

Panasonic Toughbook CF-28, Factory Internal GPS and iGuidance 4.0 by Terminus © 2008 All Rights Reserved

I wanted to write up something about this subject as I feel it's somewhat neglected and when I was researching the various GPS packages that would work with the Toughbook I had trouble finding any information. I spent some time at this, maybe this small write up will help someone who was in my situation.

For reference purposes the model number of the laptop that was using is **CF-28SRJGVDM**

I had no difficulty installing the software under Windows XP SP2, and once I set the correct serial port parameters everything was fine. In my case, I used:

Tools->GPS Options->Comm Port: COM4

Tools->GPS Options->Baud Rate: 4800

If you own a similar model the settings above should be accurate. (My system has a serial port, a modem, and the GPS, the only settings that seem to work correctly was to put the GPS on COM4 (within the bios setup) and still allow the built-in serial, the modem, and the GPS to function.

Within seconds of configuration I had 5 out of 8 satellites locked INDOORS. I am one of the lucky few it seems as I have a really great internal GPS module with a functioning antenna.

Since I have a touch screen model, iGuidance works really well in a vehicle, and I've used it with a makeshift laptop mount in my Jeep with ease.

Factory GPS reception

The Jeep has a fiberglass hard top (or in the milder months, a bikini top, and sometimes even no top) so I've had no issues with reception in that vehicle. (I wish someday to mount an external GPS antenna using the Toughbook in a vehicle; perhaps I'll install an after-market GPS module (mini-pci) like so many others have done. Perhaps when I'm building my second or third Toughbook ☺...

There are reports of people with huge masses of steel surrounding them (i.e. a normal automobile) have some issues, I have been able to use this system in a Ford F250 truck, and a small passenger car (Lexus) without issues but it was sitting on my lap or on the passenger's lap at the time.

The general problem with the CF-28 and touch screen models is of course screen brightness. In the daytime without shade, it would be very hard to navigate at highway

speeds but in the back country, nothing says you can't stop and study the screen as needed.

The menus work very well with touch screen systems, the layout is perfect but if I had a choice I'd opt for even larger buttons on the menus as using a touch screen is dicey sometimes if you happen to be traveling down the highway at 75mph, the larger the buttons the better in my opinion.



Figure 1



Figure 2



Figure 3

The button to bring up this menu is always displayed in the lower left-hand corner of the display. (see figure 4) You can do just about everything from this one menu. You can set a destination which will initiate guided navigation mode, access your “shortcuts” (pre-defined destinations, restaurants, hospitals, etc), set an itinerary, configure the volume (for voice prompts), enable or disable the GPS status (real-time signal-strength meters, lat/long, time/date, altitude), configure display options (under Settings), choose the type of map (2d or 3d)

Under Settings (figure 2), you can configure Route Options (allows you to select routes to be avoided, avoid highways, avoid bridges, etc), Display Options (figure 3) allows you to set the various display options, such as choosing day or night mode (night mode is a dark screen), Orientation of the display, the color scheme of the display, and to enable/disable various modes such as 2d or 3d mode. I prefer 3d mode, it seems more natural than a top-down display of streets and highways. As you can see, the buttons are quite large, and easy to use with a touch screen. This document is NOT intended to replace the manual so I’m not going to get into this at length.

Voice Prompts and the CF-28

Well, the sound system in the CF-28 leaves a lot to be desired, so in a Jeep with no top, it's going to be difficult at best to hear the navigator's messages over the road noise.

Since you have to listen to the laptop audio anyway, it will work well when you're also listening to some music (winamp and gigabytes of mp3s) as the sound hardware allows multiplexed audio, and the navigator voice prompts blend in well with music (female voice)...

I recommend feeding the headphone audio output of the Toughbook into the aux input of your vehicle's sound system. I have tried this successfully. You could also use a single amplified speaker such as many people use for CB radios, Ham radios, etc but mono audio would be no fun at all ... (hopefully you will be able to use a nice sound system!)

