

TECHNICAL BULLETIN # 47

Revision 1.1 - 11/05/99

Totalflow Configuration Read & Write Programs

1. Purpose

This Technical Bulletin describes the Totalflow Flow Computer Unit (FCU) Configuration Read and Write programs.

Totalflow FCU Configuration Read and Write programs may be used to read and write FCU configuration variables which are supported by Local Protocol commands. This feature allows off-line storage and editing of FCU configuration files. Series 6400, 6700 and 6600 FCUs with CB180 and DB2 (new database) firmware support this feature. Two programs are available.

LPX.EXE is designed to run on Laptop or Notebook PCs running MSDOS, Microsoft Windows 3.1 or Windows for Workgroups 3.11, or Windows 95. LPX.EXE is a MSDOS program.

Note: When running "LPX.EXE" under any windows system, it is recommended to run in a DOS window under PIF control (Windows 3.1 and 3.11). If running under Win95 it is recommended to set the properties of the shortcut to "Windowed". By running LPX.EXE in a DOS window, this will allow editing of the configuration (.cfg) files using notepad, etc., without exiting LPX.

FSX.EXE is designed to run on Husky 6625 FS2 handheld computers.

2. Installation

Laptop Procedures:

To install LPX.EXE on a PC, Laptop or Notebook, simply copy LPX.EXE to the desired directory on your computer. Run the program by typing lpx at the DOS prompt or double click on the file name using Windows File Manager or Choose the Run command from the Windows File Manager or Program Manager.

FS2 Computer Procedures:

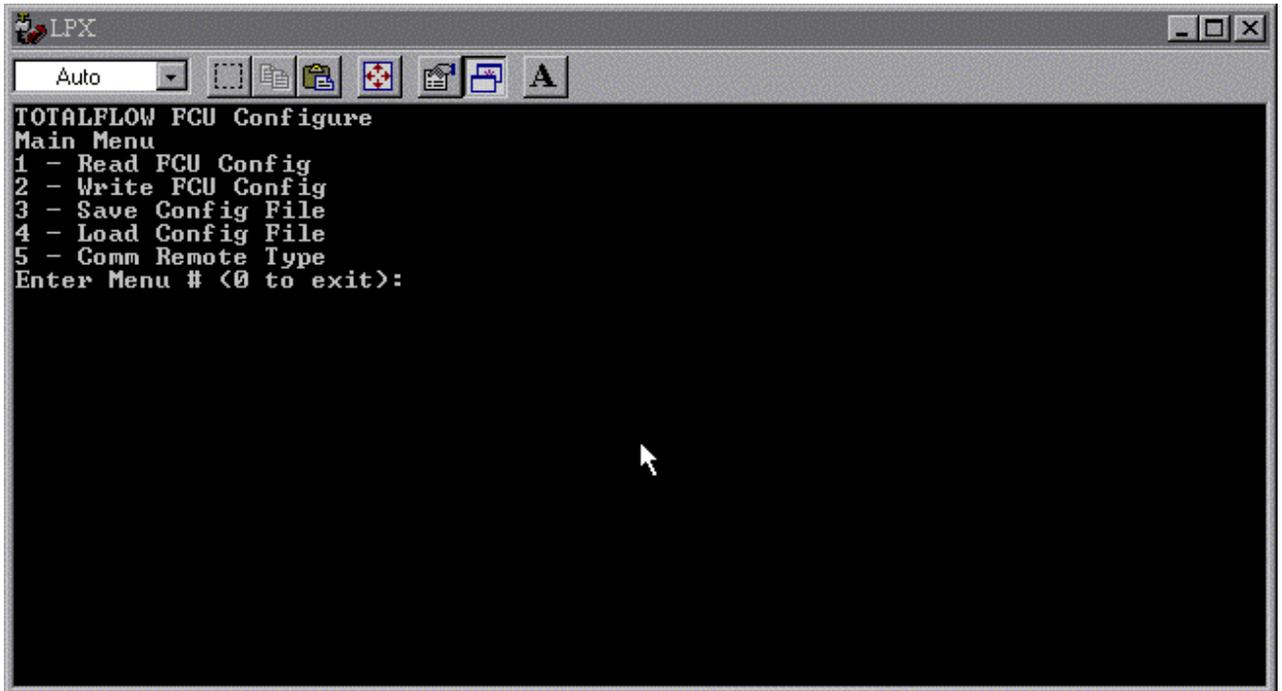
To install FSX.EXE on a Husky 6625 FS2 handheld computer you must use the installation file - "setup.bat" found on the FS2 installation release diskette. You must have a PC to FS2 cable, AAI part number 2011833 which was shipped with your FS2 computer for proper connection of the FS2 serial port to the Laptop or Desktop PC serial port. Follow the instructions given in "setup.bat" as it is operating.

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3. Operation

To run LPX.EXE or FSX.EXE, type "LPX" or "FSX" from the MSDOS prompt or use the Run command from the Windows or Win95 File or Program Manager programs. The following menu should appear.



Screen 1

Menu items may be selected by typing the number or the first letter of each menu line. To exit any menu or selection, hit the "Esc" key.

If you have never downloaded an FCU configuration file and saved it to disk, this process should be undertaken before proceeding (see Menu Choice 1 below). Once a configuration file has been saved it can be manipulated and stored under different unique names. As a suggestion, when storing meter configuration files, you should name the file the same as the meter ID. Note that MSDOS only allows 8 characters in the file name with 3 characters for a file extension. ID numbers in the FCU can be up to 10 characters long and may pose a problem. MSDOS will truncate the meter ID number filename to the first 8 characters, and the Configuration Read & Write Programs will add the ".cfg" file extension. If your ID numbers are longer than 8 characters it is recommended that caution be exercised when uploading files so as not to upload the wrong configuration file to the FCU.

