

Application Note

#9

A Few Words on Durability



Very often we are asked about the durability of the CV395B. People want to know how rugged it is, and granted from outside appearance this is a valid question. When we at CV (and formerly SPS) go through our selection process for a new platform, this is the first aspect that we examine. Since the “390” technology started in 1988, PC chassis over the years have come in all shapes and sizes. About one in ten meet our requirements. The requirements that we have are simple. It has to be as small as possible, be a “one box” solution (no umbilical cords), and be fully capable of full operation on a bench, on a car seat, or in an aircraft galley. For the last 15 years we can honestly say that the chassis that contain our fantastic DSP hardware have been the best the market can provide, and the CV395B chassis is no exception.

To give you just one data point, we would like to share with you a recent customer experience and between the story and the pictures shown in this paper, we will let you answer your own question about durability. I will start by quoting the letter from our customer:

Ken,

We are sending this CV395B Analyzer (S/N-1122) back to you for repairs under RMA 030220-1. The unit has the following know(n) problems / conditions:

1. Unit was in a vehicle that rolled going down the highway at approximately 55MPH.
2. The unit was ejected from that vehicle and tumbled for an unknown distance down the road damaging the case in the process.
3. During this time the CD-ROM Drive got damaged severely, the drive tray was snapped out of the drive.
4. The keyboard connector cable suffered obvious road rash, there is approximately one half inch of insulation missing from it near the mating plug.
5. The case of the unit seems to be bent and will most likely need to be replaced.

After reading all of that, this is the important part.

6. The unit will still boot, but obviously we are concerned about the exact extent of the damage and making sure that the unit is put back into reliable condition.

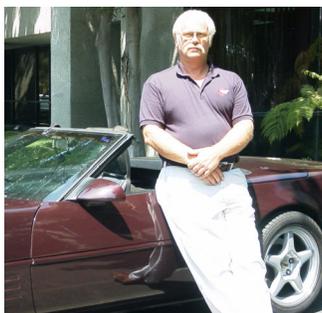
What is the “function” of the CV396B chassis? We believe it to be a container of all the important parts, and to protect those parts as best it can. Did the “chassis” fulfill its function in this case? We believe it did. It contained the power supply, the display, the motherboard, the hard drive, the processor, and above all OUR HARDWARE. True the CD-ROM drive departed, as well as the keyboard. But the analyzer doesn’t need those for proper operation. It is still functioning as an analyzer with all the normal analyzer functions still 100%. Did I mention that this unit was an eight channel unit? It is! All four input cards (2 channels each), the Tach/Trigger card, and the DSP card are all in perfect condition. Slightly bent, but other than that, perfect working condition. No internal connectors came off; no cards popped out of their connections; no ICs popped out of their sockets and nothing broke off. Now providing the customer doesn’t subject it to being ejected from a rolling SUV at 55 mph again it would continue to operate as analyzer for a very long time. It doesn’t look that great – but it’s an analyzer, how good does it have to look?

In all seriousness, we will repair it. There is no reason to suspect any further problems once the chassis is replaced. But the point is – does this story address the question of durability. We think so. Do we subject the chassis to this type of testing? No. But the testing we do has proven to be effective in our selection process.

For those of you that are curious, the pictures of the unit as it was received are shown below.



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