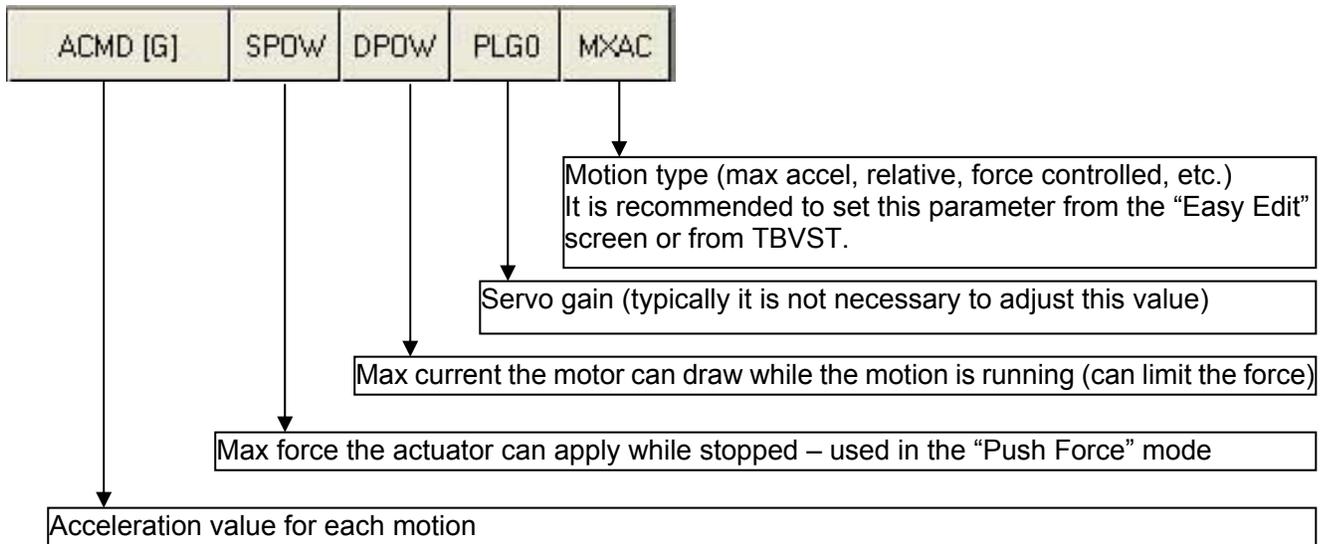


These are the [Upload/Download] buttons used to transfer files to and from the Mechatronics Cylinder. In "Offline" mode, these buttons are not available.

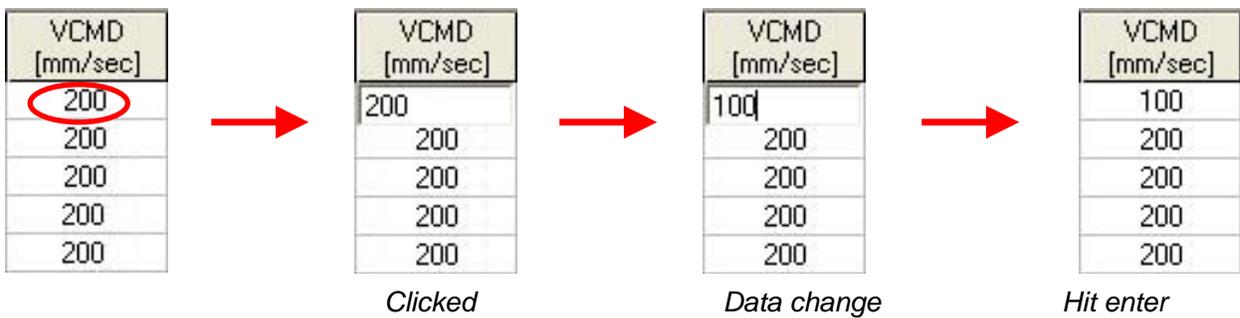


The notation can be set to [Hexadecimal], [Decimal], and [Application oriented]