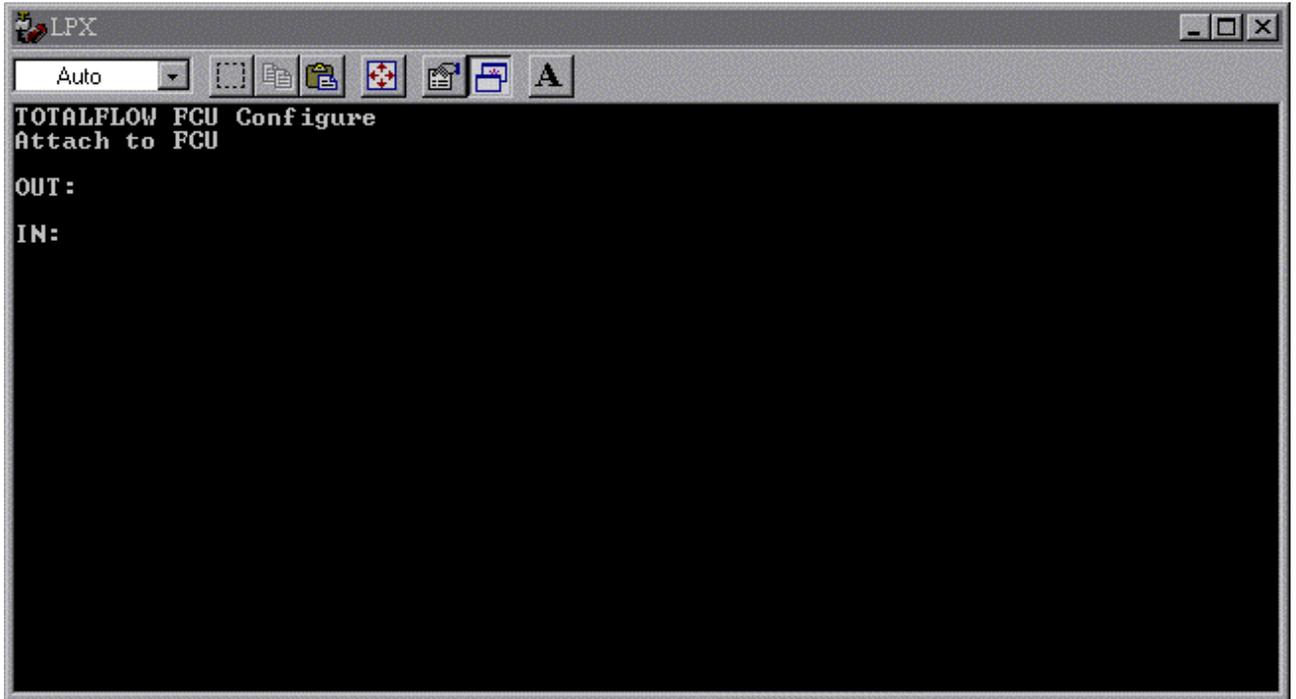
Menu Choice 1 - Read Config File

Select "1" or "R" to begin the Read process. The Configuration Read & Write Program will first issue the correct commands to establish communications with the FCU and will display the following screen.

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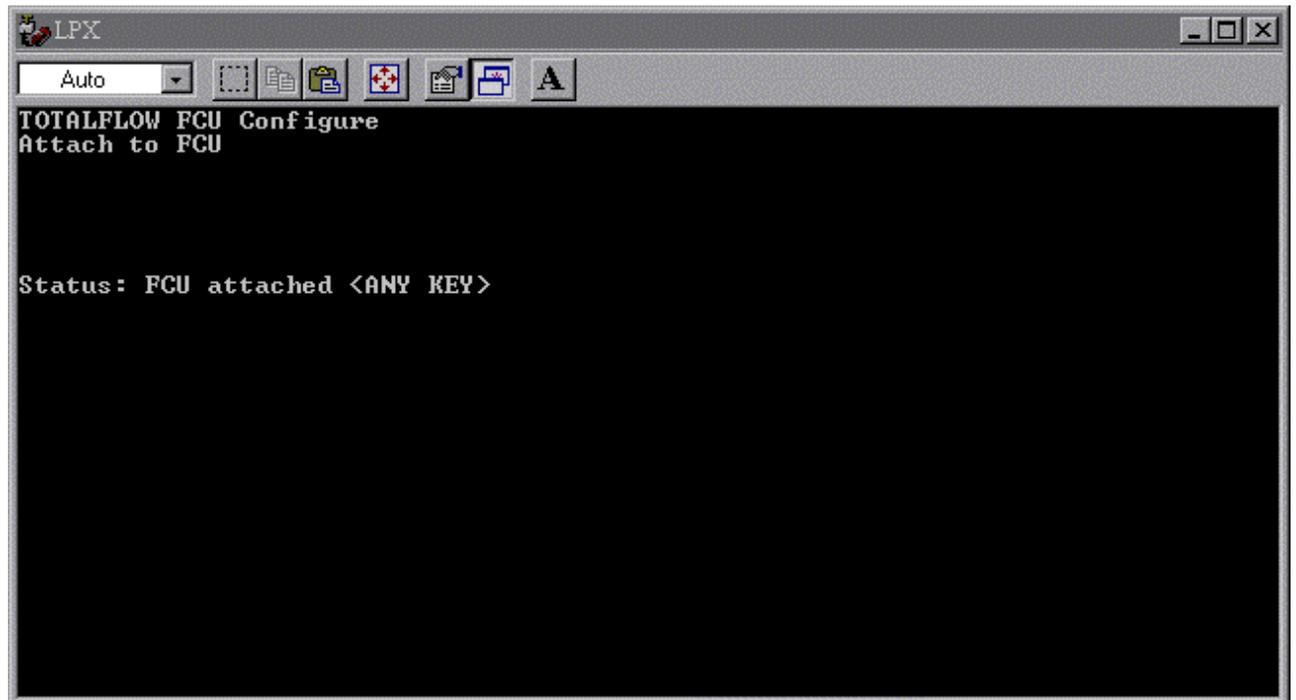
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Screen displayed during initial communication link establishment.



