

UtiliPac410



4500



4000 Series Instruments



System10

UtiliPac410

Introduction

The software package UtiliPac410 is a utility package that is sent out with every system it also can be downloaded from the web at no cost. It is a Windows based, pull down menu driven package. The main feature of the software package is to provide back-up capability for the 4000 series instruments, System10 Data Acquisition System and the 4500 system configurations. Along with the back-up capability, a Word file can be generated for printing or saving of the configuration.

Some of the other features of the program are Live Data Display, Terminal emulation for the keyboard entry of Mnemonic commands, and Data Logging capabilities. Any or all of these items may be useful in diagnosing system problems.

Installation

If you have downloaded the software from the web, you will need to unzip the file to a folder. Open the folder and run the program setup.exe, or if you are using the CD, you need to run setup.exe. As the installation program runs, it will prompt you to select a destination for the program files. At this point you can select a destination different from the default, or press the button and let it install in the default location.

To Launch UtiliPac410 software program, select the START button on your Desk Top. Select all programs and scroll down if needed, to find the UtiliPac410 Icon. Click on the Icon and run the UtiliPac410 software. The first screen to appear is the system selection screen (Fig.1). Select the system you are currently hooked to, then press OK.

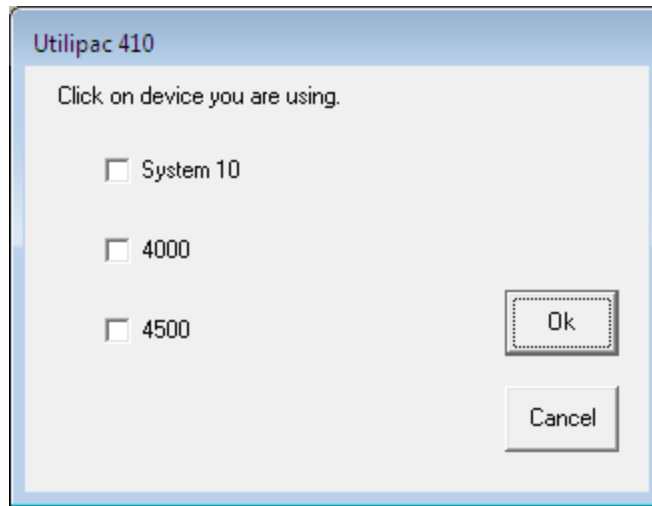


Fig.1

The next screen to appear is the communications protocol setup screen. The System10 and the 4000 instrument share the same communication setup screen, see Fig.2.

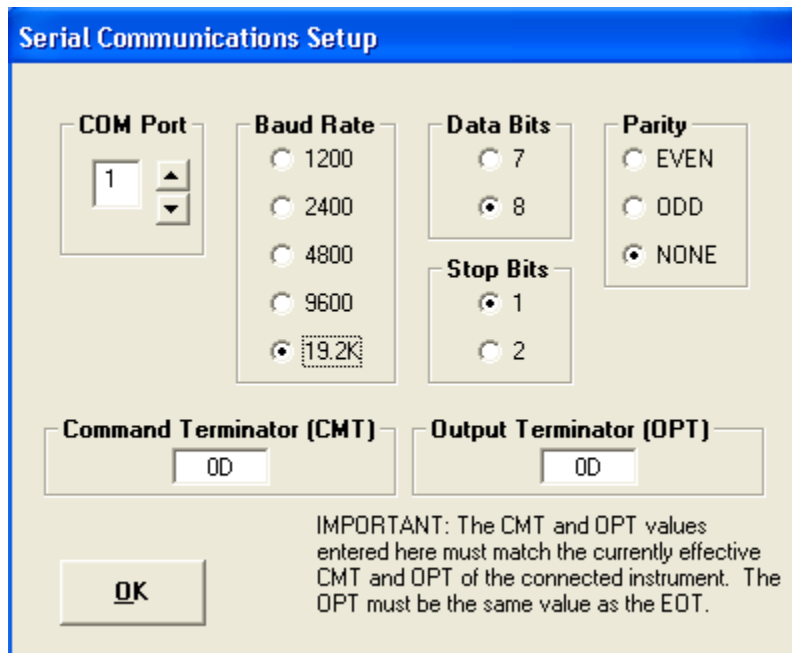


Fig.2

Verifying System10 communications protocol:

To verify the settings on the System10 with video, enter the **BAU** command through the Daytronic keyboard. On the keyboard type in **BAU** then return. The response from the System will be **BAU= b, d, s, p**.

Where **(b)** is the BAUD-RATE

1=300	5=9600
2=1200	6=19.2K
3=2400	7=153.6K
4=4800	

(d) Is the number of DATA BITS (7 or 8)

(s) Is the number of STOP BITS (1 or 2)

(p) Is the Parity selection:

0= NONE, 1= ODD, 2= EVEN

For example, a correct response for the **BAU** command may be **BAU=6,8,1,0**. The system communications baud-rate is set to 19.2K, the data bits are set to 8, and the stop bit is set to 1 and no parity. A-size Datapacs have rear-mounted protocol switches. For more information, refer to section 2.B.2 of the Daytronic System10 Guide Book.

Change either the System10 protocols or the software settings, but they both must match.

Verifying 4K instrument communication protocols:

To verify the protocol settings on a 4000 instrument press the **SET UP** button on the front of the 4000 display. Using the **STEP** button, move down the list of parameters to the **NOD** setting. Verify it is set to 0 for RS232 communications. Again use the **STEP** button to move down the list till you get to the **BAU** setting. The baud rate setting will be displayed in the main display. You can change the baud rate by using the up and down arrows. Use the same procedures for the **DBS** (data bits), **SBS** (stop bits), and

PAR (parity). If you made any changes to the setup you must press the **STEP** button before getting out of **SET UP**.

Change either the 4000 instrument protocols or the software settings, but they both must match.

If you select the 4500 system, as in figure 3.

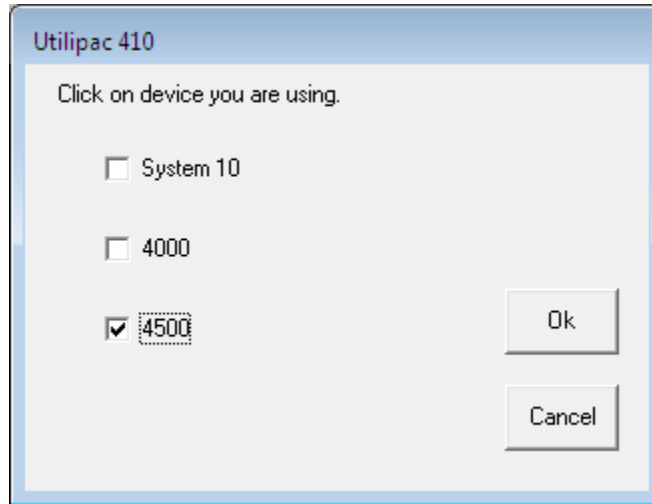


Fig.3

The communication interface screen appears as in figure 4. For RS-232 communication the protocols are fixed in the 4500 system. Your only concern is the selection of the proper Com Port.

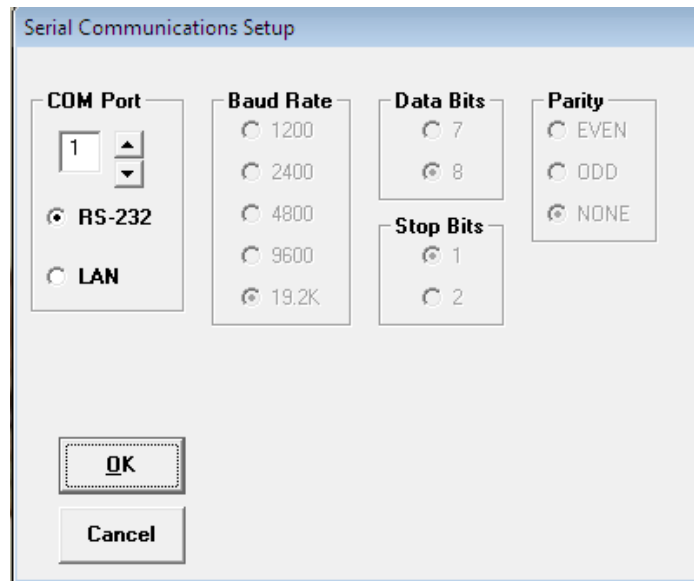


Fig.4

If you are going to use the 4500 on a local network, then you would select LAN as in figure 5. Enter your IP address from your Administrator and press OK.

