SLIP for Ultibo
03/20/20

Started with the project devel@mypi3-15:~/Examples/Synapse/SerialEcho/RPi2

The kernel was built and tested on a RPi3B+ running ultibo and RPi4 4G running RaspBain with a PMODUSBUART.

devel@mypi3-15:~/Ultibo_Projects/slip-ppp/snapase/RPi2

Needed to update my AraratSynapse at github 03/20/20.

git clone https://github.com/develone/AraratSynapse.git
This branch is 3 commits behind ultibohub:ultibo.

git log

commit eda069bfd8001700def7e707016e0a696d74dce3 (HEAD -> ultibo, origin/ultibo, origin/HEAD)
Author: Ultibo <admin@ultibo.org>
Date: Sat Sep 30 11:23:02 2017 +1000

    Update README

git clone https://github.com/ultibohub/AraratSynapse.git

git log

commit d6c76d9b2c1b1e77151985861355c723ff49550a (HEAD -> ultibo, origin/ultibo, origin/HEAD)
Author: Ultibo <admin@ultibo.org>
Date: Fri Jun 15 13:07:18 2018 +1000

    Fix for socket send and receive timeout values plus other minor fixes

git remote add upstream https://github.com/ultibohub/AraratSynapse.git

git fetch upstream

git merge upstream/ultibo

git push origin ultibo

git log

commit d6c76d9b2c1b1e77151985861355c723ff49550a (HEAD -> ultibo, upstream/ultibo, origin/ultibo, origin/HEAD)
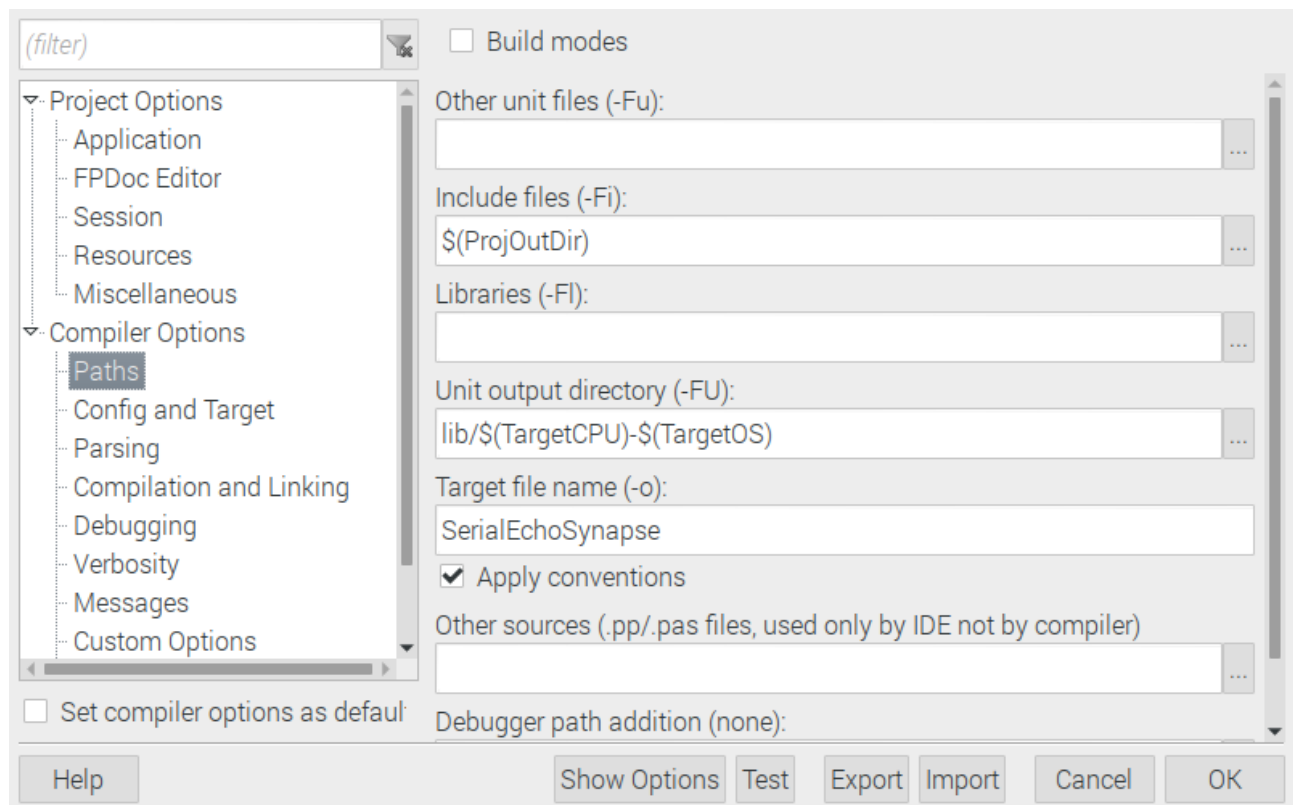
Author: Ultibo <admin@ultibo.org>
Date: Fri Jun 15 13:07:18 2018 +1000