Screen 2

After connection has been made, the following screen is displayed. The FCU is now successfully attached.

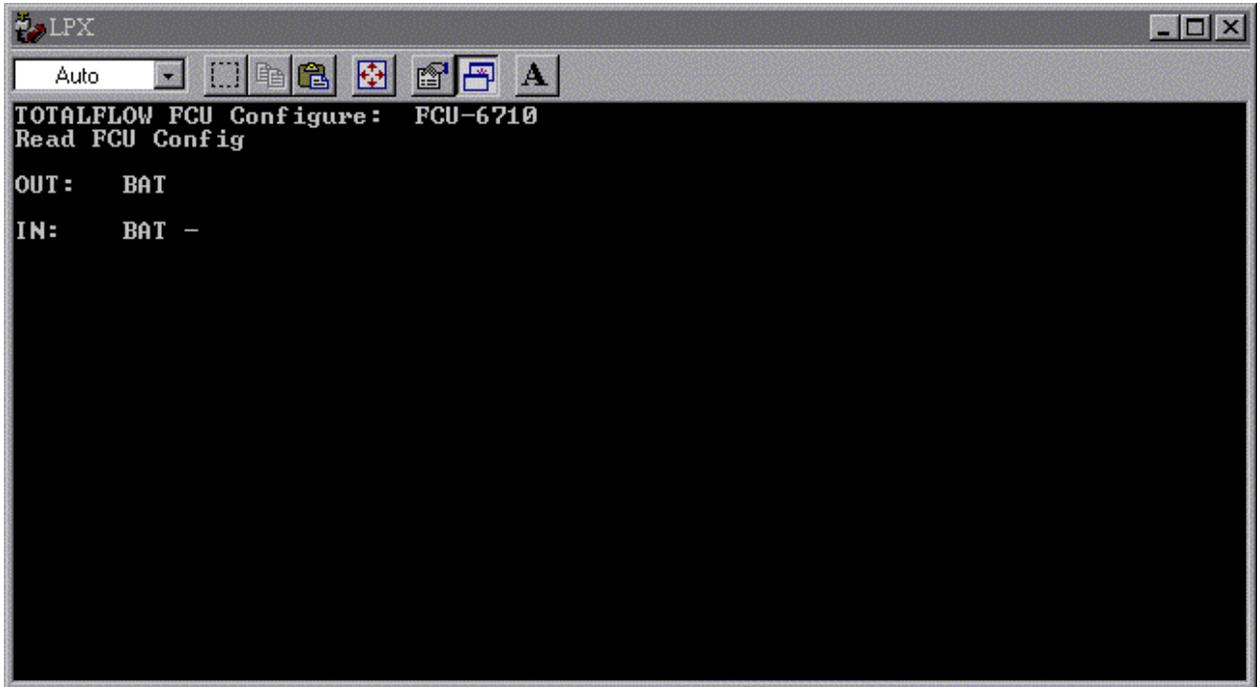


Screen 3

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Next the Configuration Read & Write Program will begin reading or downloading the FCU configuration into the Laptop or FS2 computers memory automatically. You should see the following screen during the read process.



Screen 4

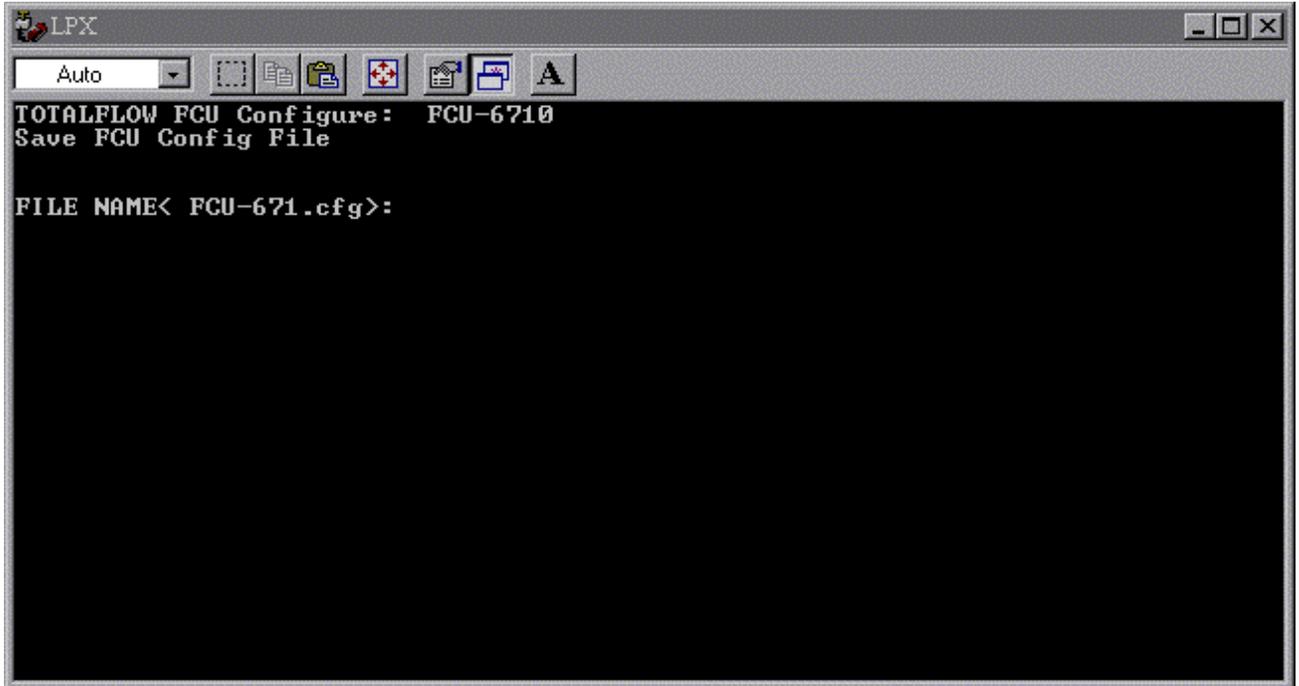
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Menu Choice 3 - Save Config File