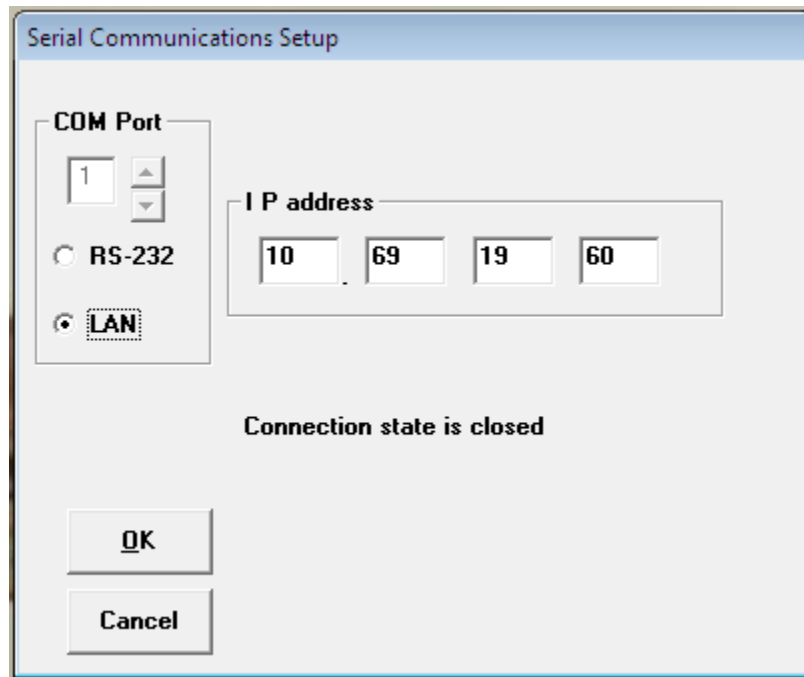


Fig5

Once you have set up you communication protocols press OK to return to the main screen. From the Serial Port pull down; select Test to verify two way communications has been established, for RS232 only (Fig6).

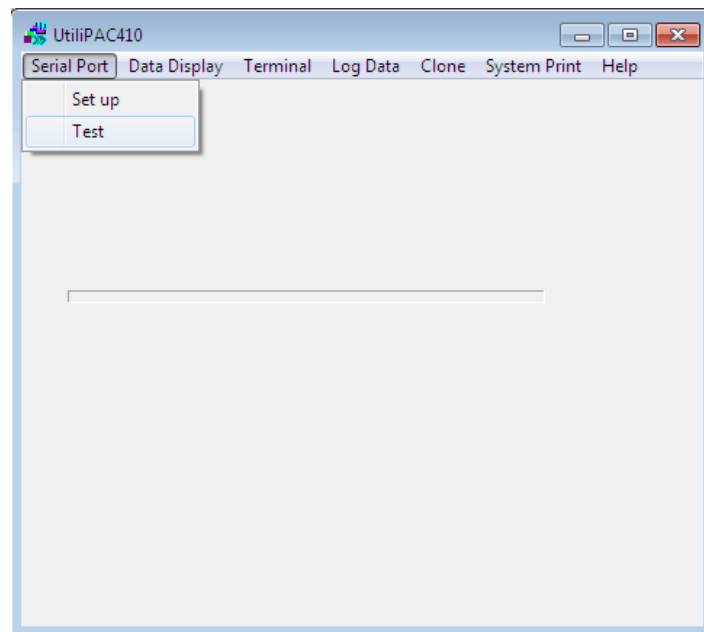


Fig6

If communications are successful the software will respond as depicted in figure7.

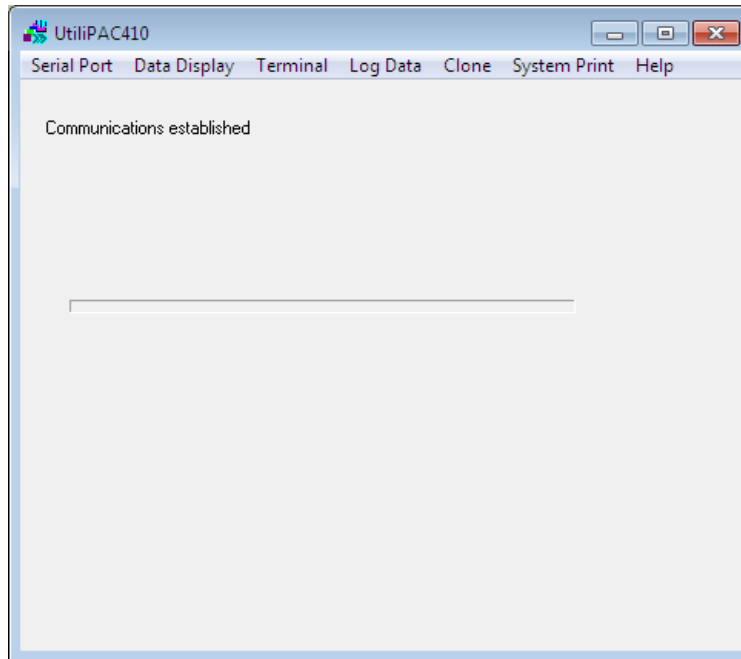


Fig7

Data Display

From the main UtiliPac410 screen select the Data Display pull down menu. You have two choices under this heading, Edit Page or Display, see figure 8.

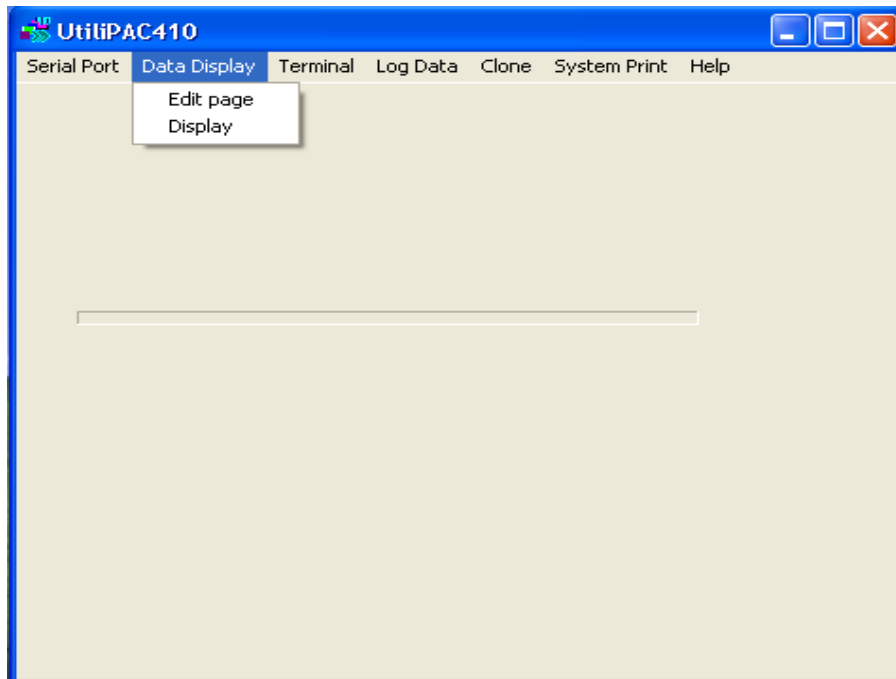
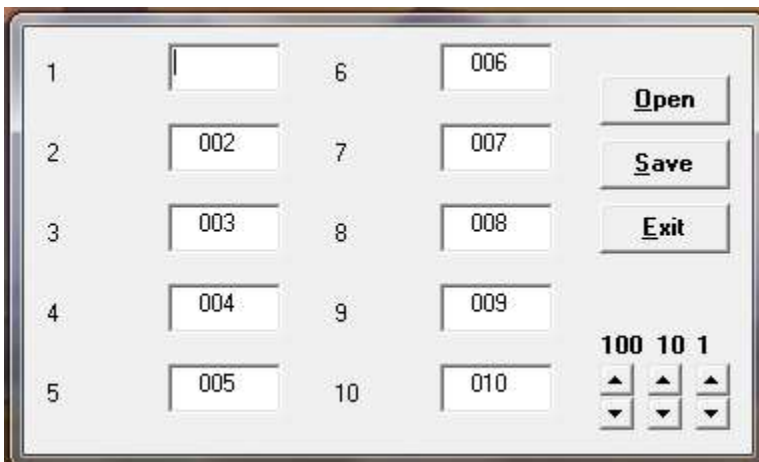


Fig.8

Edit page: Selecting Edit page allows you to edit the text associated with the channel data. Refer to the following three figures. For each channel the text can contain 8 characters in lower case and 6 characters in upper case.