   Fix for socket send and receive timeout values plus other minor fixes
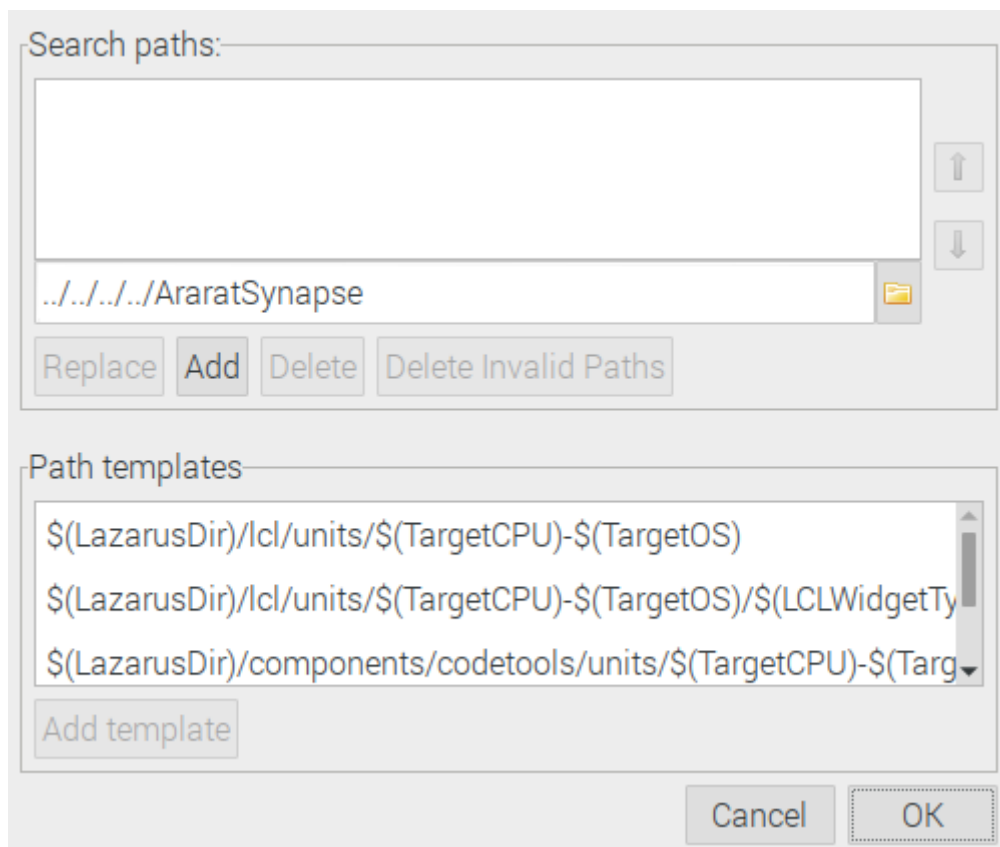
Started with the project