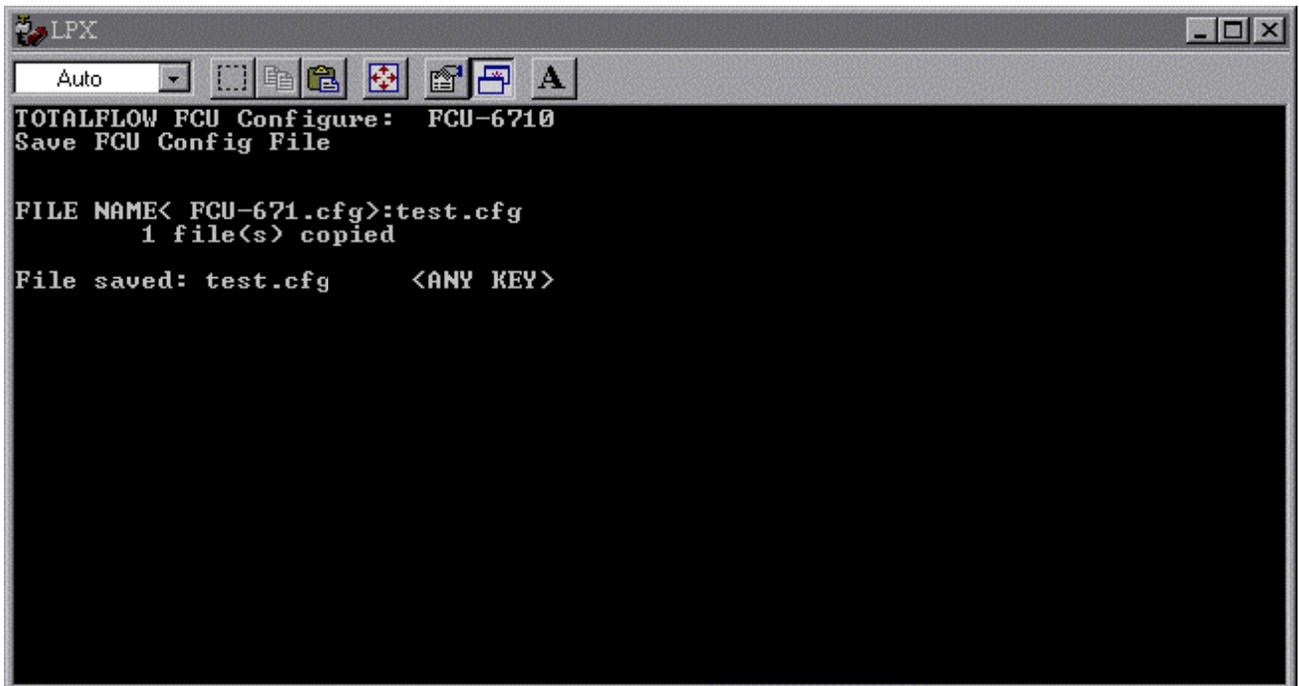
Configuration parameters may be saved using menu item 3 - Save Config File.

Select item # 3 or " S " from the main menu to save the uploaded configuration file to disk (see screen 1). The Configuration Read & Write Program will automatically save the file to the directory that the LPX.EXE program was loaded into which will be your default configuration file directory.



Screen 5

Enter the filename with no extension. The program will automatically add the ".cfg" extension for you. After the file is saved, the Configuration Read & Write Program will display the following screen. Hit any key to continue.