Select the channels you want to edit.

1	abcdefgh	6	006	<input type="button" value="Open"/> <input type="button" value="Save"/> <input type="button" value="Exit"/>
2	ABCDEF	7	007	
3	003	8	008	
4	004	9	009	100 10 1 <input type="button" value="▲"/> <input type="button" value="▲"/> <input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="▼"/> <input type="button" value="▼"/>
5	005	10	010	

Enter text.

Channel Data Display

Channel No.		Channel No.	
abcdefgh	-0.070	006	-8.928
ABCDEF	2.4871	007	-0.0206
003	2.9801	008	-0.033
004	4.991	009	4.98
005	8.846	010	11.782

First Channel of Sequence

Use Up/Down arrows to
change the channel
number (or enter
directly in the field).

9:22:21 AM

Stop Live
Display and
Close

New text

The changes can be saved for future use. The saved file will have a .chn extension.

Display: Selecting Display will produce a video page of the first 10 channels of the system you are connected to.

Figure 9 shows the first 10 channels. To show another sequence of channels increment the First Channel Sequence to the desired channel. That channel will be displayed in the upper left and the following 9 channels will be displayed after that.

The Edit page selection only allows you to change the channel number text to the left of the data. The text can only be four characters long. Other than changing the text the format of the page is fixed.

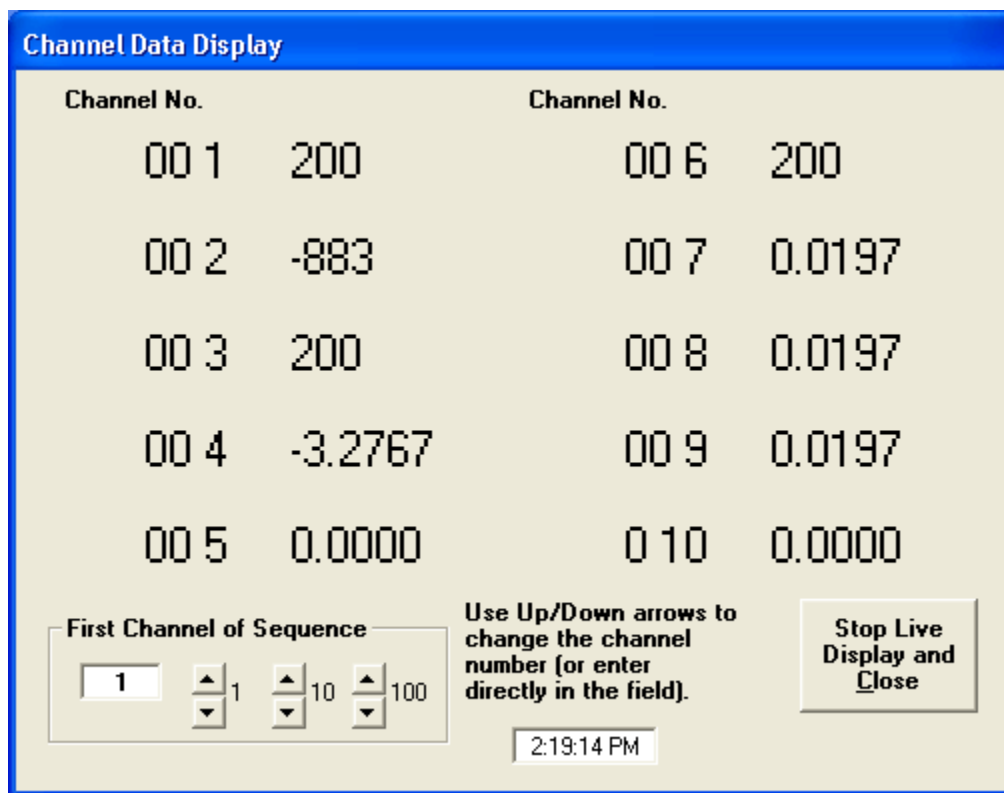


Fig.9

Terminal

From the main UtiliPac410 screen select the Terminal pull down menu. There are two choices under this menu item: Calibration and Send Commands. Refer to figure 10.

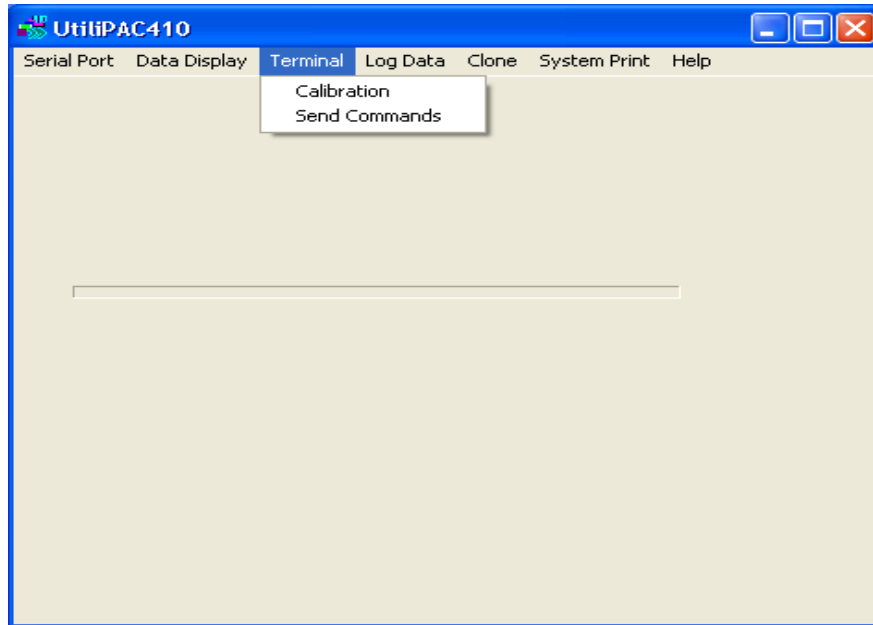


Fig.10

Calibration: Selecting calibration will allow you to perform a Two Point calibration on a channel. The following screen will be displayed figure 11.

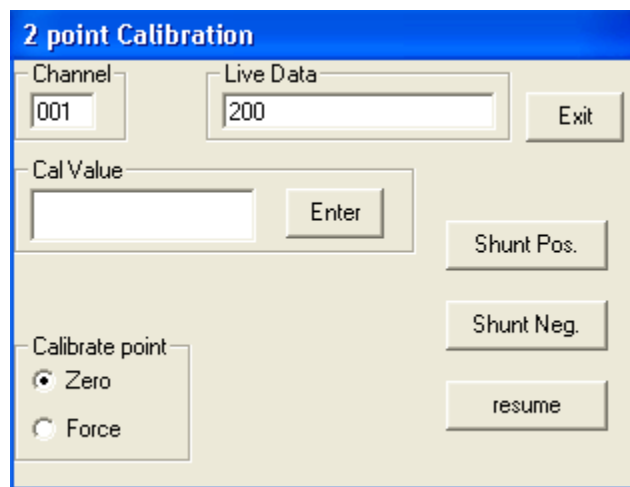


Fig.11

To perform calibration: Enter the channel you wish to calibrate into the Channel Window. The Live Data window will display the current value for the channel you just selected. Select the Calibration Point, either Zero or Force. Enter the calibration value in the Cal Value window and press enter.