This is a typical display while in daytime mode. I have not set a destination so it's not navigating, but does update the position locator and other information, including scrolling the map as you travel. I've got it zoomed out a bit, and I'd have to say it covers about a 5 mile radius but don't quote me on that. (zoom level 4)

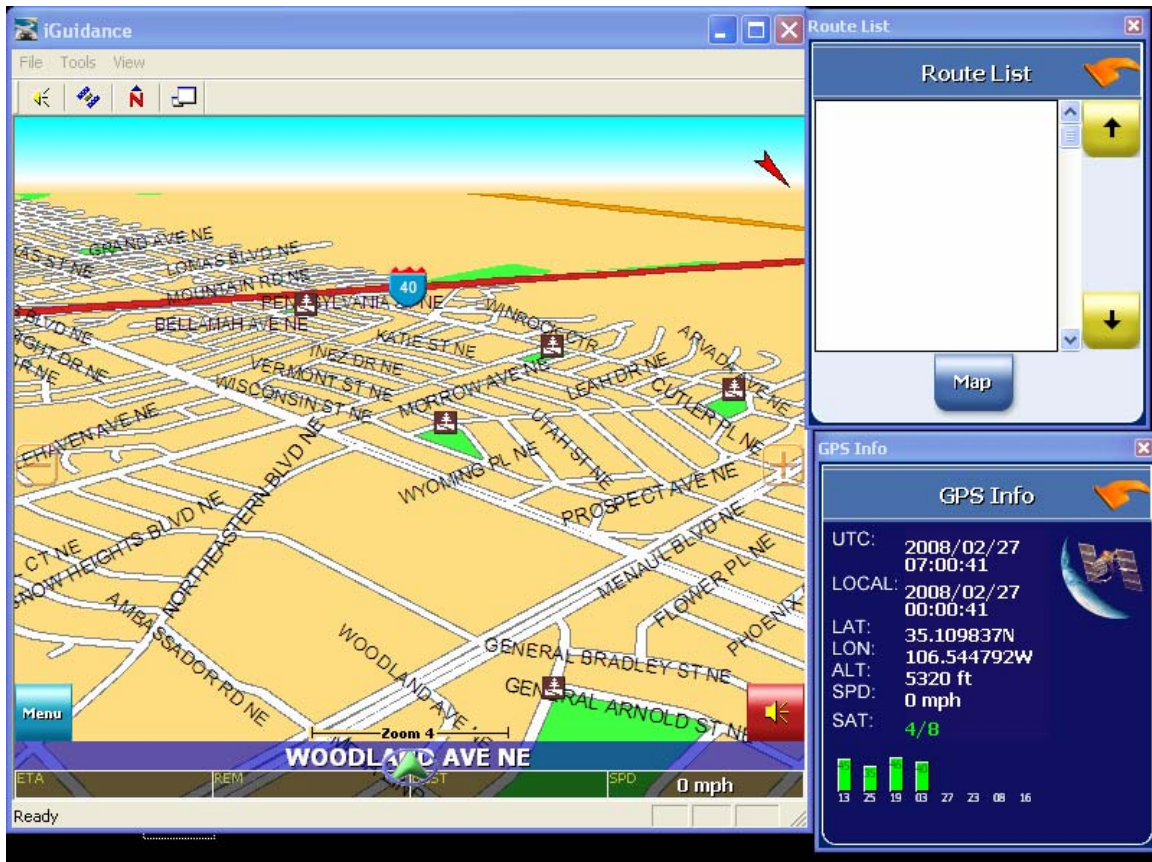


Figure 4

I normally navigate in full screen mode, but I had to minimize the map in order to get a screen shot of the entire desktop. The menu button on the left brings up the one and only menu you'll need while navigating. The speaker icon button on the right allows you to mute the voice prompts in case they become annoying or you need quiet.

This is what "night-mode" looks like. I have tried it, you will still need to dim the screen a lot. I have also tried a mode night vision mode (Windows display theme) that I borrowed from one of my astronomy control programs, which works very well for driving at night...