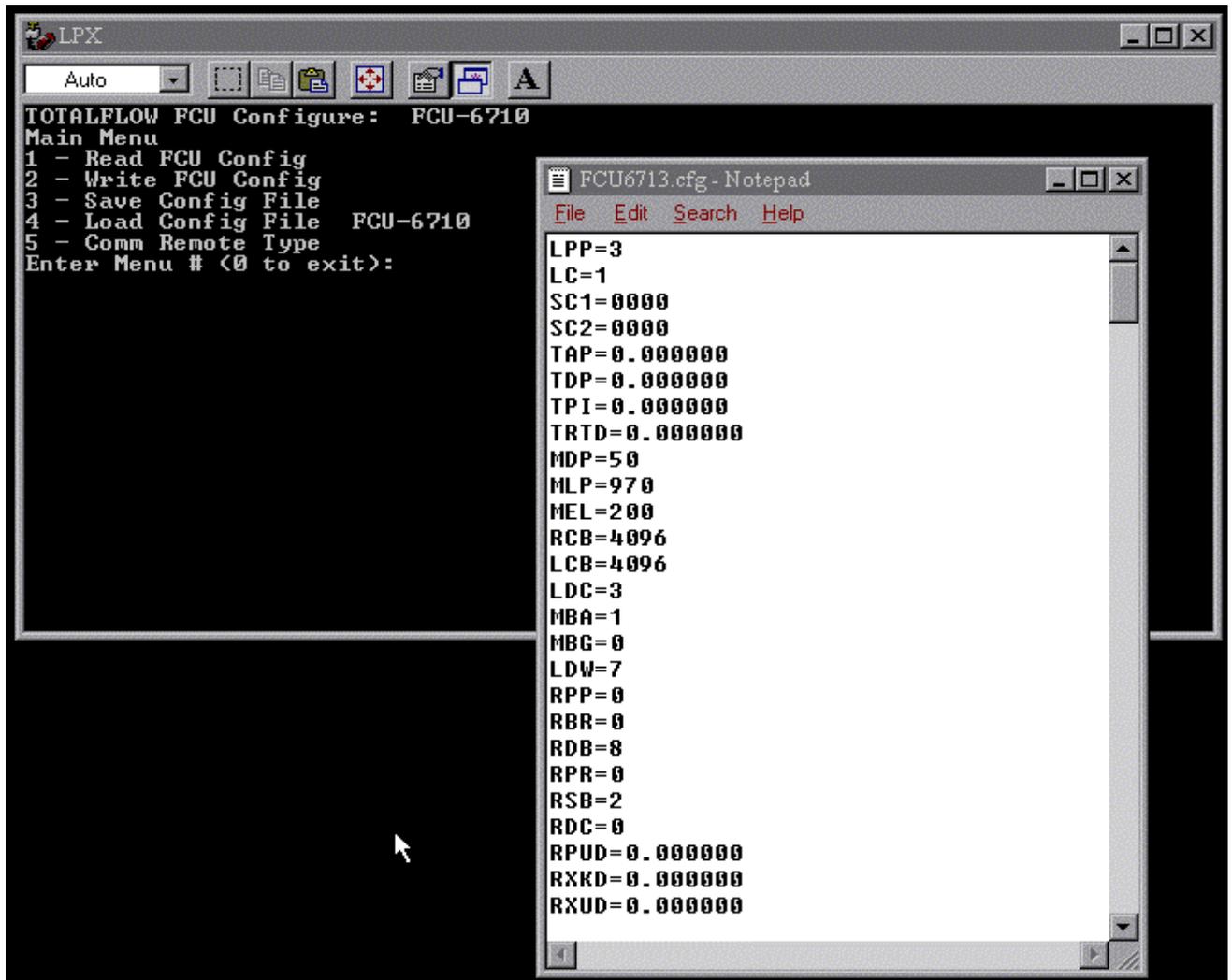
Screen 6

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Editing Saved Configuration files

After saving configuration files you can edit the file by using a text editor such as Windows Notepad. Use the "Open" file command to open the configuration file you wish to edit and change the entries after the equals sign (=) only. For an explanation of register definitions, see Technical Bulletin # 44. An example configuration file loaded into Notepad is displayed below.