This screen also allows for shunt calibration of bridge transducers as long as the conditioner card or module in your system has shunt capability. The shunt should only be used for the Force calibration Point for that channel. Turning the shunt on either positive or negative will give you an upscale or down scale value in the Live data window. Enter the shunt calibration value into the Cal Value window. This value may come from the manufacturer of the transducer or the result of a formula. Once you have entered this value you **MUST TURN THE SHUNT OFF** by pressing the Resume button. To calibrate another channel enter that channel in the Channel Window.

Send Commands: Selecting this option brings up the terminal screen. From this terminal you can enter mnemonic commands to the attached system as shown in Figure 12.

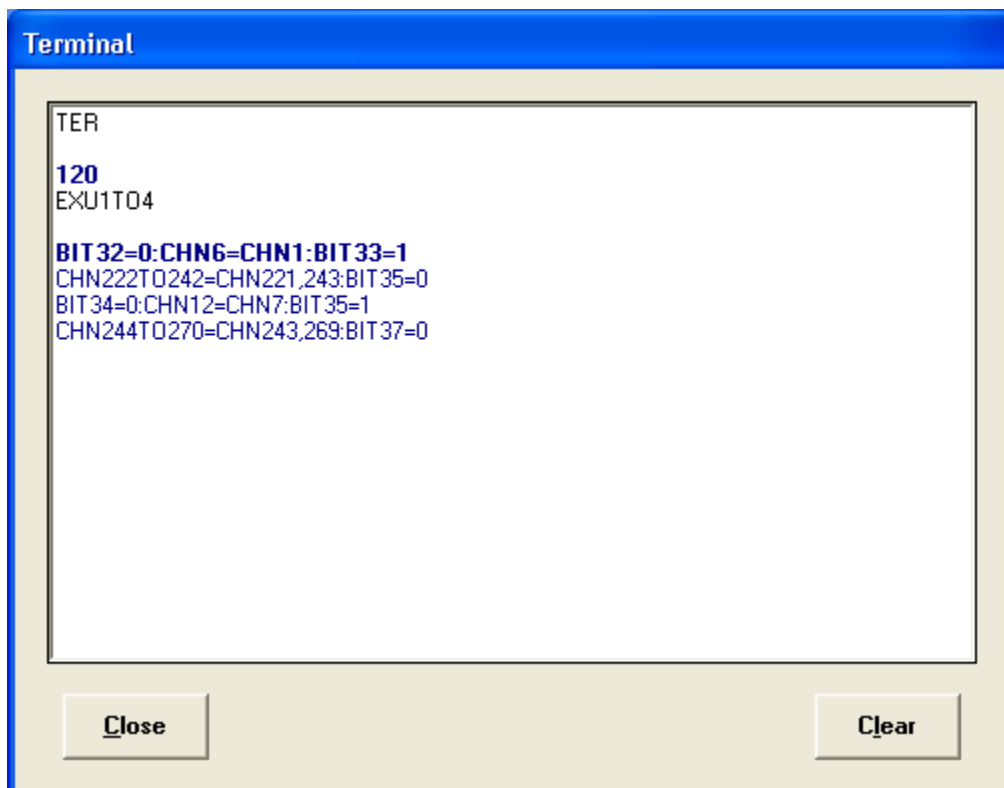


Fig 12

The example in Figure 12 shows the entering of the mnemonic TER and receiving a response of 120. Refer to your system manual for a complete list of mnemonic commands.

Log Data

Click on the Log Data item in the main menu. This will bring up the Log Data and run screen. Refer to figure 13.

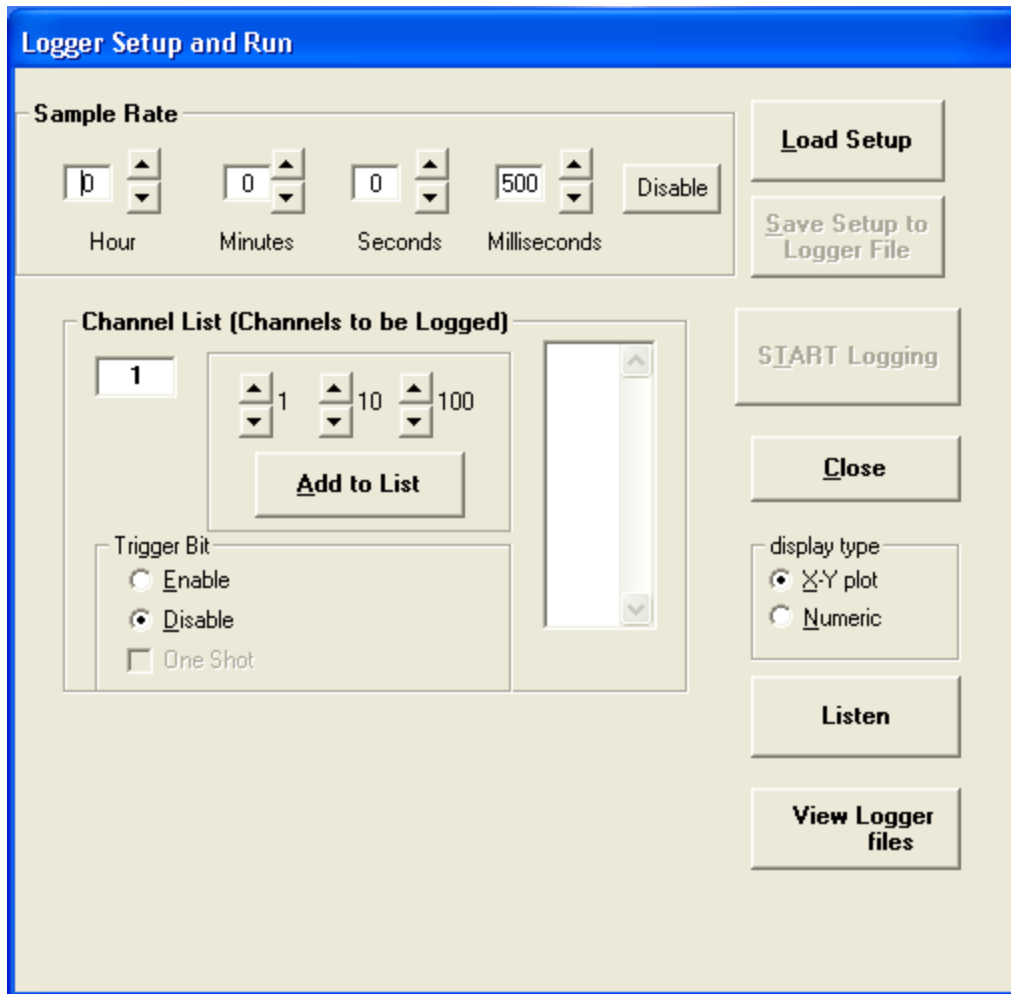


Fig.13

Sample Rate: Enter in the sample rate for your project. The fastest selectable rate that can be selected is 500msec. However by disabling the sample rate selection window by means of the Disable button the software will free-run as fast as the system you are talking to will allow.

Channel List: Add the channel or channels you wish to log data from to the window on the right. Increment the channel window using the 1,10,100 buttons to the

channel you want to add. Pressing the Add to List button, add that channel to the window.

Trigger Bit: This allows you the option of initiating data logging on the state of a system bit. Refer to figure 14. For example: A high limit on channel 1 of the connected system will cause bit 2 to go high (true). If you selected bit 2 as your trigger bit the the software will start logging data from the channel list at the selected rate. As long as bit 2 is high the software will continue to log data. As soon as the bit goes low (false), which means channel 1 is now out of the high limit zone, data logging will stop.

