Sierra Nevada Corporation’s (SNC) Automatic Carrier Landing System (ACLS) Beacon is the primary airborne component of the AN/SPN-46(V) precision approach landing system (PALS) – the only fully automated, all weather approach landing aid for carrier aircraft.

The AN/APN-245 is a form, fit, function replacement for the AN/APN-202, with improved performance. The ACLS Radar Beacon enables long-range acquisition and precision guidance of equipped aircraft to the carrier deck in all weather conditions by providing a high-power, fixed, “point source” radar return that eliminates radar scintillation noise.
AN/APN-245
ACLs Radar Beacon

Features

- Form/fit/functional replacement for the APN-202 beacon set
- In production
- ID/IQ contract in place
- Proven to increase boarding rate
- Currently operational on F/A-18 E/F/G platforms
- Capable of adaptation to other airborne platforms
- Mission essential item for carrier landing operations
- Logistics support in place

Description

ACLs Beacon Airborne component

- Closed Loop Architecture
- Range: 10+ nmi
- Final Approach to Landing
- Receive Frequency Beacon: Ka-Band
- Transmit Frequency Beacon: X-Band
- Meets all requirements in NAWCAD Code 4.5.8.1 performance specifications 43603-00404 and interface design specification 43603-00408

AN/APN-245 System offers significant performance improvements

- Improved detection and tracking in rain
- Point source improves tracking accuracy versus skin tracking
- AGC supports dual channel tracking of SPN-46
- Delay stability ± 10ns from -40° to +85° ambient temp.
- 1dB ± 0.1dB modulation replication accuracy from -40° to +85°

Beacon system operates in a cross-band mode, receiving interrogations at Ka-band and replying at X-band

- Beacon system imposes modulation present on Ka interrogations on the X-band replies
- The AN/SPN-46 system uses the modulation proportional to the boresite error, to close the angle tracking loop
- Beacon system maintains a fixed delay between the Ka interrogation and the X-band reply
- Supports A/C lateral landing dispersion of less than five feet

For further information contact:
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