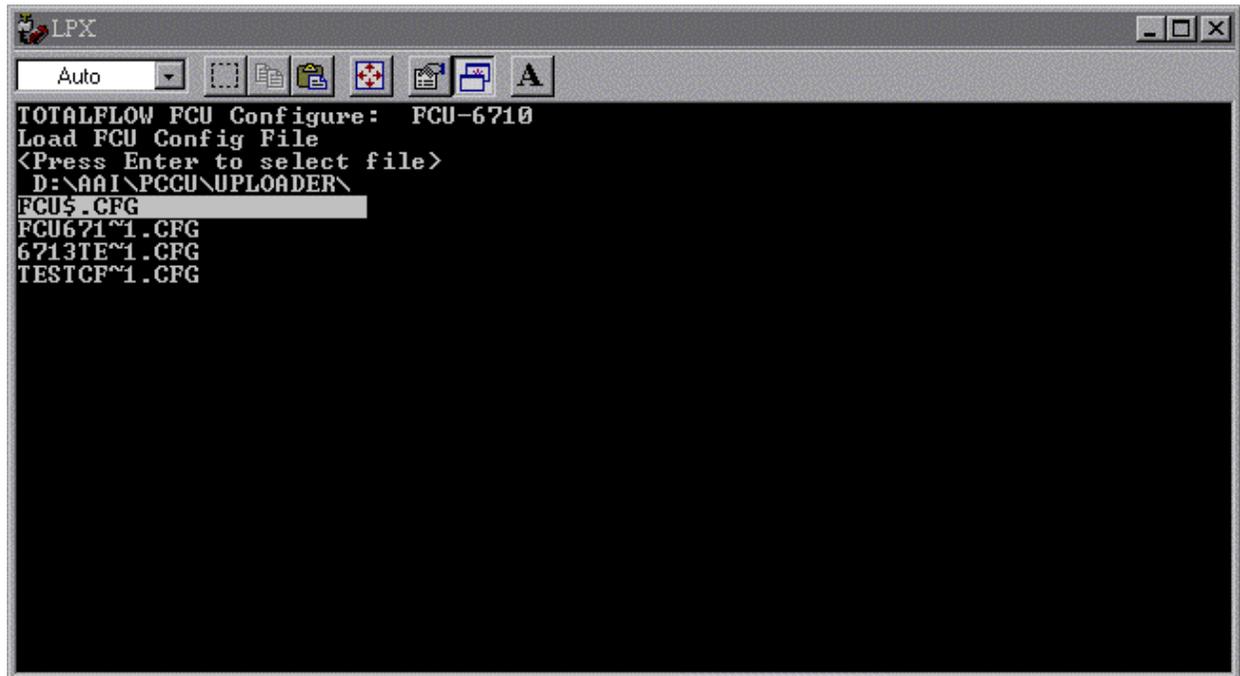
Screen 7

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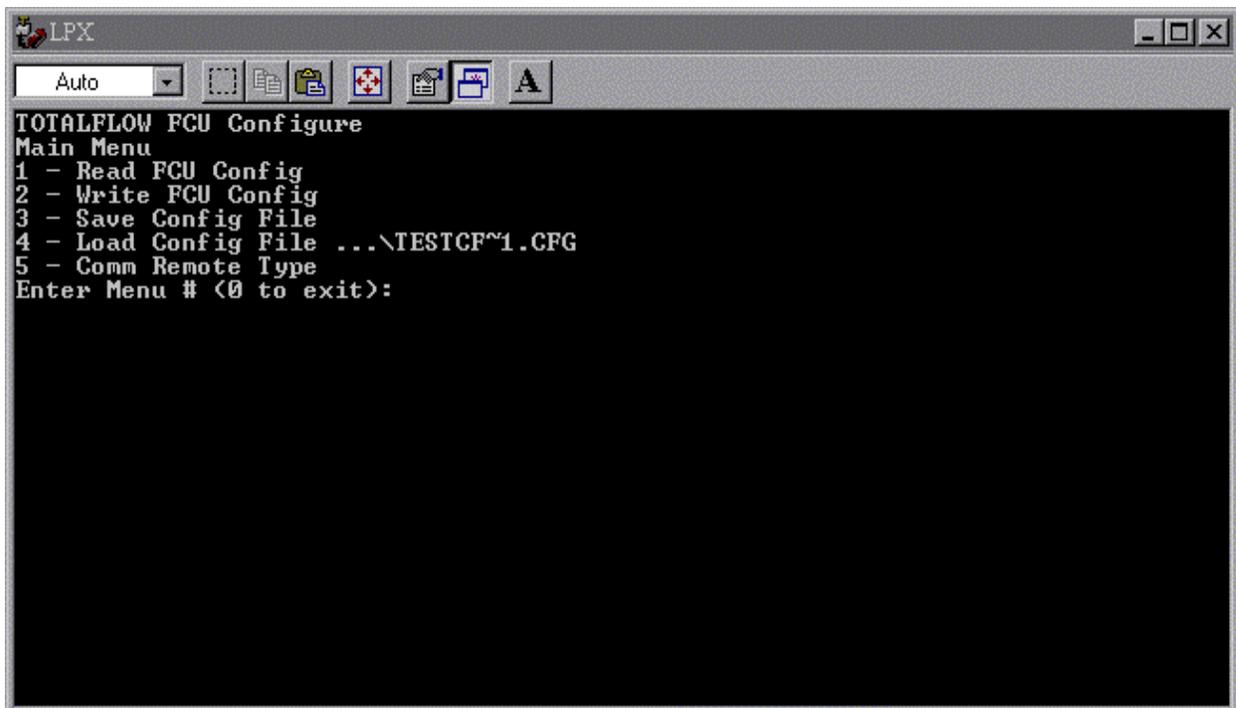
Menu Choice 4 - Load Config File

To upload a configuration file to the FCU you must first load the configuration file. To load a configuration file, select menu item 4 or "L". You will be prompted to select a file from a list of files. This list of files displayed will only display four files at a time. To see more files in the list and or to scroll the list use the up or down arrow keys to move up or down in the list. When the file you wish to load is highlighted, hit the "Enter" key.



Screen 8

After the file has been loaded you should see the following screen.



Screen 9

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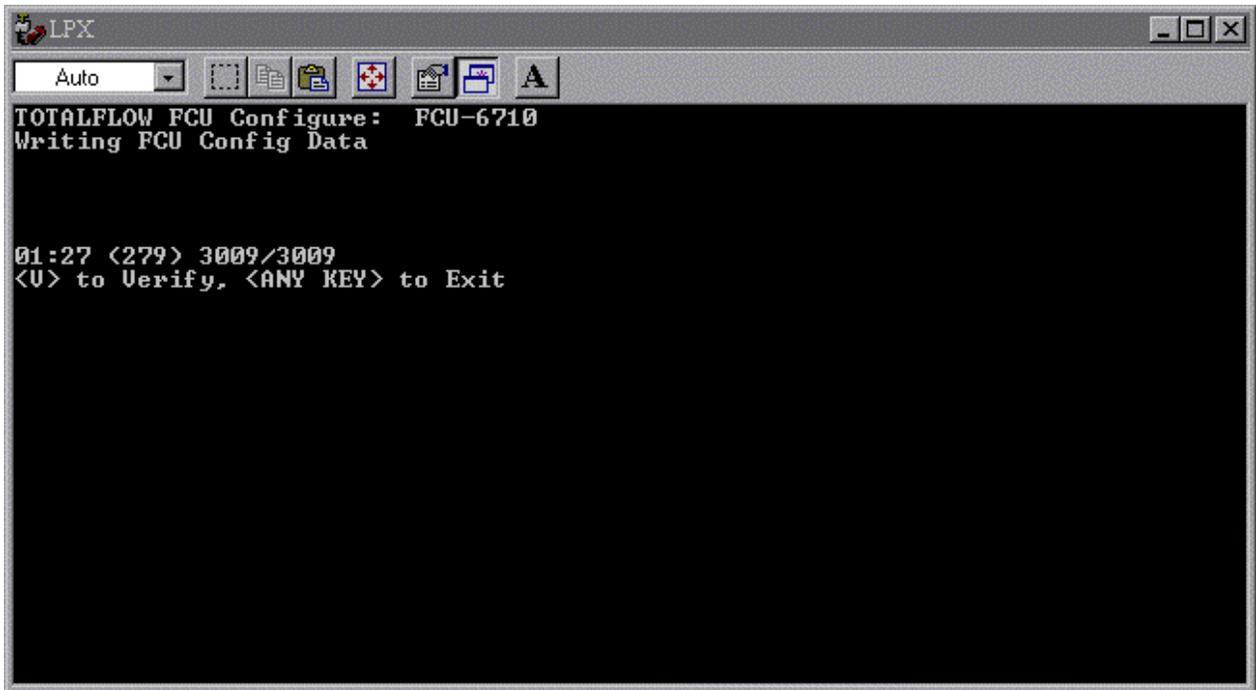
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Menu Choice 2 - Write FCU Config

Once a file has been loaded you can upload to the FCU by selecting menu item 2 or " W " (see screen 1). The Configuration Read & Write Program will then display the following screen as it is writing the configuration file to the FCU. This process takes approximately 2 minutes.