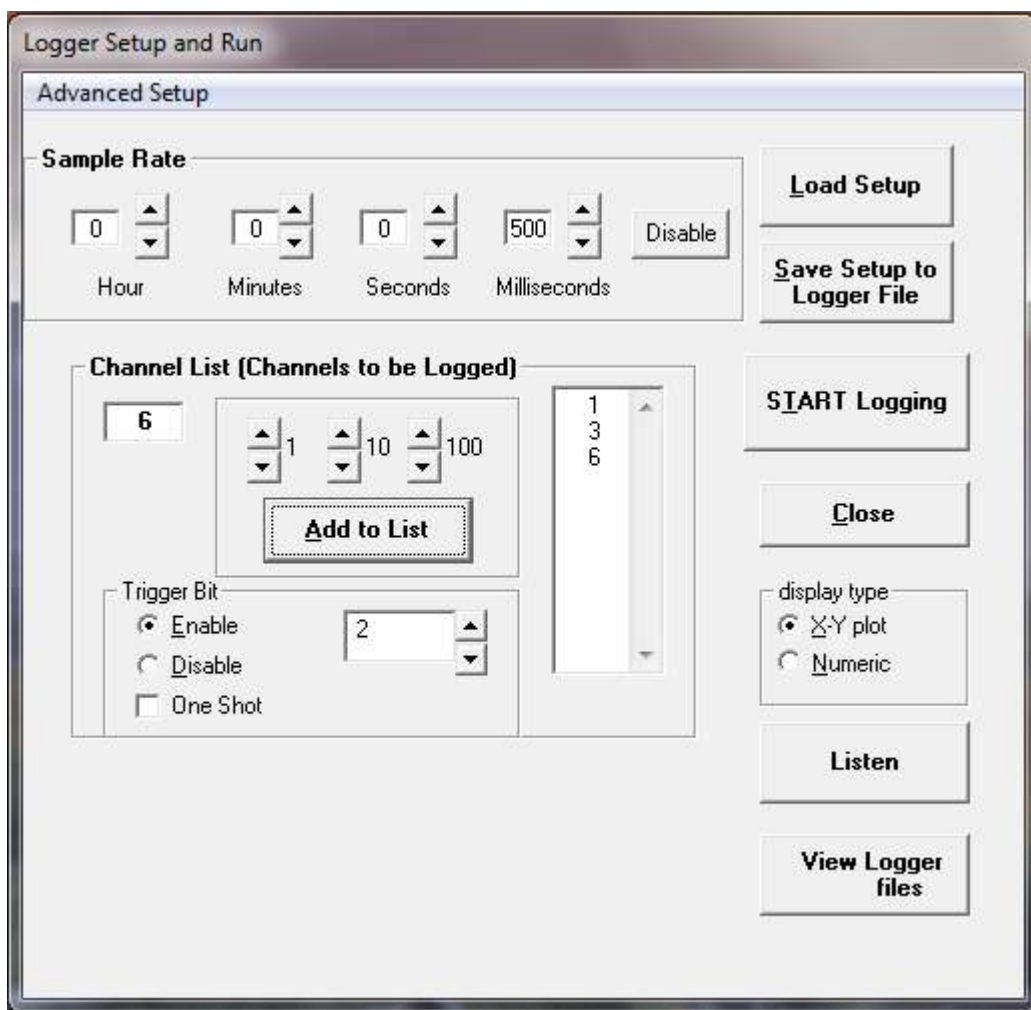


Fig.14

If you select the One Shot box the software will take one data reading of the selected channel or channels you selected. Our example of bit 2 is logically tied to the high limit of channel 1. When bit 2 goes true, the software will take data from

all the channels. Before another reading can be taken, the bit must cycle from true to false to true again.

Display Type: Data can be displayed as an X-Y plot as in figure 15 or a numeric file as in figure 16.