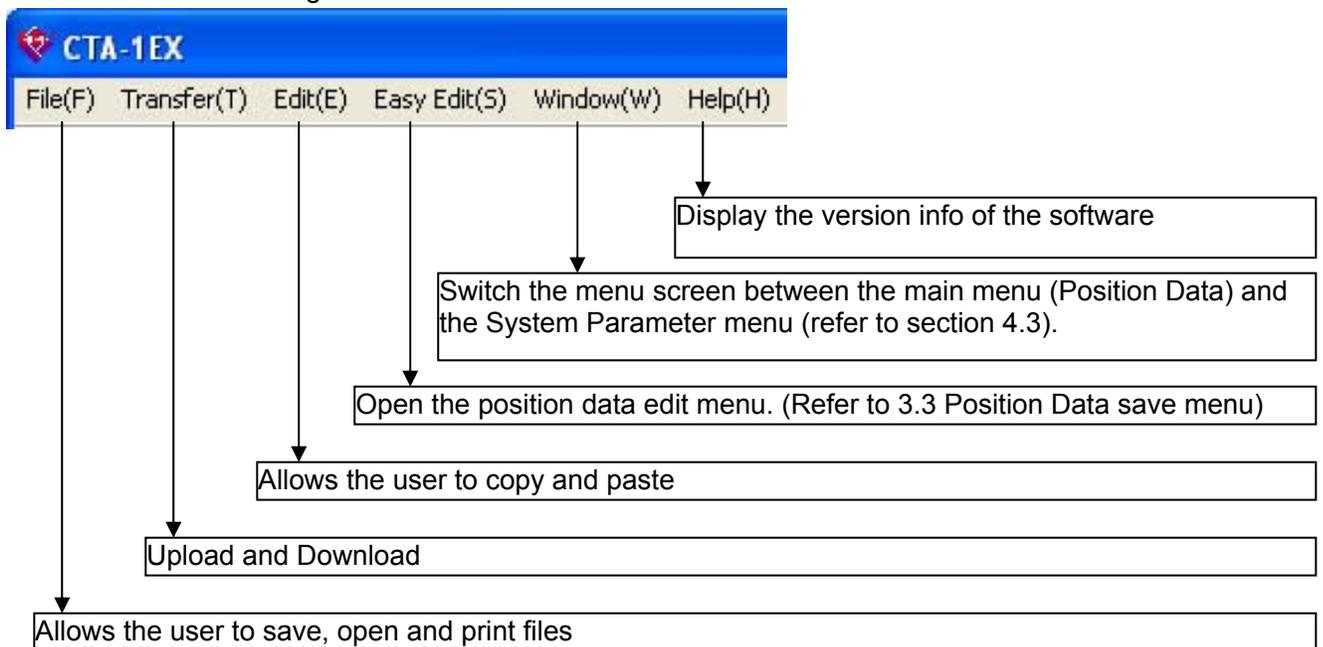




Please double click the data that needs to be changed, change the data, then press enter.



Menu bar has following functions:



4.3. System Parameter Data

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

Parameter	Value
000: CNTM [mm]	8053063.673
001: CNTL [mm]	-8053063.680
002: LIMM [mm]	0.060
003: LIML [mm]	-50.055
004: ZONM [mm]	8053063.673
005: ZONL [mm]	-8053063.680
006: ORG	7
007: PHSP	0
008: FPIO	96
009: BRSL	4
00A: OVCM [mm/sec]	20.00
00B: OACC [G]	0.041
00C: RTIM [msec]	255
00D: INP [mm]	0.030
00E: VCMD [mm/sec]	200.00
00F: ACMD [G]	0.522
010: SPOW	60
011: DPOW	255
012: PLGO	6
013: MXAC	0
019: ODPW	224
01A: OTIM [msec]	8192
01B: ZRCT	-2147483584
01C: PVCM [mm/sec]	0.00

