UniOP with the API Motion Controller

API.ZIP contains UPLC64.DLL, APIMD.PRJ, TEST.ICL, CH.ICL, CHM.ICL, CHB.ICL, and CHJ.ICL.

UPLC64.DLL is the Designer driver for API. Copy this file to your C:\Designer directory. API.PRJ is an example project file for a CP or MD type of UniOP. Copy this file to your C:\Designer directory.

All files ending in .ICL are for the API Motion Controller. Copy all of these to C:\API. Using APICOM, FILE TRANSFER PC TO INDEXER, AXIS DESIGNATOR 0, and transfer all of the *.ICL files.

Using the "Designer", download APIMD.PRJ to the UniOP.

Wire API the UniOP's PLC port as follows :

15 Pin female	Terminal connection
3	RXIN
2	TX IN
5	GND

The API driver for UniOP is a slave. There must be some programming in the API to control the display using the SEND command and the PROMPT command. However, you can still use the Keyboard Macro Editor and design pages using the Designer. The main mechanism in the macro editor for the motion controller is the "Send Command Macro". Using this macro you can define function keys that select programs, start / stop motion, change parameters, - anything that the controller supports, just type the command string(s).

You can define a terminal line, one per page, for interaction display. You willl see the prompt, and result messages based on the sent command. The terminal line can be up to 60 characters long maximum. ASCII fields can be defined, you will not need to position the cursor as with VT100 types of displays, we will just send the data along with the page number and field number. You can consider this driver to be a 1 line terminal along with an ASCII protocol. The protocol mode is activated by the escape character.

The syntax is :

ESC	(protocol mode)
&	(header)
pn	(page number)
@	(field follows)
fn	(field number)
#	(data follows)
dd	(the data)
&	(trailer)
*	(update the page)

The fields are numbered on a page left to right, top to bottom.

So, using the protocol mode we can make pages with the Designer and simply send the data for each field. An example is this , lets assume that page 4 on the UniOP has static text describing some event like "Motion in progress" and has one ASCII field to show the speed.

The API SEND command can be used in the following way :

```
SEND -1 | "1B&4@1#4089&*"
```

This will cause UniOP to goto page 4, display all the static text and fill in the ASCII field with "4089". You can have up to 80 fields per page, each up to 60 characters long. The number of pages is limited to the available memory (96k) , (it is alot !).

You can send a page update in the following way :

```
SEND -1 | "1B&4@1#1111&"
SEND -1 | "1B&4@2#2222&"
SEND -1 | "1B&4@3#3333&"
SEND -1 | "1B&4@4#4444&"
SEND -1 " * "
```

Send the following if only field 3 has a new value, just send field 3.

```
SEND -1 | "1B&4@3#3333&*"
```

The prompt command can be used for data entry. Use the command macro to CALL a program in the API that will execute a PROMPT command. A terminal line will display the prompt string. Pressing "INS" on the UniOP along with the value and ENTER will write the value to the API.