devel@mypi3-15:~/Examples/Synapse/SerialEcho/RPi2
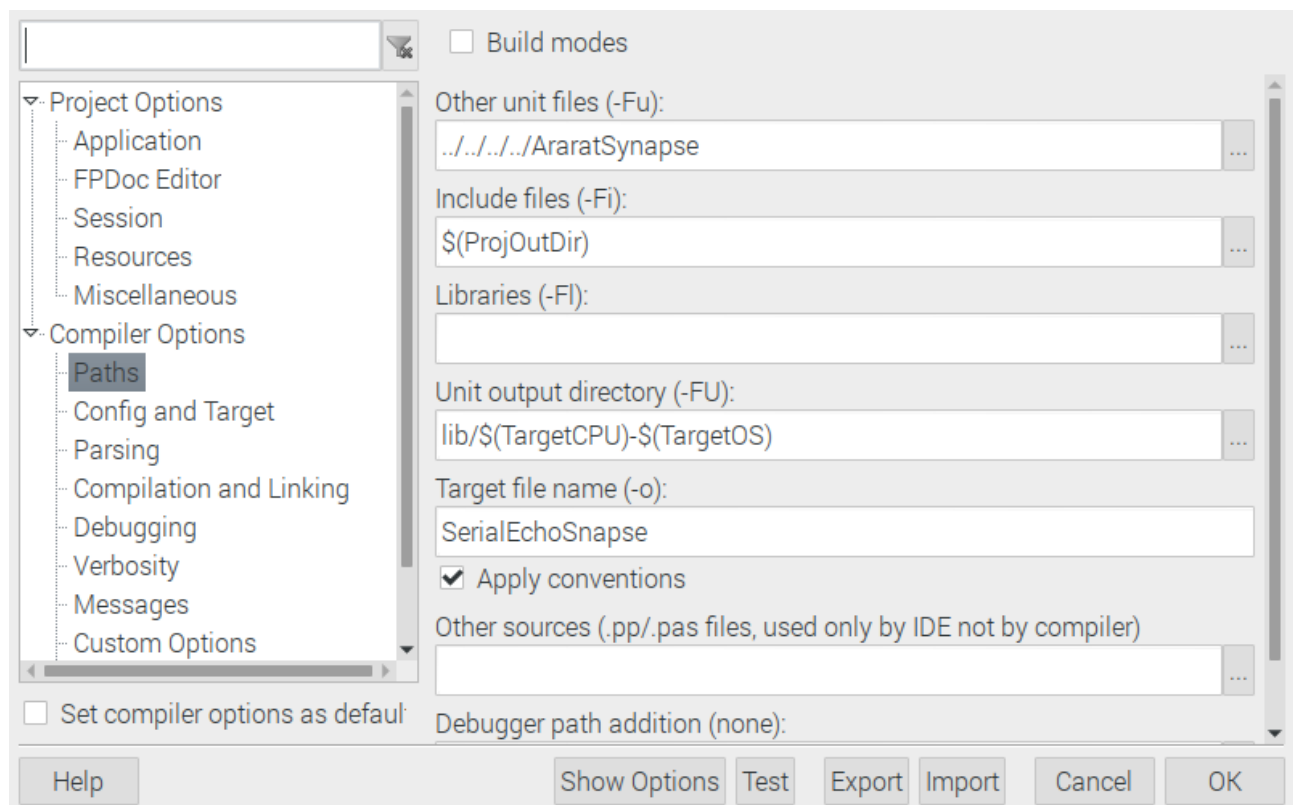
devel@mypi3-15:~/Ultibo_Projects/slip-ppp/snapase/RPi2