When writing parameters to the FCU, the bottom line of the program display lists the following items:

- Elapsed time - "MM:SS"
- Parameters written - "(N)"
- Bytes sent / Bytes to send - "N/N"



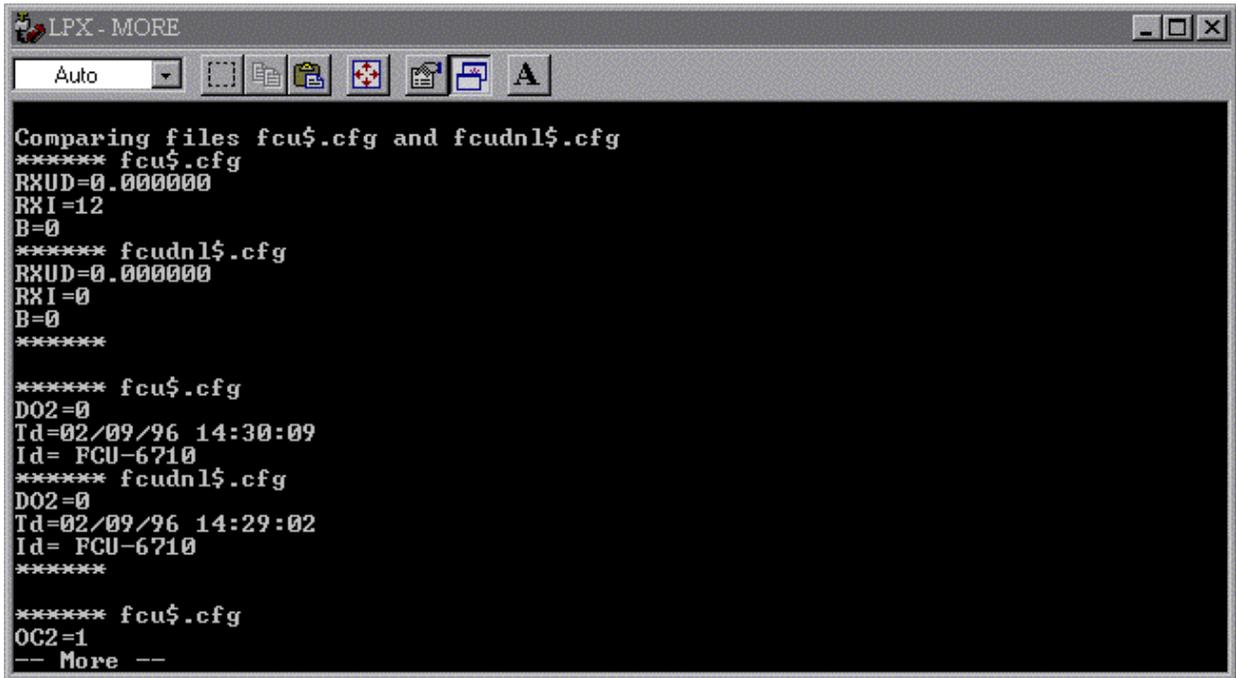
Screen 10

After all parameters have been sent to the FCU, you will be prompted to enter V to Verify or any key to continue. If Verify is selected, the FCU parameters are read and compared to the parameters previously written. The program uses the MSDOS filecomp command. Output from the compare is shown one screen at a time. FS2 users will need to use the paw + arrow keys to view lines outside the 8 line window. Some differences, such as time, or parameter changes due to rounding (six digits past the decimal place) should be expected. If several unexpected differences are displayed, you should use PCCU software to check these parameters.

Two example screens (screens 11 and 12) showing the verification output are displayed on the following page.

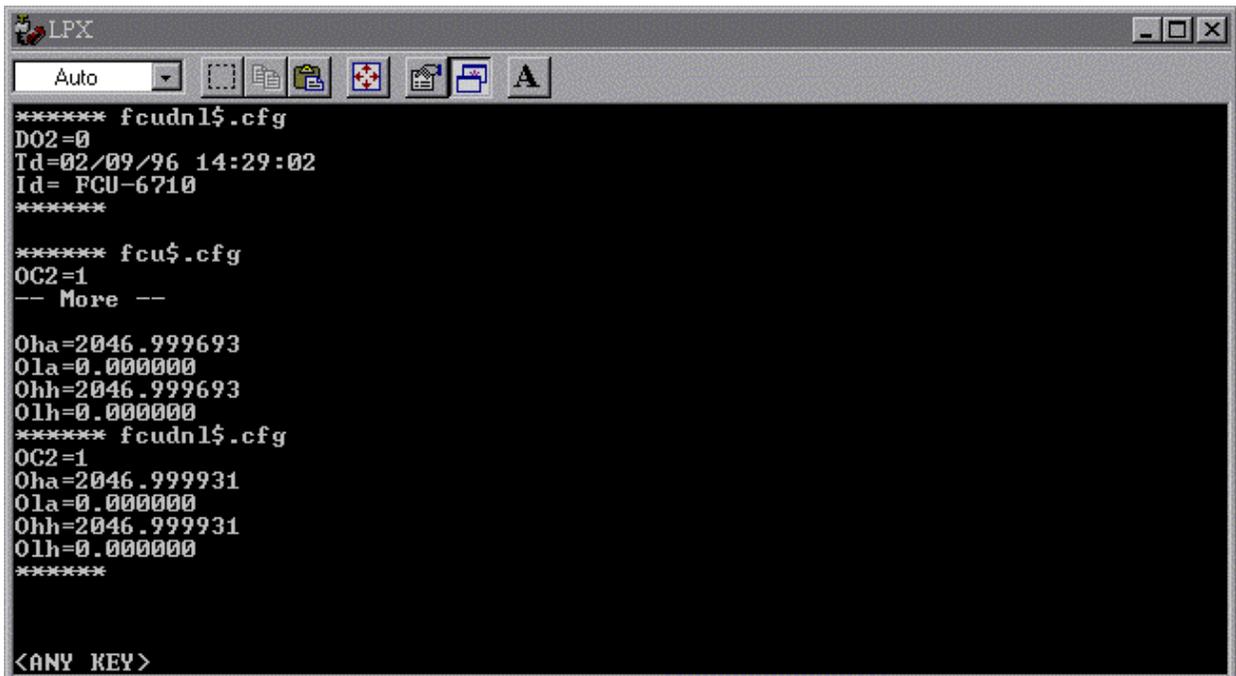
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```
LPX - MORE
Auto
Comparing files fcu$.cfg and fcudn1$.cfg
***** fcu$.cfg
RXUD=0.000000
RXI=12
B=0
***** fcudn1$.cfg
RXUD=0.000000
RXI=0
B=0
*****
***** fcu$.cfg
D02=0
Td=02/09/96 14:30:09
Id= FCU-6710
***** fcudn1$.cfg
D02=0
Td=02/09/96 14:29:02
Id= FCU-6710
*****
***** fcu$.cfg
OC2=1
-- More --
```

Screen 11