CTA-1EX
File(F) Transfer(T) Edit(E) Easy Edit(S) Window(W) Help(H)
Notation: Application Oriented
C:\Program Files\TBVST\data\new.eep 1 7 1 7 System Parameters

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

CTA-1EX Common Parameter Editor

Type of actuator: Linear
Motor Resolution: 800 [pulse] / Motor Revolution
Disply Resolution: 0.001
Pitch: 6 mm / Motor Revolution
Unit: mm

Coordinate System
Feedback Type: Incremental
Total Stroke: 50.115 mm
Homing: Reverse End

Homing Profile
Velocity: 20.00 mm/sec
Acceleration: 0.041 G
Current Limiter in Homing: 100 %
Turnover Distance: 0.480 mm

ZONE Boundary
Forward Boundary: -8053063.680 mm
Reverse Boundary: 8053063.673 mm

Velocity in pusher positioning: 7.50 mm/sec

PI0 Mode
 *ILK performs the cancellation of positioning:
 *ILK Deceleration
 Ultimate Deceleration
 Programmed Deceleration
 Standard
 Air Mode1
 Air Mode2

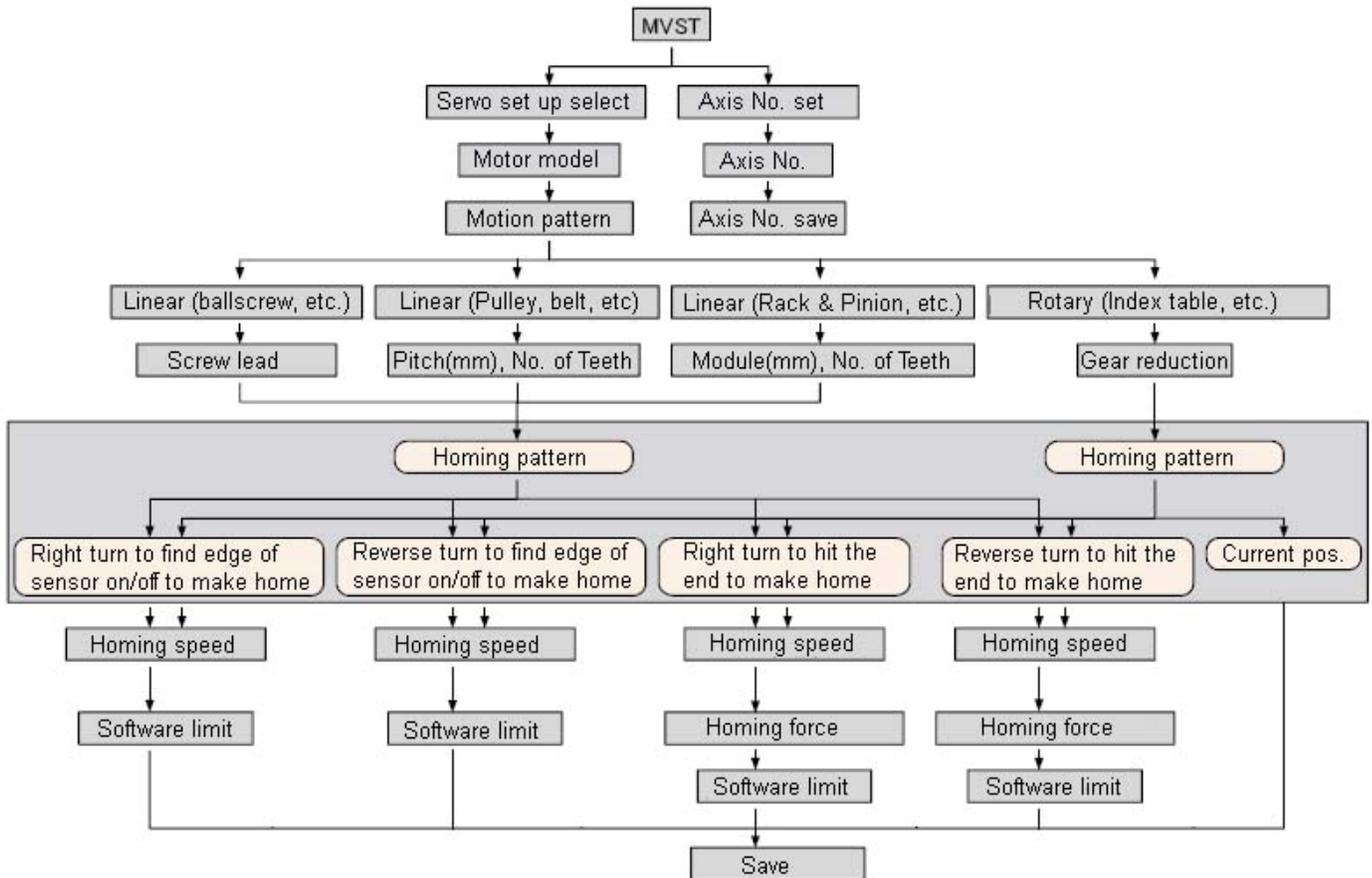
Buttons: Save, Close

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

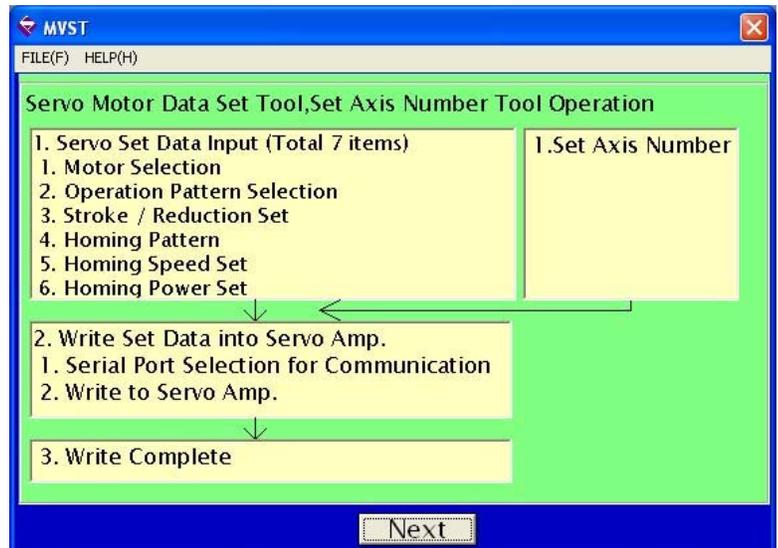
000: CNTM [mm]	Coordinate system range + side max
001: CNTL [mm]	Coordinate system range - side max
002: LIMM [mm]	Software stroke limit + side
003: LIML [mm]	Software stroke limit - side
004: ZONM [mm]	Zone border value + side
005: ZONM [mm]	Zone border value - side
006: ORG	Homing pattern selection 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:

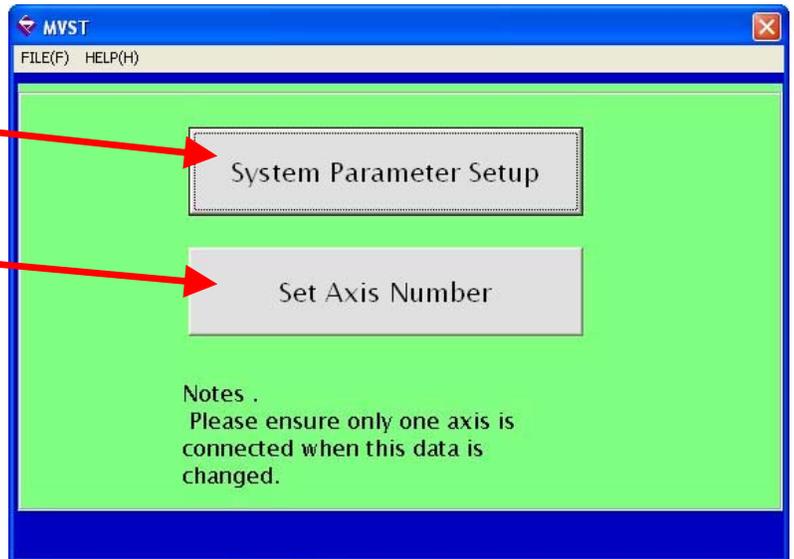


This is the start up menu.
Please click [Next] to go to the next menu.



