selected approach mode indicates that the localizer intercept criteria were met. The fact that VS ALT mode was not cancelled and GS was not shown indicates that the glideslope criteria were *not* met. The airplane, which has been on a heading of 081°, begins a turn to the left.

The STec 55X pilot's guide says:

The GS mode must be armed prior to engagement. Once the following conditions have existed simultaneously for a period of one second, the GS annunciation will appear to acknowledge that the GS mode has automatically armed, as shown in Fig. 3-25:

- 1. APR mode engaged
- 2. ALT mode engaged
- 3. NAV Flag out of view
- 4. GS Flag out of view
- 5. LOC frequency channeled
- 6. A/C within 50% needle deflection of LOC centerline
- 7. A/C more than 10% needle deflection below GS centerline

It appears to me (and could be confirmed by STec) that these criteria weren't met because the autopilot was in ALT VS mode (that is, VS mode with ALT armed), not ALT mode. All other conditions appear to have been met.

At 17:14:39 (11251160), the autopilot enters APR ALT NAV mode (that is, VS mode was cancelled) as a result of the airplane's arrival at 2600' MSL. At the time, the airplane was above the glideslope, with a 53% fly-down indication on the VDI. Once again, this violates the autopilot's glideslope capture criteria, so it remains in ALT mode. As a result, the airplane continuously remained above the glideslope until the autopilot was disengaged at 17:15:21 UTC (11293240 PFD time).

The logs contain no direct indication of the reason for the disconnect (because it's not output by the autopilot), but I see nothing that would particularly suggest it was anything other than pilot action. (We wouldn't expect to get a stall warning at 82 KIAS, would we?)

Hope that helps.

-- Fred