

BECKER NAV

NAVIGATION



VOR/ILS Navigation Receiver NR 33XX-(X)-110

■ This VOR/ILS Navigation receiver line provides outstanding performance for aviation professionals who need excellent range and accuracy as well as the ultimate in reliability.

The receiver is housed in a single block unit for DZUS mounting, which complies with ARINC standards.

Because of their efficient design and rugged construction this receiver generation is ideal suited for use in civil and military aircraft.

Clear LCD, which are easily read in the brightest sunlight, show both, active and preset frequencies.

Dependable optical/electronic, friction free controls with excellent tactile feedback. A built-in test function performs the system checking of receiver, micro-processor and display function.

The line outputs for VOR/ILS indication fulfills the corresponding ARINC standards. The most indicator crosspointer, HSI, RMI can be used.

The receiver is certified to the demanding requirements of applicable FAA TSO, JTSO, RTCA, EUROCAE and FTZ documents. ■

NR 3320-(02)-(01)

NAV composite signal output with Glideslope receiver

NR 3330-(02)-(01)

NAV composite signal output

General features:

- Efficient electrical design in surface mounted technology (SMT).
- Rugged mechanical construction in a single compact unit
- Active and standby (preset) frequency read out with two clear, LCD easily readable even in the brightest sunlight.
- Ideally suited as retrofit for Becker NAV 2000 series: pin compatible, no mechanical modification necessary.

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General data:

■ Available receiver types	
NR 3320-(01)-110	VOR/LOC/GS receiver with VOR/LOC converter
NR 3320-(02)-110	VOR/LOC/GS receiver without VOR/LOC converter, Retrofit for NR 2020/40
NR 3330-(01)-110	VOR/LOC/GS receiver with VOR/LOC converter
NR 3330-(02)-110	VOR/LOC/GS receiver without VOR/LOC converter, Retrofit for NR 2030
■ Current consumption	
NR 3320-(XX)	typ. 320 mA without panel illumination
NR 3330-(XX)	typ. 260 mA without panel illumination
■ Panel lighting	
13.75 V DC	typ. 360 mA
27.5 V DC	typ. 180 mA
■ Operating temp. range	- 20 °C . . . + 55 °C short time 70 °C
■ Maximum altitude	50000 ft
■ Dimensions (W x H x D)	126 x 47,5 x 186 mm without space for converters
■ Weight	approx. 1.2 kg

Technical data NAV-Receiver – general section

■ Frequency range	108.000 – 117.950 MHz
Channel number	200
Channel spacing	50 kHz
Memory channels	20
■ Sensitivity	≤ -93 dBm at ≥ 6 dB SINAD
■ Bandwidth	≥ 15 kHz at 6 dB
■ Selectivity	≥ 65 dB at ± 47 kHz
■ Rated output power	150 mW into 300 Ω sym.
■ NAV composite signal output	500 mV at 30 Hz, m = 30%
■ Voice filter	≥ 20 dB

■ DME remote control	2 out of 5 code parallel ARINC 521B
■ AF auxiliary input	1 V ... 8 V across 600 Ω

Technical data VOR/LOC converter section

■ VOR bearing accuracy	≤ 2,7°
■ LOC centering error	≤ 11 % stand. def.
■ VOR/LOC needle output	max. 3 load (1 kΩ)
■ VOR/LOC flag	max. 3 load (1 kΩ)

Technical data GS-Receiver

■ Frequency range	329.150 – 335.000 MHz
■ Number of channels	40
■ Channel spacing	150 kHz
■ Sensitivity	≤ -81 dBm for disappearance of warning flag
■ Bandwidth	≥ ± 20 db at 6 dB
■ Selectivity	≥ 42 dB at ± 150 kHz
■ Centering accuracy	≤ 13 % standard deflection

Applicable documents

■ VOR/ILS	JTSO 2C40c, 2C36e, 2C34e, DO-196, DO-195, DO-192
■ Software	DO-178B, Level C, ED-12B
■ Environments	DO-160C, ED14C

Recommended equipment

■ IN 3300-(3)-01	VOL/ILS indicator with MKR-Receiver
■ IN 3300-(4)-01	VOR/LOC indicator
■ RM 3300-(2)	VOR/RMI converter, 3 wire synchro
■ RM 3300-(3)	VOR/RMI converter, sin /cos AC

Recommended converter kits

■ CK 3301-S	for NR 3320-(01)-XX
■ CK 3302-S	for NR 3320-(02)-XX
■ CK 3303-S	for NR 3330-(01)-XX
■ CK 3304-S	for NR 3330-(02)-XX