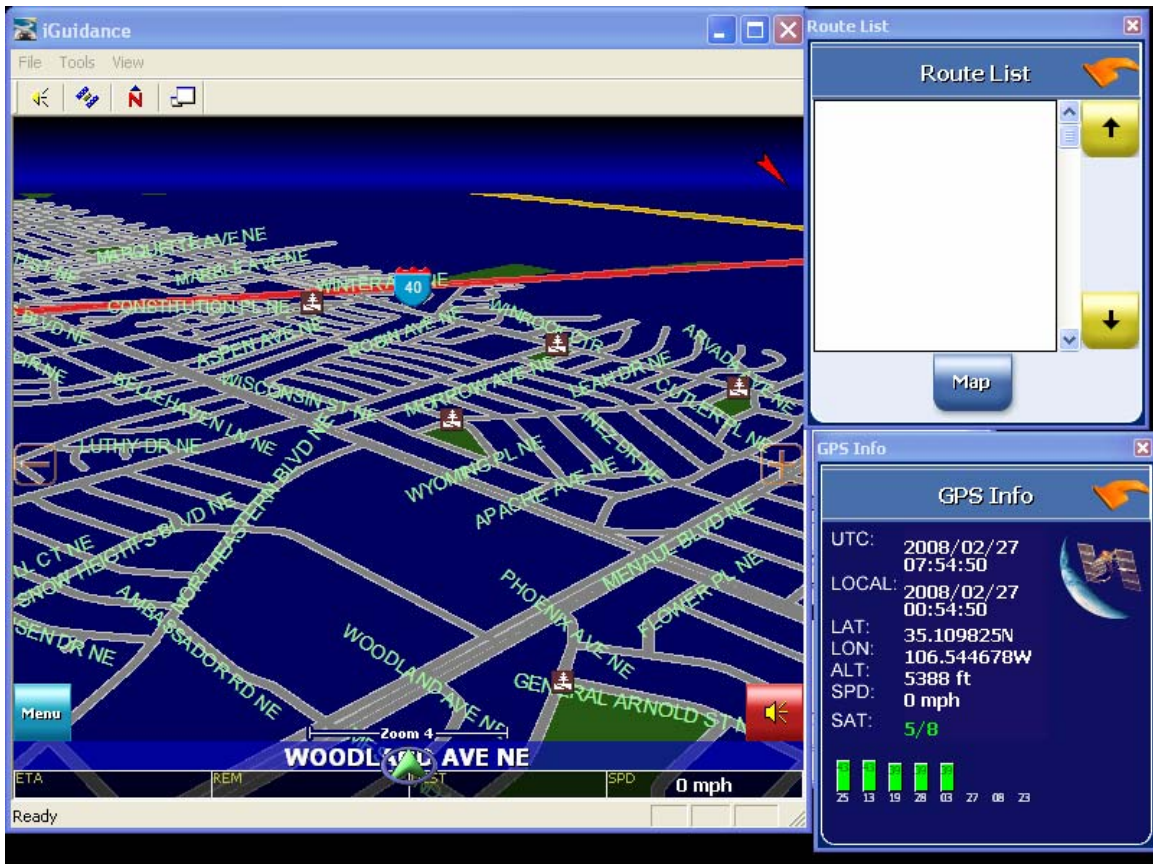


Figure 5

Disk utilization is minimal, the entire map directory uses about 1.2 GB, and you can copy it from the distribution DVD onto your Toughbook's internal hard drive and navigate without need of the disc installed in the DVD drive.

Until I owned a Toughbook, I always had to struggle with external GPS and USB cables, worrying about breaking the darned cable/connector and always seemed to be tangled up in devices. It was awkward as I'm sure everyone has discovered. The Toughbook is self-contained, I just have to lock it down on a mount, insert the headphone out cable, and I'm set.

Comments

I believe if you're the type of person using a Toughbook you'll also want software that allows mapping. I need the ability to load USGS topographical maps into any GPS software I use. So far I've been able to get USAPhotoMaps working but there is a bad bug in the software when using a serial GPS and when tracking your position it seems. If the GPS loses lock, it will always crash USAPhotoMaps if you are tracking at the time.

I hope to try OziExplorer soon as I understand it's relatively straightforward to use USGS topological maps. I guess we need (2) packages to really utilize the GPS, and iGuidance is a perfect navigator for vehicles but somewhat less useful if you're in the back country. It has rural and county roads but none of the trails we use that are often found on USGS maps but never within commercial map sets.

I know this document doesn't cover "navigation" on the wet part of the world but that's outside my area of expertise and perhaps someone who sails the deeps can write a nautical version.

This is a rough draft, an initial version, I will add more details shortly as soon as I get some feedback from other Toughbook owners. Additionally, if you're wondering why there isn't volumes of technical information included in this document, well, the answer is that you don't need it. It just works. Kudos to Panasonic and iNav.

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