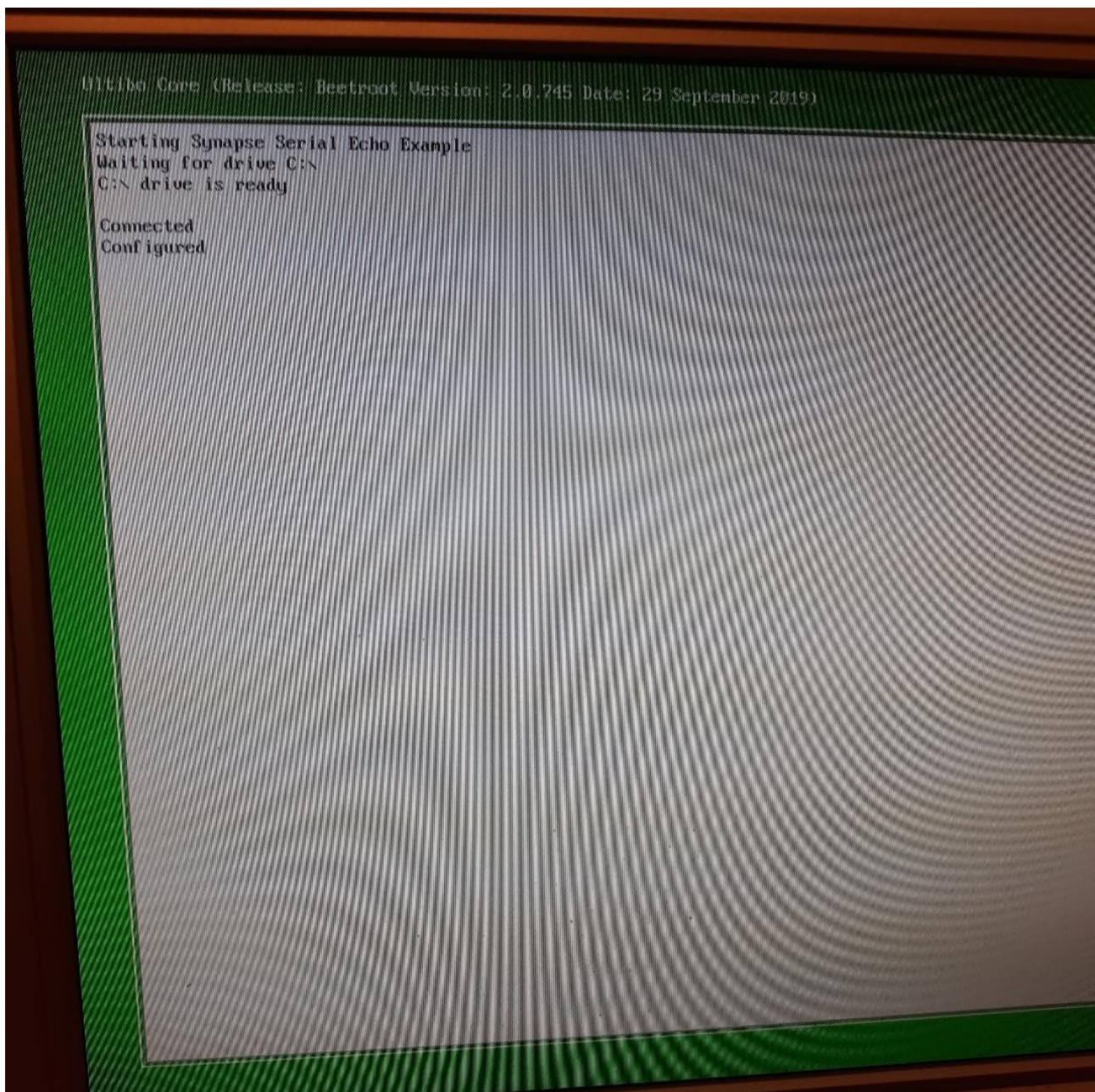Needed to add the "/home/devel/AraratSynapse" to Other unit files (-FU):