Click [System Parameter Setup] to go to the Parameter setup menu.

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

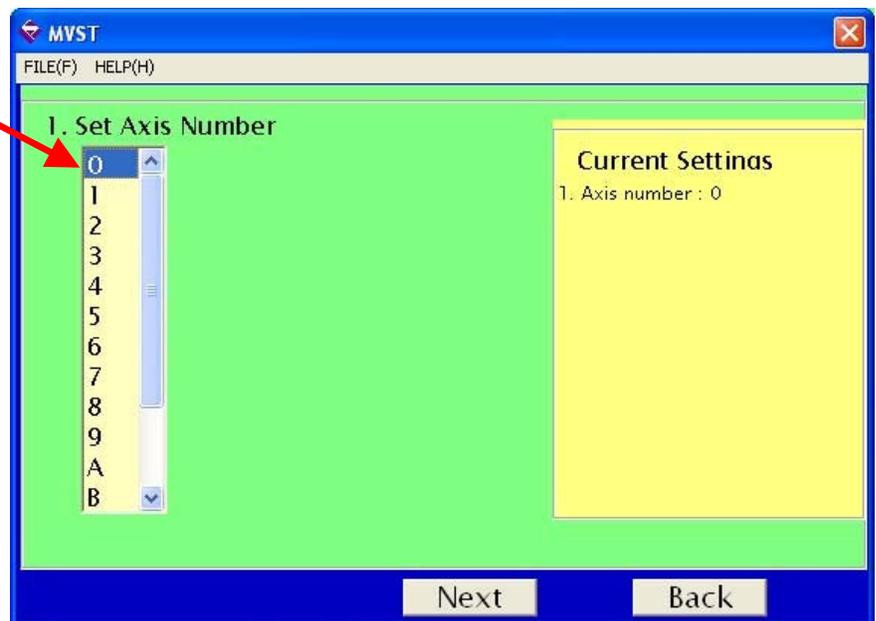


5.1. Procedure for Changing the Axis Number

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

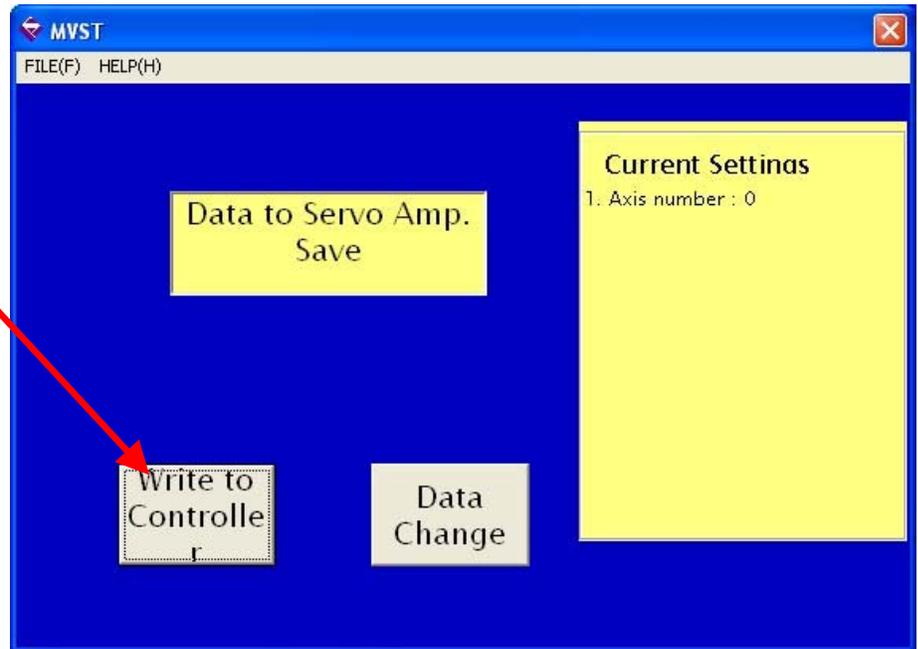
Please choose the new number for your axis. Then click [Next].