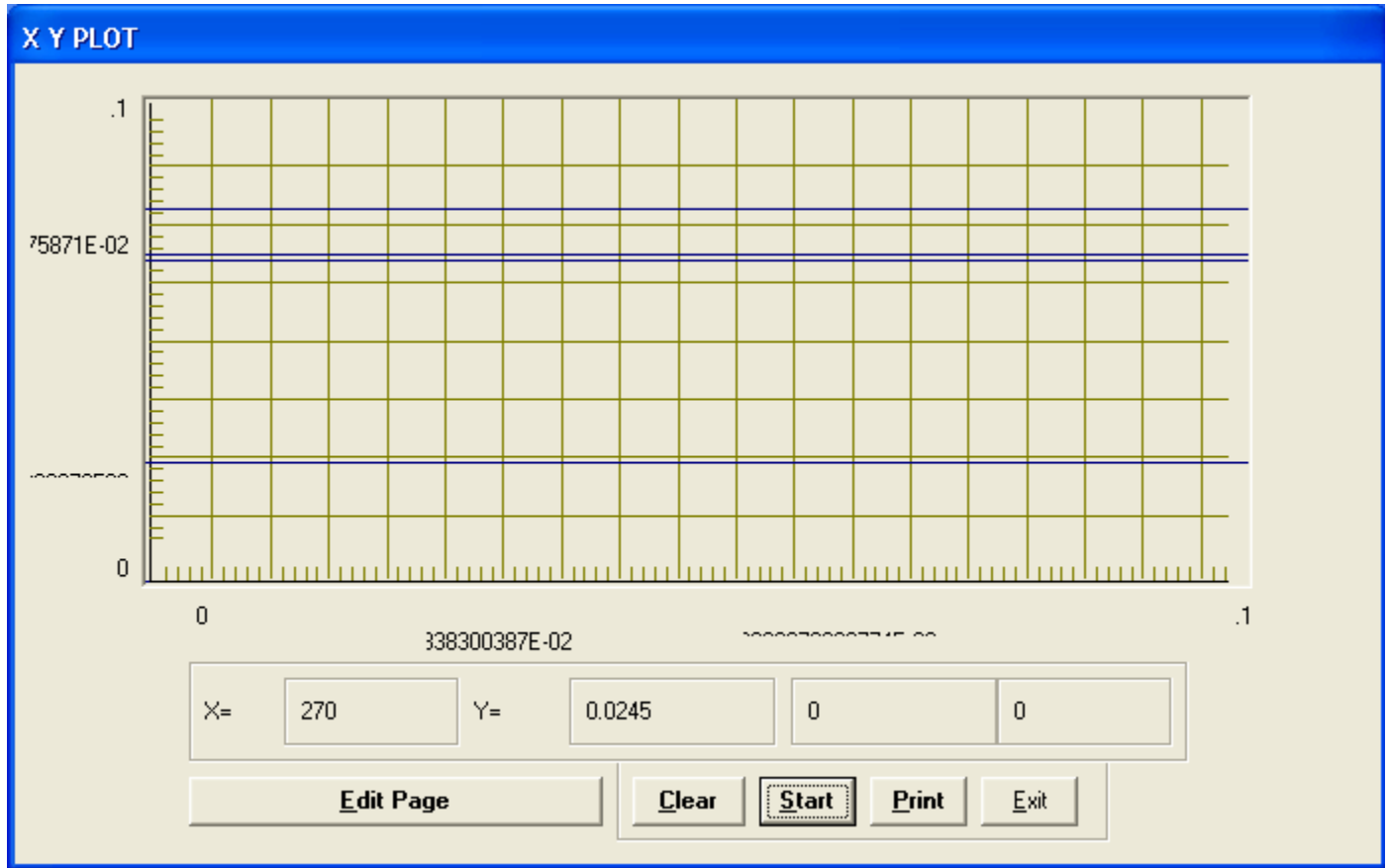


Fig.15

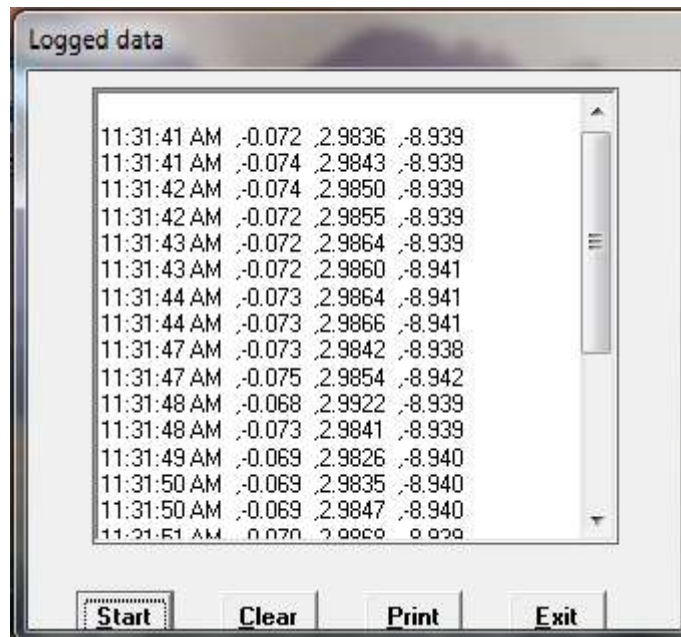


Fig.16

Save setup to Logger file: Once you have completed the setup you can save the setup to a file.

Start Logging: Press this button to start logging data, the X-Y plot or the Numeric screen will appear as per your selection.

Close: Pressing the Close button will exit the Logging Setup and back to the main menu.

View Logger Files: Pressing this button will allow you to retrieve saved logged data files.

Listen: The listen mode provides a numeric display of the data acquired from a system initiated data dump or stream data command.

Clone

Click on the Clone item from the main menu. There are three options available, Upload from Daytronic, Download to Daytronic and Print Configuration. Refer to figure 17.

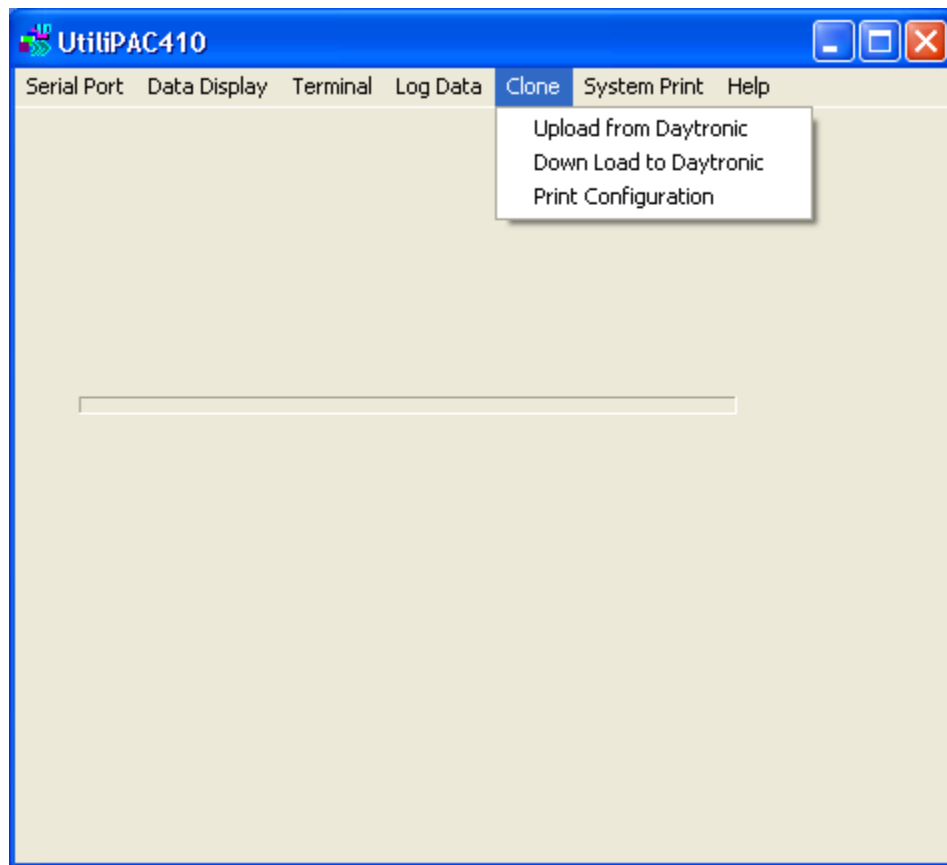


Fig.17

Upload from Daytronics: Refer to figure 18. You have two choices of upload. The default uploads everything from the system base channel to the system terminator. It will also upload the first 32 bits. These can be changed by the operator. To begin upload select the Open File and Start Upload button. You will be required to enter a file name with a .txt extension. When done upload will automatically begin. If you select Upload Selected Configuration Items, The screen in figure 19 will be displayed. You can determine which items in your configuration to upload. Depending on the type of system will determine the Items available for upload.

