

ELECTRONICS

By Dean Travis Clarke

They'd Rather Fight Than Switch

The Government Now Says You May Have To Change Over To GPS Sooner Than You Think!

That's right. In a feeding frenzy of attempted spending cuts, the government is seriously considering shutting down our domestic Loran system just a bit earlier. In their 1992 Radio Navigation Plan, the government stated that a decision on if and when Loran would be discontinued would be made in the year 2000, after which, if it was to be shut down, the phase out would occur over a period of 10-15 years. The rumor running rampant throughout the hallowed halls of the District of Columbia today says the decision to shut down the domestic Loran system is likely to come in 1996 and the phase out will only take about five years.

Many people are feeling betrayed; some by the government who promised funding for Loran through at least the year 2010, still others by their marine electronics salesperson who promised likewise only to be played for a chump by the Capitol bean counters. But the ones who are really upset are all those people who have been gathering Loran TDs (Time Delays) for so many years they have logbooks filled with the world's best (and most secret) fishing hotspots. Most of us would rather fight than switch.

They have several choices. The most accurate way to convert is to mount your Loran and your new GPS side by side. Use your Loran to run to a chosen waypoint, then punch that position in as a waypoint on your GPS. Yes, it's time consuming and if you have thousands of waypoints to recreate, perhaps this method isn't for you.

There are a number of Lorans available today that have the ability to mathematically convert TDs to Lat/Lon by means of a very complex algorithm. "Unfortunately, this method has been shown to accomplish only



Top: Si-Tex, one of the first companies to offer TD to Lat/Lon conversions has an updated algorithm in their new GPS 80P. Bottom: Raytheon's Nav 300 and Nav 200 GPS/Lorans also make both conversions.

between 300-500 meter accuracy due to the relative lack of mathematical sophistication of the "older" algorithms used in the computation," says Lt. J.G. John Thompson of the USCG Domestic Loran Branch (G-NRN) in Washington, D.C. "Plus, each company treats the ASF [Additional Secondary Factors, the inaccuracies caused in Loran position readouts by the different speeds at which a Loran signal travel over water as opposed to over land] differently."

Given identical TDs, no two companies' Lat/Lon conversions are likely to agree. When added to the inherent inaccuracy of up to 100 meters of non-differential GPS, you can see that that wreck you're looking for could be a long way off even after your unit says "ARRIVED!"

Admittedly, in a few of the very newest Loran and GPS units, the conversions from TDs to Lat/Lon can be fairly accurate. However, the conversions back from Lat/Lon to TDs are

much less so.

"The other problem," says Dave Church of Si-Tex, a leading manufacturer of Loran and GPS equipment, "is that no matter what you do, [GPS] repeatability is not going to be up to Loran standards."

Perhaps the easiest and most time-efficient way is to buy a book that lists tens of thousands of Loran and GPS locations of wrecks, buoys, reefs, etc., around the entire U.S. seaboard, Great Lakes, Gulf of Mexico, Florida Keys, Dry Tortugas, and the Caribbean as far south as the Virgin Islands and their converted Latitude and Longitude.

Captain Rod Stebbins has spent the last 15 years putting these volumes together and they are converted and then geo-corrected by a personal visit to compare readings. It's not for nothing this monumental work is called the *Diving and Fishing Destination Bible*.

Lately there have been several number crunchers who've introduced improved algorithms for conversions purposes. One such company that seems to be somewhat more accurate is the Andren Software Co. in Indianantic, Florida. Andren has a program cleverly called The Loran Program that sells for \$60 and works on any PC or Mac Plus of over 640K. (Are there still computers that small?)

Depending on who you talk to, however, it appears that there may be considerable one-time user effort required to "fill in the [program information] blanks" and then, of course, you must plug in each and every TD. Thompson says it's the best he's seen but takes work to get going. Capt. Rod Stebbins, author of the *Loran and GPS Coordinates Guides* says it's a "piece of cake." However, from what we've seen, any relatively com-

puter literate navigator should have little difficulty installing, setting up, or running this program, especially now with the just released version to be used with Windows.

The Loran Program has the capability to very accurately convert, store and manage thousands and thousands of waypoints, draw custom charts using your waypoints, and plan trips. This is obviously not for the casual fisherman or cruiser. But those for whom changing to GPS is a substantial emotional and logistical investment as well as a financial one, this system works better than any others we've seen to date. The new Windows version also has an even easier utility to calculate and apply ASF corrections according to North American Defense Mapping System (NADMS) calculations. Once set up, wherever you go, you can convert with the accuracy of one-tenth of one microsecond.

Yet another company with a somewhat different, more cruising-oriented program is Digital Graphics Inc. According to Stebbins, the company's program, called Cruise Planner, contains thousands of navigation marker coordinates as listed by the NADMS, locations in both TDs and Lat/Lon, a list of 2,700 marinas and everything you could possibly want to know about them and their surroundings, and will compute bearing, distance, fuel consumption, travel time and ETA.

So you can be dragged kicking and screaming into the next century bemoaning your old loran unit's ultimate demise or you can beat them to the punch and augment your loran navigation with GPS today. It beats playing catch-up. •

CONVERSION PROGRAMS

Coastal Loran & GPS
Coordinates
9132 Blairmoor Rd.
Tampa, FL 33635-1322
813-884-1810

The Loran Program
Andren Software Co. PO Box
33117 Indialantic, FL 32903-3117
407-725-4115

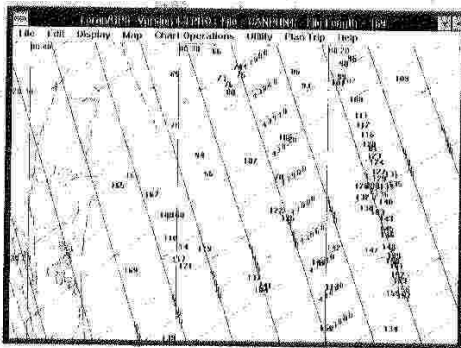
Digital Graphics, Inc.
11810 Parklawn Dr.
Rockville, MD 20852
301-881-8770

MISCELLANEOUS

Andren Loran/GPS Program

Andren (a rocket scientist — really) brought his first iteration of this software program out in 1986. Since then, several updated versions have hit the market. But none have been as complete as the new Loran/GPS PRO Version 4.2 for Windows (or Windows 95). Besides being perhaps the most accurate conversion program, Andren's program now can perform new functions — like track plotting — while plugged into your GPS. It can show you present position and track with up to 30,000 track points, selectable intervals and adjustable resolution.

But for those whose interest strictly lies in TD to Lat/Lon conversion, this program performs fairly accurately, allows you to manage your waypoints in numerous ways, prints charts with your selection of waypoints, works in Excel, Word, Works and dBase. It allows the import/export of files, and much more. Salvage those thousands of hot fishing spots listed in TDs in your log with Andren's Loran/GPS PRO, and do it for just \$60.



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