If this operation should be cancelled, please click [Back].



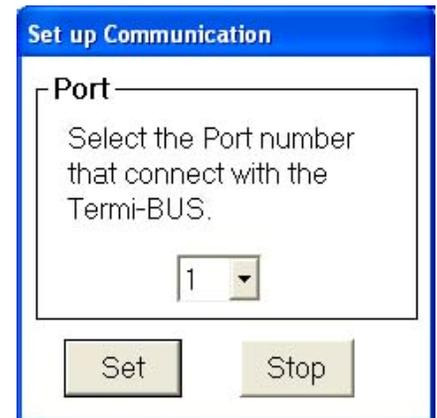
Ensure only one actuator is connected to your PC and click [Write to Controller]

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



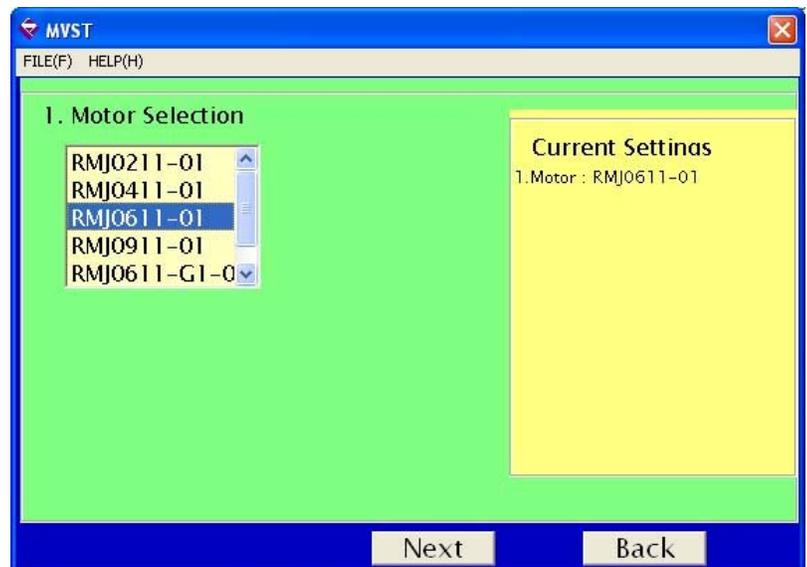
The serial port number selection menu as shown at right will appear. Select the serial port that the Mechatronics Cylinder is connected to.

Click "Set" to start communication.



