

February 5 , 2014

AN/SPN-46(V)3 Precision Approach Landing System

Contract Office:

Air Traffic Control Systems Branch
Naval Air Warfare Center Aircraft Division
Patuxent River, Code 4.5.8.1
Villa Road, St. Inigoes MD, 20684-0010

Program Manager:

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Contract Number: N00421-10-G-0001

Test Location:

Sierra Nevada Corporation
444 Salomon Circle
Sparks, Nevada 89434
Latitude 39.53399 N, Longitude -119.70108 W, Elevation 4377 Feet
Nominal radar azimuth at the test facility: 250 degrees true north.

RADAR ANTENNA: AS-3648/SPN-46(V)

Antenna Type:

Parabolic reflector with front offset nutating Ka-band feed and 2-axis monopulse X-band feed

Ka- Band

- a. Frequency: 33.2 GHz
- b. Gain: 48.7 dB
- c. Beamwidth (3 dB) 0.57 ° degrees maximum
- d. Beamwidth (20 dB) 1.59 °degrees maximum
- e. Side Lobes: 17.5 dB down
- f. Polarization Linear or Circular
- g. Conical Scan rate (100 Hz)

X- Band (receive)

- a. Frequency: 9.31 GHz
- b. Beamwidth: 2 °
- c. Gain: 33 dB
- d. Polarization: Circular

Limits of Travel

- a. Initial positioning: Manual or Automatic
- b. Azimuth: Left 30 ° to Right 60 ° from normal heading
- c. Elevation: +30 ° to -15 ° from horizontal axis

RADAR TRANSMITTER: T-1477/SPN-46(V)

SFD-332 Magnetron Transmitter

CPI Beverly Microwave Division

Beverly Mass.

- a. Actual Tuning Range and/or operating frequencies: 33.0 to 33.4 GHz
- b. Type Emission: Pulse
- c. Pulse Repetition Rate: 1750 to 2080 CPS
- d. Pulse Width: 0.2 microseconds
- e. Modulation and coding: Uncoded pulse
- f. Peak Power Output: 50 KW
- g. Average Power Output: 20 watts
- h. Frequency Control: Manual or Automatic
- i. Tuning Accuracy: ± 10 MHz maximum

RECEIVER: R-2259/SPN-46(V)

Ka Band

- a. Receiver Type: Superheterodyne
- b. Fixed Frequency: 33.2 GHz
- c. Frequency Control: Manual or Automatic
- d. I. F. Frequency: 60 MHz
- e. Bandwidth(3 dB): 14 MHz maximum
- f. Noise Factor: 9 dB
- g. Sensitivity: -93 dBm
- h. Local Oscillator Frequency:
 - (1) The normal operation of the local oscillator is 60 MHz below the transmitter frequency.

X-Band

- a. Receiver Type: 3 Channel monopulse, Superheterodyne
- b. Fixed Frequency: 9.31 GHz
- c. I. F. Frequency: 160 MHz
- d. Bandwidth(3 dB): 60 MHz maximum
- e. Noise Factor: 13 dB
- f. Sensitivity: -92 dBm