GPS system with the 3.5” TFT display

For the development of the system, it is necessary to switch the Raspberry Pi video output between the HDMI port and the TFT display.

There are two utility programs that will do this in the LCD-show folder. This folder was added during the installation of the TFT software.

The programs are ***LCD-hdmi*** and ***LCD35-show.*** When these scripts are run the Raspberry Pi gets rebooted. Switching from the HDMI port to the TFT display works fine.

To make it easier, two new scripts were added, ***tft*** and ***hdmi***. To run these scripts, at the command line enter: ***./tft*** or ***./hdmi***. The listing are show at the bottom.

The problem occurs when switching from the TFT display to the HDMI port. If an HDMI monitor is not connected to the Raspberry Pi, the resolution is not set for controlling the unit using VNC software.

To fix the issue, two things were done.

First, the /boot/config.txt file will control the resolution of the Raspberry Pi output. It is normally set to communicate with the display and set it to the native resolution of the device connected to it.

A new file was created /boot/hconfig.txt containing the parameters to set the resolution to 1920x1080

The resolution is controlled by the /boot/config.txt file. A copy of this file, that contains the proper parameters was made and named /boot/hconfig.txt.

This file can be created by:

1-run the ./tft script. The system will reboot and come back scaled to the TFT display.

2- a) open a window.

b) run the hdmi (./hdmi)

c) The system will reboot and come back in the wrong display mode.

d) open a new window and run sudo raspi-config.

e) go to the advanced settings and select 1910x1080.

f) Reboot

g) Open a new window.

h) Goto the /boot folder

i) sudo cp config.txt hconfig.txt

The above procedure will fix the issue

 Go to the /boot directory. Run sudo cp config.txt hconfig.txt

The original file was saved as /boot/original\_config.txt

Below is a partial listing of this file:

pi@raspberrypi:~ $ cat /boot/config.txt

# For more options and information see

# http://rpf.io/configtxt

# Some settings may impact device functionality. See link above for details

# uncomment if you get no picture on HDMI for a default "safe" mode

#hdmi\_safe=1

# uncomment this if your display has a black border of unused pixels visible

# and your display can output without overscan

#disable\_overscan=1

# uncomment the following to adjust overscan. Use positive numbers if console

# goes off screen, and negative if there is too much border

#overscan\_left=16

#overscan\_right=16

#overscan\_top=16

#overscan\_bottom=16

# uncomment to force a console size. By default it will be display's size minus

# overscan.

#framebuffer\_width=1280

#framebuffer\_height=720

# uncomment if hdmi display is not detected and composite is being output

hdmi\_force\_hotplug=1

# uncomment to force a specific HDMI mode (this will force VGA)

**hdmi\_group=2**

**hdmi\_mode=82**

# uncomment to force a HDMI mode rather than DVI. This can make audio work in

# DMT (computer monitor) modes

#hdmi\_drive=2

# uncomment to i

The high lighted lines above were commented out in the original config.txt file

The second thing done was to modify the ***/LCD-show/LCD-hdmi*** file

pi@raspberrypi:~/LCD-show $ cat LCD-hdmi

#sudo cp -rf ./etc/modules-HDMI /etc/modules

sudo cp -rf ./usr/share/X11/xorg.conf.d/99-fbturbo.conf-HDMI /usr/share/X11/xorg.conf.d/99-fbturbo.conf

### The following line was added to boot to the resolution 1920x1080

### without connecting a monitor to the HDMI port.

###

**sudo cp /boot/hconfig.txt /boot/config.txt**

### The next line was commented out!

#sudo cp ./boot/config-nomal.txt /boot/config.txt

#sudo cp ./cmdline.txt /boot/

#sudo cp ./inittab /etc/

sudo cp -rf ./etc/rc.local /etc/rc.local

sudo reboot

The highlighted line was added to copy the hconfig.txt file as config.txt