Add

Depress OK

-Tultibo -Parm -CpARMV7A -WpRPI2B @/home/devel/ultibo/core/fpc/bin/RPI2.CFG -MObjFPC -Scghi -CX -O2 -XX -l -vewnhibq -Filib/arm-ultibo -Fu../../../../AraratSynapse -Fu. -FUlib/arm-ultibo

devel@mypi3-15:~/Ultibo_Projects/slip-ppp/snapase/RPi2 $ ls lib/arm-ultibo/
SerialEchoSnapse.compiled synafpc.o   synaser.o   synautil.o
SerialEchoSnapse.o   synafpc.ppu synaser.ppu synautil.ppu

-rwxr-xr-x 1 devel devel 2407512 Mar 19 11:46 kernel7.img

The 1M kernel7.img was created in ~/Ultibo_Projects/slip-ppp/synapase/RPi2
This where the code was moved to from ~/Ultibo_Projects/slip-ppp/snapase/RPi2

-rwxr-xr-x 1 devel devel 2407512 Mar 19 13:57 kernel7.img

Echo

Ultibo Core (Release: Beetroot Version: 2.0.745 Date: 29 September 2019)

```
Starting Synapse Serial Echo Example
Waiting for drive C:\
C:\ drive is ready

Connected
Configured
Received string: 1234567890
Received string: this is a test
```
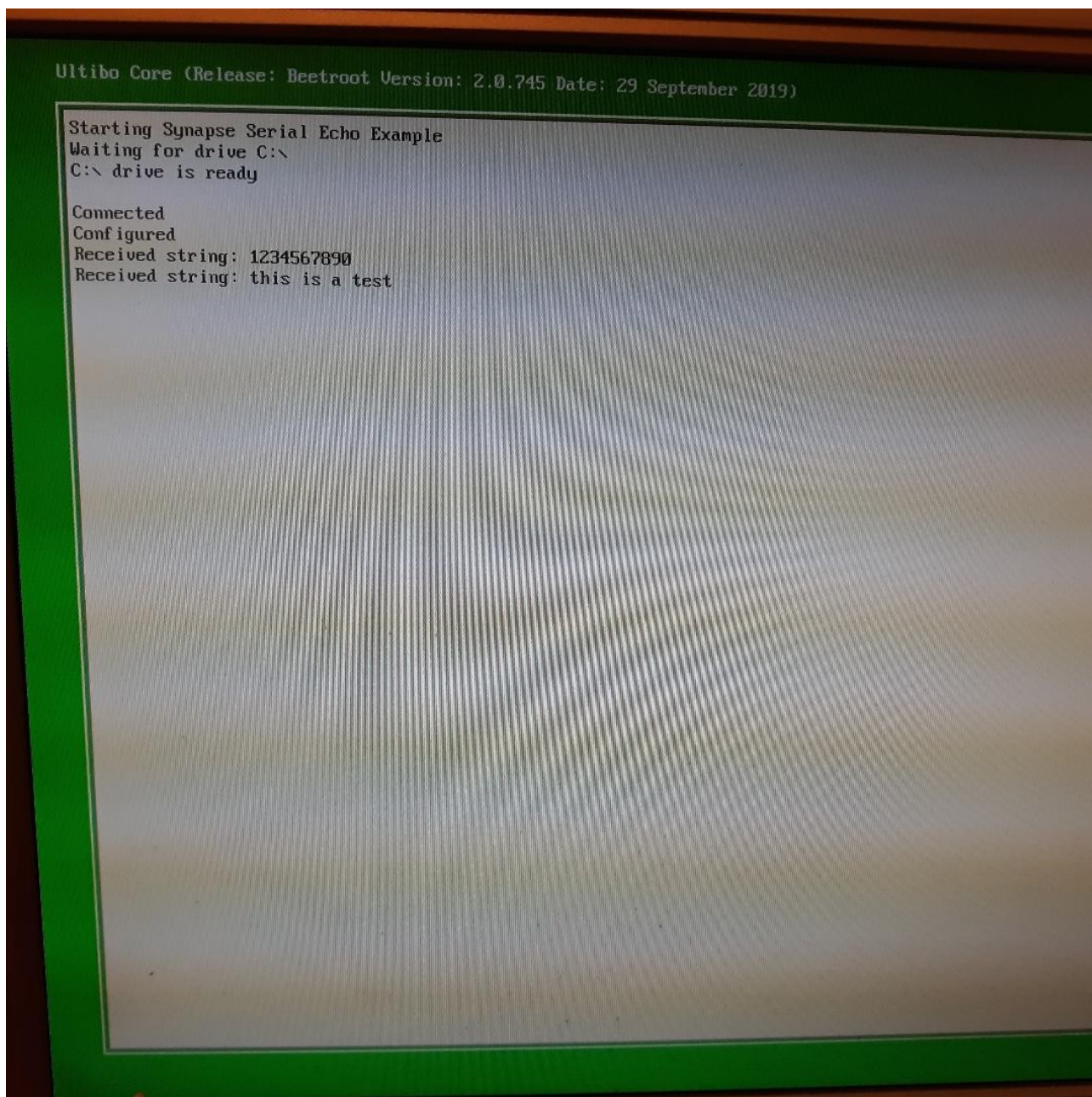
sudo minicom -s

```
File  Edit  Tabs  Help

    +------------------------------------------------------------------+
    | A -     Serial Device      : /dev/ttyUSB0                        |
    | B - Lockfile Location      : /var/lock                           |
    | C -    Callin Program      :                                     |
    | D -   Callout Program      :                                     |
    | E -      Bps/Par/Bits      : 9600 8N1                            |
    | F - Hardware Flow Control : No                                   |
    | G - Software Flow Control : No                                   |
    |                                                                  |
    |     Change which setting? █                                     |
    +------------------------------------------------------------------+
            | Screen and keyboard      |
            | Save setup as dfl        |
            | Save setup as..          |
            | Exit                     |
            +--------------------------+



CTRL-A Z for help | 9600 8N1 | NOR | Minicom 2.7.1 | VT102 | Offline | ttyUSB0
```

