

# Avionics

## NAV-2000R NAV/COMM Signal Generator

**AEROFLEX**  
A passion for performance.



Unprecedented accuracy in an affordable avionics signal generator

- Supports VOR, LOC, GS, MB, COMM, SELCAL, and ADF modes
- Front panel control of VIDEO LEVEL for use with NAV converters
- Front panel STORE and RECALL functions allow for 49 setups per mode, 294 total
- DSP (Digital Signal Processing)
- Full GPIB bus control of all features

Available options include:

- Collins 479S-6A GPIB command set compatibility
- A unit with extended output power to +7 dBm

All signal parameters are controllable from the front panel or through the standard GPIB bus for use in manual bench and ATE test applications. STORE and RECALL functions allow quick recall of up to 249 user-stored test setups (49 in each mode). The bright electroluminescent display, combined with logically grouped keypads, provides for fast, efficient setup of avionics test signals. The most often used signal parameters are entered with one key-stroke by using "Hot Keys" dedicated to VOR bearing and LOC/GS DDM selections. MODE keys access the following avionics functions:

- VOR - bearing displayed in degrees To/From; user control of 30 Hz variable and 9960 Hz modulation % and frequency; user control of 1020 Hz tone modulation with programmable Morse Code Ident.
- Localizer - 90 and 150 Hz modulation displayed in DDM or % modulation; 90/150 Hz phase control; 1020 Hz tone modulation with programmable Morse Code Ident.
- Glideslope - 90 and 150 Hz modulation displayed in DDM or percent modulation; 90/150 Hz phase control.
- ADF - modulation tone variable from 10 Hz to 18 kHz; 1000 Hz default tone modulation with programmable Morse Code Ident.
- Marker Beacon - variable 400 Hz outer marker, 1300 Hz middle marker and 3000 Hz inner marker, with pulsed tone ident capability corresponding to selected beacon type.
- COMM - modulation tones variable from 10 Hz to 18 kHz with two-tone capability for HF applications. SELCAL option allows setup of ARINC 714-6 selective calling tones.

*The NAV-2000R is the only generator needed to test ADF, Marker Beacon, VOR, LOC, Glideslope, HF, VHF, and UHF COMM receivers. The NAV-2000R Signal Generator offers a frequency range of 150 kHz to 450 MHz, and is loaded with special avionic functions including the ability to produce Morse Code Ident in VOR, LOC and ADF modes; pulsed audio tones corresponding to the Marker Beacon selected; two-tone modulation; and SELCAL capability in COMM mode.*

For the very latest specifications visit [www.aeroflex.com](http://www.aeroflex.com)

## GENERAL SPECIFICATIONS

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### FREQUENCY

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**Range**

150 kHz to 450 MHz

**Resolution**

10 Hz

### SPECTRAL PURITY

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**Harmonics**

<-30 dBc

**Non-Harmonics (Spurious)**

<-60 dBc, Offset >5 kHz

### OUTPUT LEVEL

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**Range**

-127 to 0 dBm (-50 unit)

-127 to 7 dBm (-80 unit)

**Resolution**

0.1 dB

### AMPLITUDE MODULATION

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**Range**

0 to 99%

**Resolution**

0.01%

**Accuracy (sum of all tones)**

10 to 95%

±2% of indication

**Tone Frequency Accuracy**

±0.005%

**Total Harmonic Distortion**

<0.1%

### VOR MODE

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**Modulation Tones**

9960 Hz, 30 Hz Reference

30 Hz Variable, 1020 Hz Ident

### LOCALIZER MODE

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**Modulation Tones**

90, 150, 1020 Hz

**Tone Frequency Adjustment**

±10%

**Range****Set DDM Function****"Hot Key"**

0, 0.046, 0.093, 0.155, 0.200

**Keypad or GPIB bus**

0 to 0.400 DDM

**DDM Resolution**

0.001 DDM

**DDM Accuracy**

0 ±0.0003 DDM

0.046 ±0.0012 DDM

0.093 ±0.0021 DDM

0.155 ±0.0034 DDM

0.200 ±0.0053 DDM

### GLIDESLOPE MODE

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**Modulation Tones**

90, 150 Hz

**Tone Frequency Adjustment**

±10%

**Range****Set DDM Function****"Hot Key"**

0, 0.045, 0.091, 0.175, 0.400

**Keypad or GPIB bus**

0 to 0.800 DDM

**DDM Resolution**

0.001 DDM

**DDM Accuracy**

0 ±0.0003 DDM

0.045 ±0.0012 DDM

0.091 ±0.0021 DDM

0.175 ±0.0038 DDM

0.400 ±0.0083 DDM

### MARKER BEACON MODE

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**Modulation Tones**

400, 1300, 3000 Hz

**Tone Frequency Adjustment Range**

10 Hz to 18 kHz

### VHF/UHF COMM MODE

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**Modulation Tones**

10 Hz to 18 kHz, SELCAL

**Tone Frequency Resolution**

0.1 Hz

## **ADF MODE**

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### **Modulation Tones**

10 Hz to 18 kHz

### **Tone Frequency Resolution**

0.1 Hz

## **MORSE CODE**

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### **Morse Code Ident**

User Programmable (VOR, LOC, ADF)

### **Length, 0 to 6 characters**

Programmable

## **AUDIO OUTPUT LEVEL**

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2 VAC (peak) into 600 ohms

## **ENVIRONMENT**

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### **Operating Temperature**

7 to 40 °C

### **Relative Humidity**

<90%

## **POWER REQUIREMENTS**

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### **Input**

100-240 VAC, 48-440 Hz

## **PHYSICAL CHARACTERISTICS**

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### **Weight**

34 lbs (15.42 kg)

### **Size**

17.4" x 5" x 19.3" (44.2 cm x 13.2 cm x 49 cm)

(19" x 5" x 19.3" in rack mount)

## **VERSIONS, OPTIONS AND ACCESSORIES**

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When ordering please quote the full ordering number information.

### **Ordering**

#### **Numbers**

#### **Versions**

NAV2000R-50-110 NAV/COMM Signal Generator, 110 V

NAV2000R-50-220 NAV/COMM Signal Generator, 220 V

NAV2000R-70-110 NAV/COMM Signal Generator, 110 V

Includes GPIB Command Set compatible w/  
Collins 479S-6A

NAV2000R-70-220 NAV/COMM Signal Generator, 220 V Includes

GPIB Command Set compatible w/ Collins  
479S-6A

NAV2000R-80-110 NAV/COMM Signal Generator, 110 V Output

power range: -120 to +7 dBm

NAV2000R-80-220 NAV/COMM Signal Generator, 220 V Output

power range: -120 to +7 dBm

### **Optional Accessories**

AC500520RH

Rack Mount Kit

### **Extended warranty**

WNAV/203C

Extended standard warranty 36 months with  
scheduled calibration

WNAV/205C

Extended standard warranty 60 months with  
scheduled calibration

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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.

Part No. 46891/232, Issue 2, 08/07