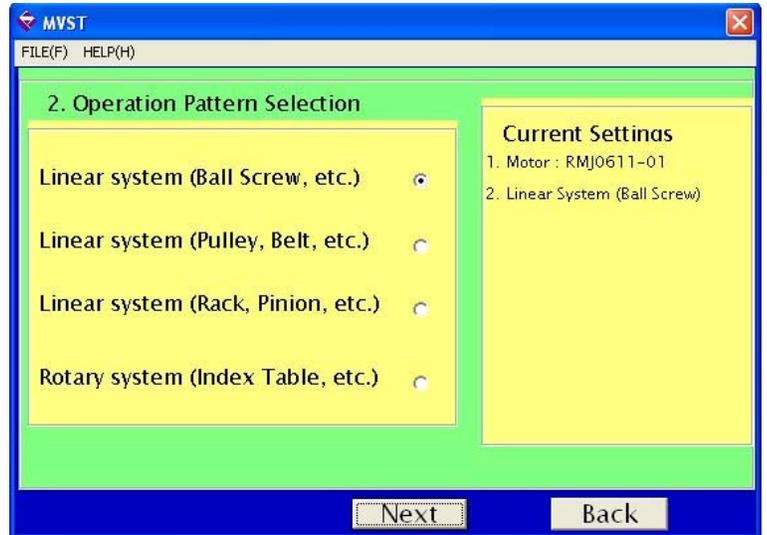
5.2. Mechanism Data Setup

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.



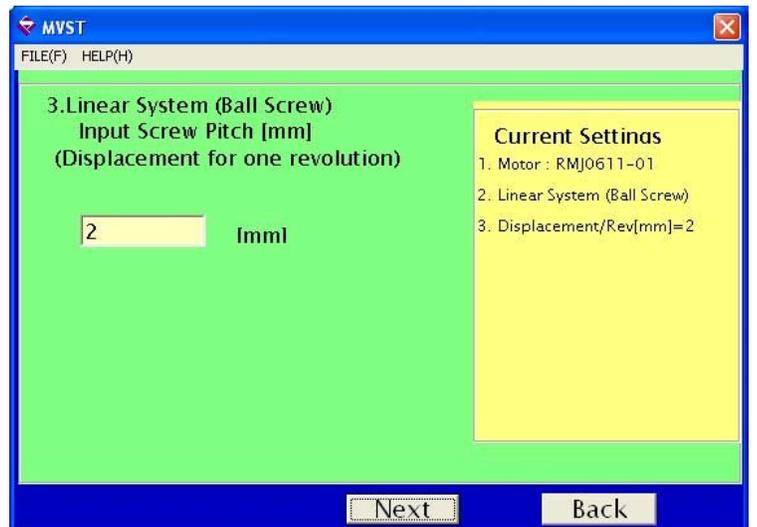
[Operation Type Selection]

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



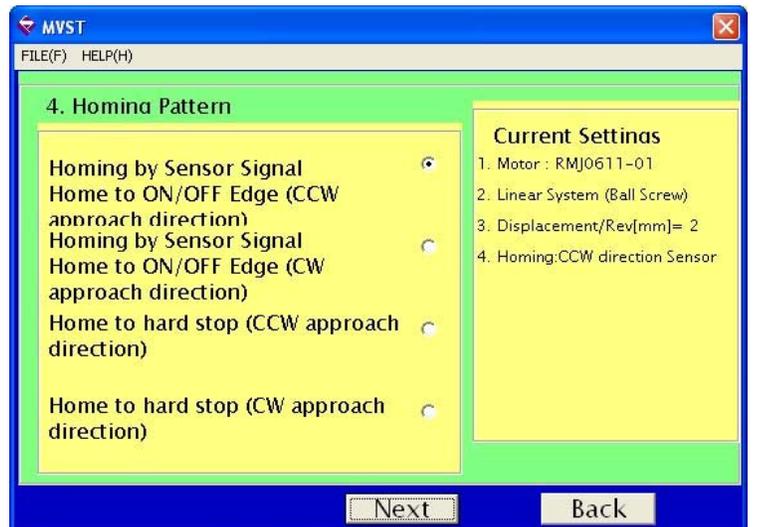
[Screw Pitch] menu

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.