Modified the baud rate from 9600 to 1M

```
File  Edit  Tabs  Help

    +------------------------------------------------------------------+
    | A -     Serial Device      : /dev/ttyUSB0                        |
    | B - Lockfile Location      : /var/lock                           |
    | C -    Callin Program      :                                     |
    | D -   Callout Program      :                                     |
    | E -      Bps/Par/Bits      : 1000000 8N1                         |
    | F - Hardware Flow Control : No                                   |
    | G - Software Flow Control : No                                   |
    |                                                                  |
    |     Change which setting? █                                     |
    +------------------------------------------------------------------+
            | Screen and keyboard      |
            | Save setup as dfl        |
            | Save setup as..          |
            | Exit                     |
            +--------------------------+



CTRL-A Z for help | 1000000 8N1 | NOR | Minicom 2.7.1 | VT102 | Offline | yUSB0
```
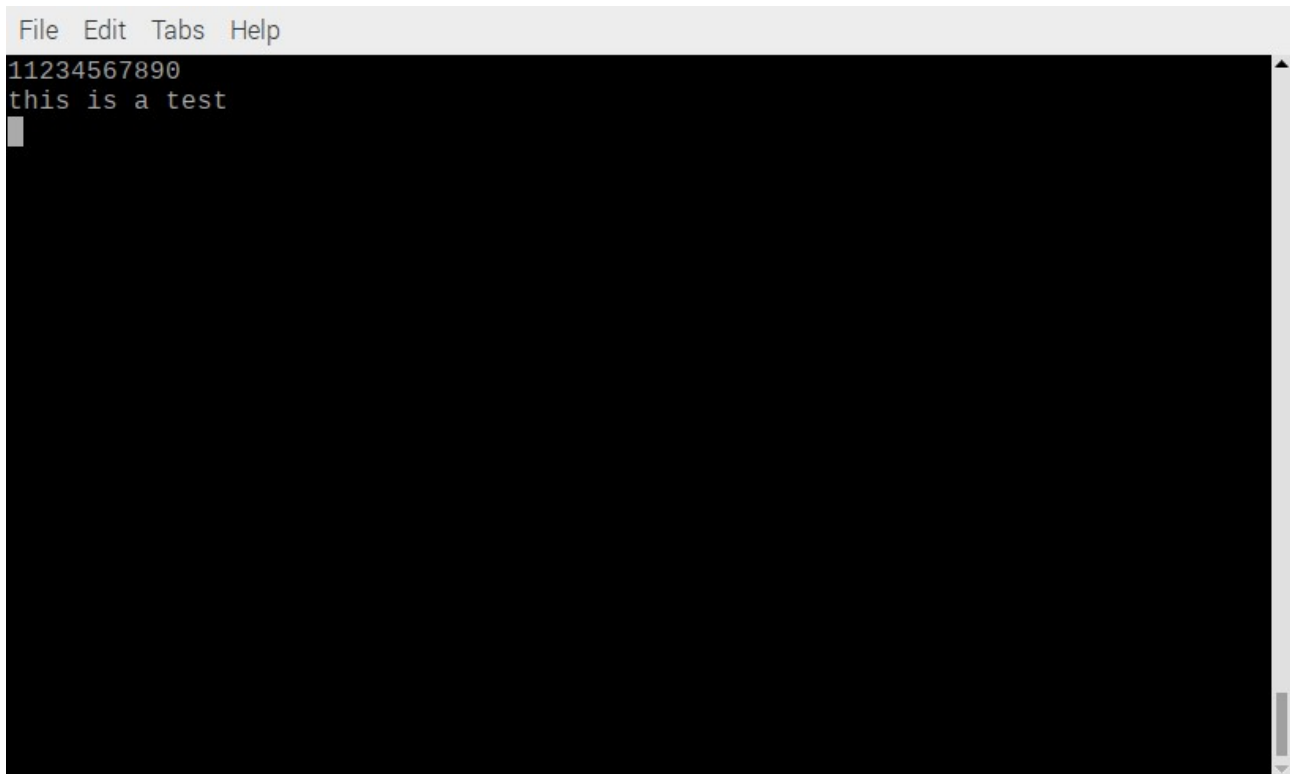
Tested OK at 1M