```
LPX
Auto
***** fcudn1$.cfg
D02=0
Td=02/09/96 14:29:02
Id= FCU-6710
*****
***** fcu$.cfg
OC2=1
-- More --
Oha=2046.999693
Ola=0.000000
Ohh=2046.999693
Olh=0.000000
***** fcudn1$.cfg
OC2=1
Oha=2046.999931
Ola=0.000000
Ohh=2046.999931
Olh=0.000000
*****
<ANY KEY>
```

Screen 12

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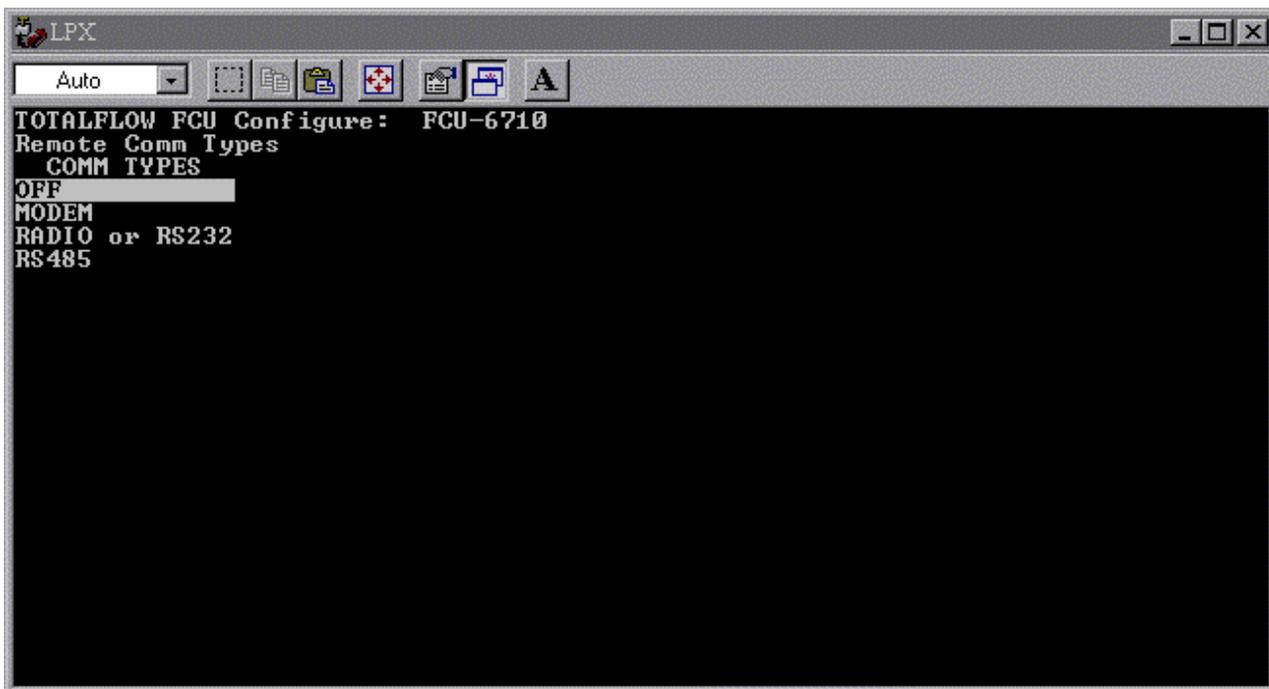
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Menu item 5 - Comm Remote Type

Menu item 5 - Comm Remote Type allows the FCU remote communications interface to be changed.

Remote communications hardware on the FCU is activated on FCUs when the communications parameters are written. This was done for backward compatibility issues. If no remote communications modules are attached, you should turn remote communications off by selecting "Off" from this menu.

Use the up and down arrow keys to move the cursor to the selection you want. The example screen below shows the "OFF" item selected. After selecting the "OFF" item hit the "Enter" key to turn off the remote communications function in the FCU.



Screen 13

NOTE:

The upload program will not actually store any of the custom displays that may have been built in the FCU in the console mode using Tech Bulletin 44. These may, however, be downloaded in a "batch" mode if they have been stored off in an ASCII text file using a .cfg extension to the file name in, say, Windows Notepad. The procedure in general is as follows:

Create the display configuration file using the commands in Tech Bull. 44 Page 5 and 6. You may stack several of these custom display commands in one file. Then save this ASCII text file as, say, "disp0001.cfg". Now the upload program can batch upload the custom displays to the FCU.

An example is:

```
x=n (some display register number)
DSPN=_____ (new name )
DSAV
x=n (some display register number)
DSPN=_____ (new name )
DSAV
.....
```

When you have completed operation and or to exit the program select zero " 0 " from the main menu screen.