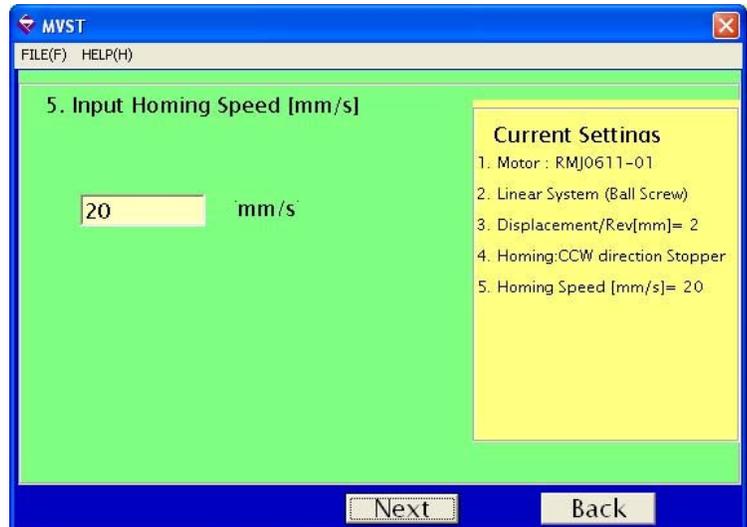
[Homing Pattern] menu

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.



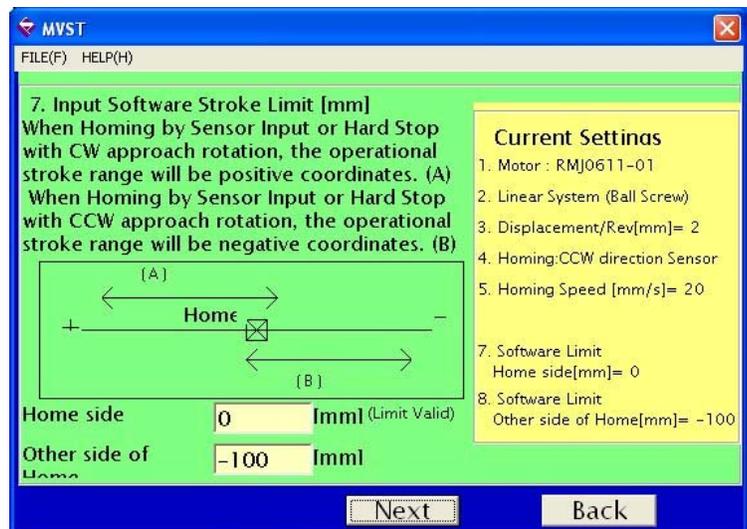
[Homing Speed] menu

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.

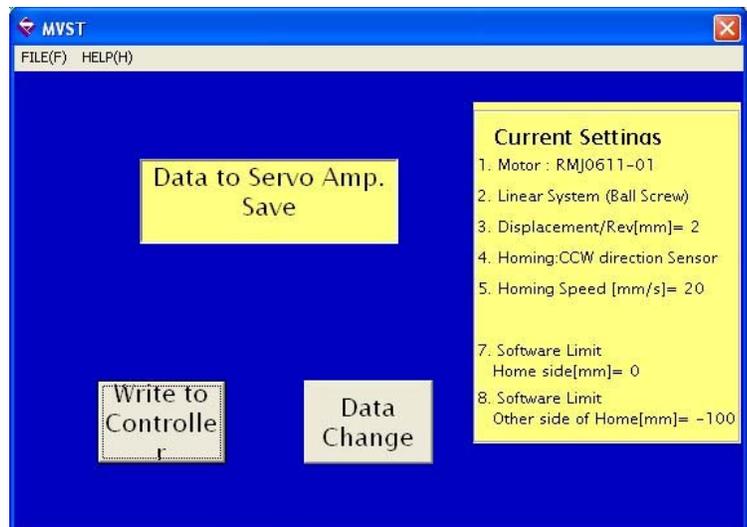


[Parameter Save] menu

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.



Manufactured by:



Dyadic Systems Co.,Ltd.

2-60 Uneda-Nishi, Kanazawa
Ishikawa-Ken, 920-0342 Japan
Tel: 81-76-267-9103, Fax: 81-76-267-9104

Imported by:



Mirai Inter-Technologies Systems Ltd.
35 Pollard St.
Richmond Hill, ON, L4B 1A8 Canada
Tel: 905-763-9442
Fax: 905-763-9766