Testing OK

```
File  Edit  Tabs  Help
11234567890
this is a test
█
```

Now Synapase Serial Echo Example supports webstatus tftp & telnet.   This now allows development on the RPi4 4G with Lazarus with out needed to remove the micro sd from Ultibo test system, transfer the kernel.img/kernel7.img and replace the micro sd to Ultibo test system.
This requires additional files "uTFTP.pas" and "cmdstftp" used to simplify the transfer between the RPi4 4G and the Ultibo test system.
devel@development:~/Ultibo_Projects/slip-ppp/synapase/RPi2 $ tftp xx.xx.xx.xx < cmdstftp.

devel@development:~/Ultibo_Projects/slip-ppp/synapase/RPi2 $ telnet xx.xx.xx.xx
Ultibo Core (Release: Beetroot Version: 2.0.745 Date: 29 September 2019)
 (Type HELP for a list of available commands)
>help
Available commands:
 HELP
 INFO
 VER
 TIME
 CLS
 RESTART
 SHUTDOWN
 UPTIME
 THREAD
 MEMORY
 DEVICE
 FILESYSTEM
 CONTROLLER
 DISK
 PARTITION
 VOLUME
 DRIVE

```
CACHE
DIR
CD
MD
RD
TYPE
COPY
MOVE
DEL
REN
ATTRIB
TOUCH
VOL
LABEL
DELTREE
XCOPY
UPDATE
LOGOUT
>
```

Ultibo Core (Release: Beetroot Version: 2.0.745 Date: 29 September 2019)

```
Starting Synapse Serial Echo Example
With support for tftp & telnet: 10:16:40
Waiting for drive C:\
C:\ drive is ready

Connected
Configured
Received string: 12345678900987654321
Received string: qwertyuiop[]\\[poiuytrewq
```

Ultibo Core (Release: Beetroot Version: 2.0.745 Date: 29 September 2019)

Starting Synapse Serial Echo Example
With support for tftp & telnet: 10:16:40
Waiting for drive C:\
C:\ drive is ready

Connected
Configured
Received string: 12345678900987654321
Received string: qwertyuiop[]\\][poiuytrewq

(filter)

- Project Options
  - Application
  - FPDoc Editor
  - Session
  - Resources
  - Miscellaneous
- Compiler Options
  - Paths
  - Config and Target
  - Parsing
  - Compilation and Linking
  - Debugging
  - Verbosity
  - Messages
  - Custom Options

☐ Set compiler options as default

☐ Build modes

Other unit files (-Fu):

../../../../Examples/lib;../../../../AraratSynapse

Include files (-Fi):

$(ProjOutDir);../../../../Examples/lib

Libraries (-Fl):

Unit output directory (-FU):

lib/$(TargetCPU)-$(TargetOS)

Target file name (-o):

Serialsnapse

☑ Apply conventions

Other sources (.pp/.pas files, used only by IDE not by compiler)

Debugger path addition (none):

Help   Show Options   Test   Export   Import   Cancel   OK