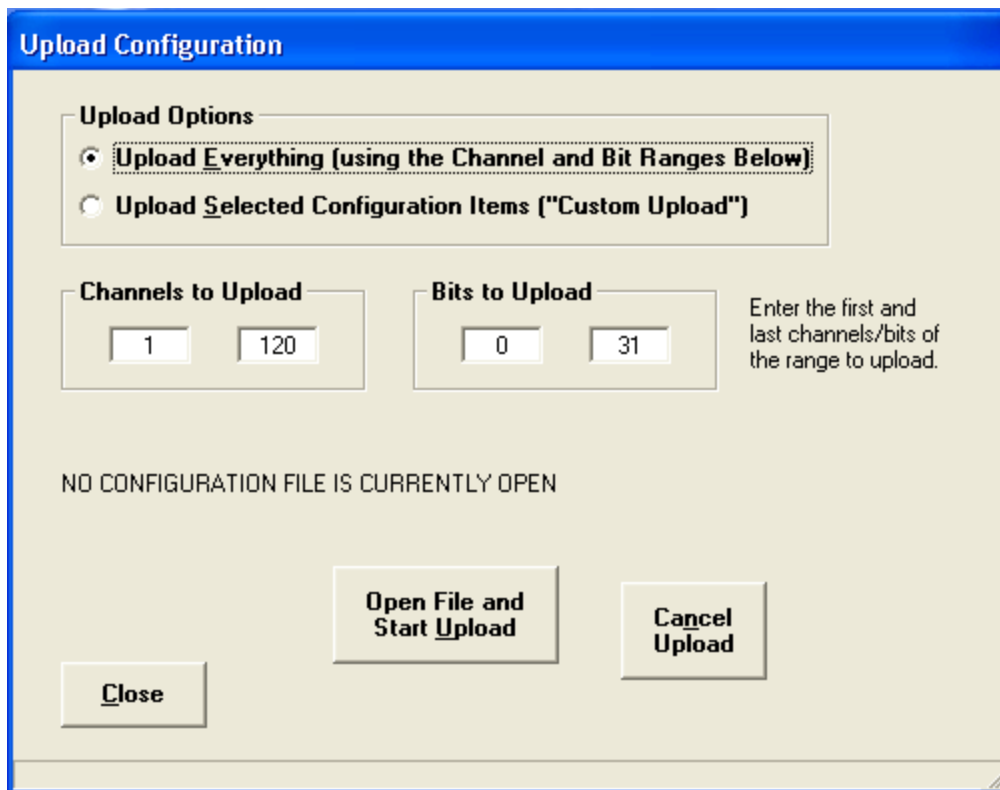


Fig.18

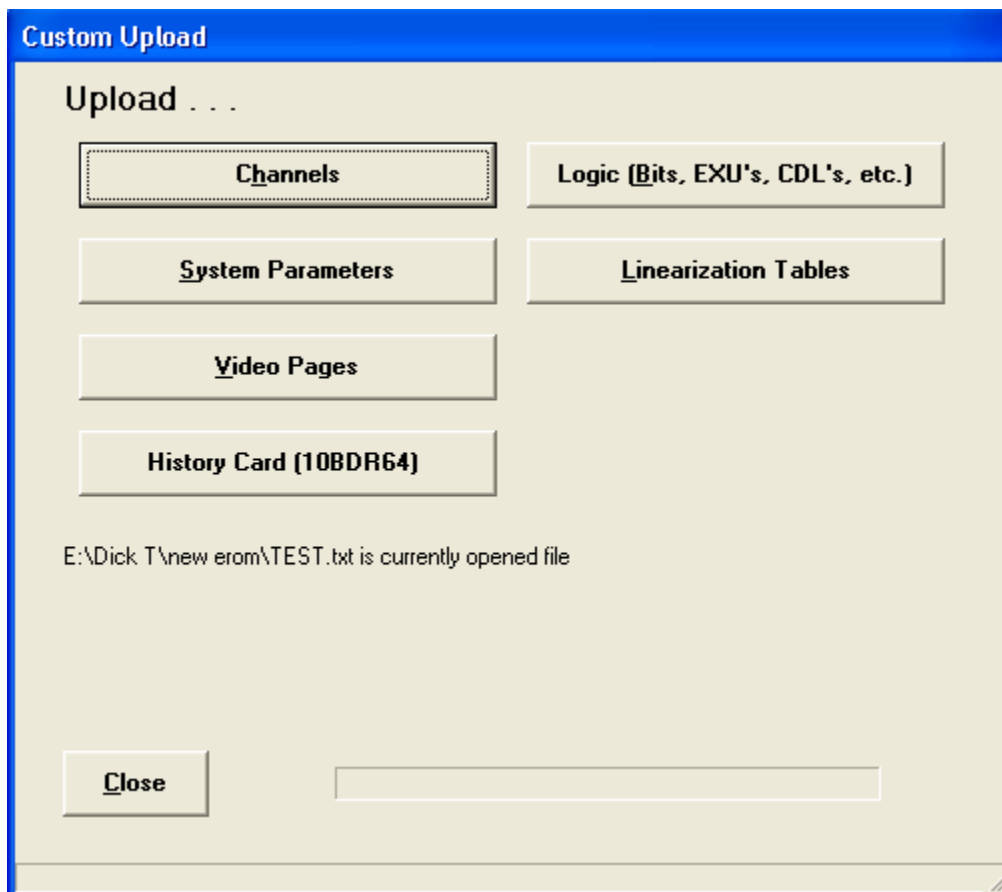


Fig.19

Download to Daytronics: This allows the selection of a previously saved configuration to be downloaded into a system. The software will be looking for a saved file with a .txt extension. Select the file and press OK. This will start the download. During the download operation the software may require interaction on your part to proceed. This will depend on the type of system you are connected to.

Print Configuration: This allows the selected configuration to be printed to the screen in an easy to read format. From your saved configuration file select the saved txt file you want to display. The following display will appear. Refer to figure 20. Select which portion of the configuration you wish to display.

Figure 21 displays Channel configuration data. From this screen you can print the information or save to an Excel file.

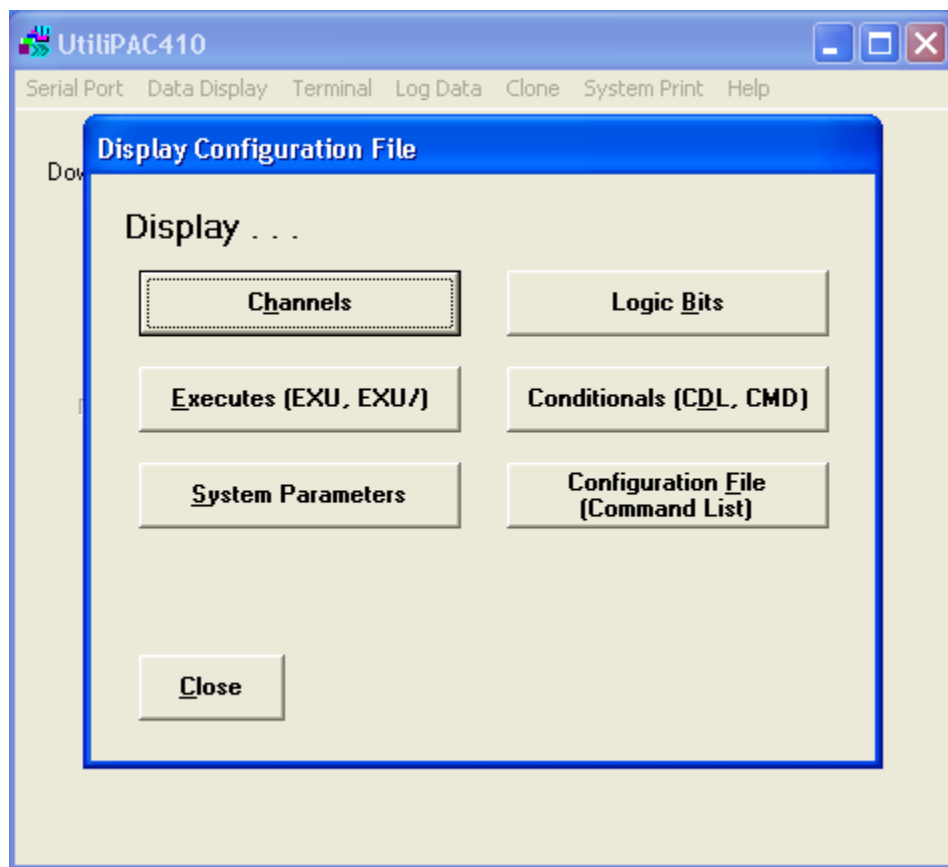


Fig20

Configured Channels

CHN No.	TYP	LCT	EMM	BEE	FIL	HIL
1	5E	1011	-.0645	-.233	1	.3000
2	E8	1032	N/A	N/A	1	.0000
3	E8	1031	N/A	N/A	1	.0000
4	F1	N/A	1	.0000	N/A	.0090
5	F1	N/A	1	.0000	N/A	.0090
6	FA	N/A	1	.0000	N/A	.3000
7	5E	1012	-.0646	-.197	1	3.0000
8	E8	1034	N/A	N/A	1	.0000
9	E8	1033	N/A	N/A	1	.0000
10	F1	N/A	1	.0000	N/A	.0090
11	F1	N/A	1	.0000	N/A	.0090
12	FA	N/A	1	.0000	N/A	.3000
13	5E	1021	-.0664	-.305	1	3.0000

Finished processing file E:\Dick T\new erom\erom_config.txt




Fig.21

System Print

Select the System Print pull down menu. Two choices are available here: Work on Line and Work with Files. Refer to figure 22.

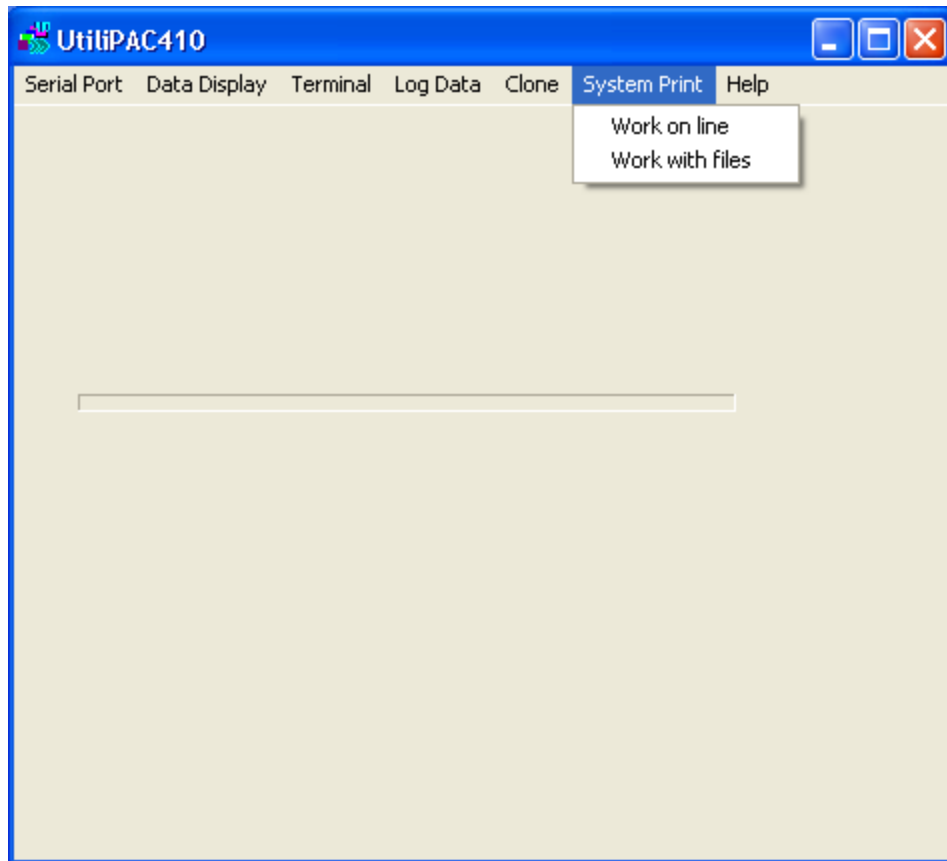


Fig.22

Work on line: Refer to figure 23. This selection will extract configuration information directly from the connected unit. The available items will vary depending on the connected system. Channels default will depend on the system TERminator setting. Bits 0to31 are a default setting. The operator can change these values.

From the list displayed, check those configuration parameters you wish to extract, and then press the process button or press the ALL button for all parameters.

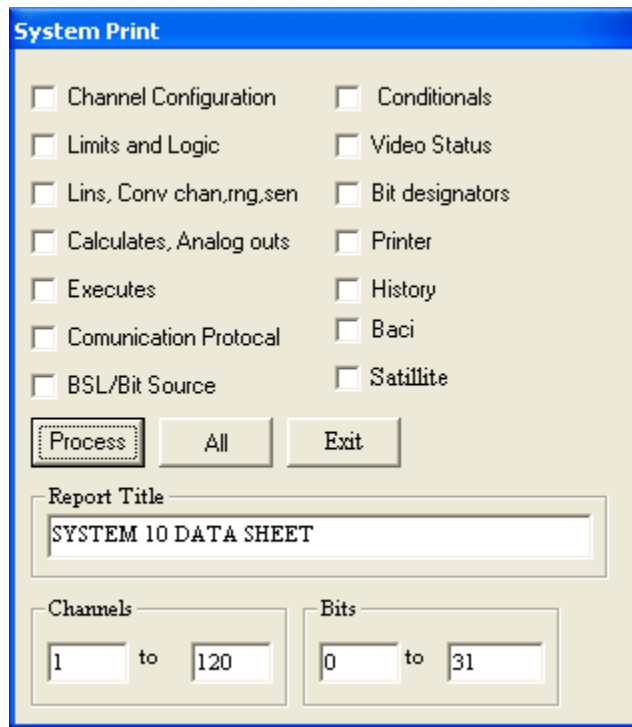


Fig.23

Once you press the Process or All buttons the following screen will be displayed. Refer to Figure 24. This is the System printout in an easy to read document format. Selecting File in the upper left hand corner allows you to save the information as a .doc file or send the information to a printer.

Work with files: This selection allows you to retrieve saved files and display them in the same format as depicted in fig.24.

SYSTEM 10 DATA SHEET

Section 1 --- Channel Configuration

Channel (CHN)	Type (TYP)	Locate (LOC)	Filter (FIL)	Emm	Bee	Comments
1	1	1011	1	5194	-2	
2	1	1031	1	N/A	N/A	
3	1	1032	1	N/A	N/A	
4	1	1031	1	N/A	N/A	
5	1	1031	1	N/A	N/A	
6	1	1031	1	N/A	N/A	
7	1	1031	1	N/A	N/A	
8	1	1031	1	N/A	N/A	
9	1	1031	1	N/A	N/A	
10	1	1031	1	N/A	N/A	
11	1	1031	1	N/A	N/A	
12	1	1031	1	N/A	N/A	
13	1	1031	1	N/A	N/A	
14	1	1031	1	N/A	N/A	
15	1	1031	1	N/A	N/A	
16	1	1031	1	N/A	N/A	
17	1	1031	1	N/A	N/A	
18	1	1031	1	N/A	N/A	
19	1	1031	1	N/A	N/A	
20	1	1031	1	N/A	N/A	
21	1	1031	1	N/A	N/A	
22	1	1031	1	N/A	N/A	
23	1	1031	1	N/A	N/A	
24	1	1031	1	N/A	N/A	
25	1	1031	1	N/A	N/A	
26	1	1031	1	N/A	N/A	
27	1	1031	1	N/A	N/A	
28	1	1031	1	N/A	N/A	
29	1	1031	1	N/A	N/A	
30	1	1031	1	N/A	N/A	
31	1	1031	1	N/A	N/A	
32	1	1031	1	N/A	N/A	
33	1	1031	1	N/A	N/A	
34	1	1031	1	N/A	N/A	
35	1	1031	1	N/A	N/A	
36	1	1031	1	N/A	N/A	
37	1	1031	1	N/A	N/A	
38	1	1031	1	N/A	N/A	
39	1	1031	1	N/A	N/A	
40	1	1031	1	N/A	N/A	
41	1	1031	1	N/A	N/A	
42	1	1031	1	N/A	N/A	
43	1	1031	1	N/A	N/A	
44	1	1031	1	N/A	N/A	
45	1	1031	1	N/A	N/A	
46	1	1031	1	N/A	N/A	
47	1	1031	1	N/A	N/A	
48	1	1031	1	N/A	N/A	
49	1	1031	1	N/A	N/A	
50	1	1031	1	N/A	N/A	
51	1	1031	1	N/A	N/A	
52	1	1031	1	N/A	N/A	
53	1	1031	1	N/A	N/A	
54	1	1031	1	N/A	N/A	
55	1	1031	1	N/A	N/A	
56	1	1031	1	N/A	N/A	
57	1	1031	1	N/A	N/A	
58	1	1031	1	N/A	N/A	
59	1	1031	1	N/A	N/A	
60	1	1031	1	N/A	N/A	
61	1	1031	1	N/A	N/A	
62	1	1031	1	N/A	N/A	
63	1	1031	1	N/A	N/A	
64	1	1031	1	N/A	N/A	
65	1	1031	1	N/A	N/A	
66	1	1031	1	N/A	N/A	
67	1	1031	1	N/A	N/A	
68	1	1031	1	N/A	N/A	
69	1	1031	1	N/A	N/A	
70	1	1031	1	N/A	N/A	
71	1	1031	1	N/A	N/A	
72	1	1031	1	N/A	N/A	
73	1	1031	1	N/A	N/A	
74	1	1031	1	N/A	N/A	
75	1	1031	1	N/A	N/A	
76	1	1031	1	N/A	N/A	
77	1	1031	1	N/A	N/A	
78	1	1031	1	N/A	N/A	
79	1	1031	1	N/A	N/A	
80	1	1031	1	N/A	N/A	
81	1	1031	1	N/A	N/A	
82	1	1031	1	N/A	N/A	
83	1	1031	1	N/A	N/A	
84	1	1031	1	N/A	N/A	
85	1	1031	1	N/A	N/A	
86	1	1031	1	N/A	N/A	
87	1	1031	1	N/A	N/A	
88	1	1031	1	N/A	N/A	
89	1	1031	1	N/A	N/A	
90	1	1031	1	N/A	N/A	
91	1	1031	1	N/A	N/A	
92	1	1031	1	N/A	N/A	
93	1	1031	1	N/A	N/A	
94	1	1031	1	N/A	N/A	
95	1	1031	1	N/A	N/A	
96	1	1031	1	N/A	N/A	
97	1	1031	1	N/A	N/A	
98	1	1031	1	N/A	N/A	
99	1	1031	1	N/A	N/A	
100	1	1031	1	N/A	N/A	

Fig.24