VIAVI Solutions

ATB-7300NG Avionics Test Bench
NAV/Comm Test Set

The ATB-7300NG Navigation/ Communication Test Set is based on the new VIAVI AXIe Avionics Test Bench (ATB) platform. The ATB platform is a powerful leading edge design tailored for end-users from OEMs to repair shops and can be used for all stages of the avionics lifecycle: Product development; Design verification & validation; Certification; Manufacturing; Return-to-service; and Service/calibration.

Standard Features

VHF Generator - Provides control of modulation frequency, modulation depth (up to 3 sources), SELCAL tones, frequency and tone sequences.

ILS/LOC Generator - Provides control of 90 Hz and 150 Hz tone frequencies, modulation depths, left/right DDM and ident settings, including Morse code

ILS Glide Slope Generator - Provides control of 90 Hz and 150 Hz tone frequencies, modulation depths, up/down DDM

VOR Generator - Provides control of 30 Hz Var/Ref and 9960 Hz tone frequencies, modulation depths, 9960 Hz deviation, VOR bearing, to/from and ident settings

ADF Generator - Provides control of modulation frequency, modulation depth and ident settings

Marker/Beacon Generator - Provides selection of Outer, Middle and Inner marker beacon tones and control of tone frequencies, modulation
depth and ident settings

User Interface

- The ATB offers an Ethernet remote control interface
- Commands set compatibility offered for the following legacy products:
    - The NAV-2000R
    - Collins 479S-6A
    - The ATB-7300

SPECIFICATIONS

SIGNAL GENERATOR

Frequency Range	100 KHz to 6 GHz
	1 Hz resolution
Frequency Accuracy	±0.1 ppm
RF Level	
RF Output Port	
	1 MHz to 400 MHz
	±0.7 dB (-125 dBm to +4 dBm)
	400 MHz to 3 GHz
	±0.9 dB (-125 dBm to +4 dBm)
	3 GHz to 6 GHz
	±1.6 dB (-125 dBm to +4 dBm)
Spurious	
Phase Noise	**-114 dBc/Hz at 10KHz offset**
Harmonics	<-35 dBc
Non-Harmonics	<-50 dBc

MKR GENERATOR

Tone Settings	
Frequency Range	30 Hz to 7400 Hz
Resolution	1 Hz
Default	
Outer	400 Hz
Middle	1.300 kHz
Inner	3.000 kHz
% Modulation	
Range	0-99%
Resolution	1%
Default	95%
IDENT	
OUTER	
Dot Time	0 ms, fixed
Gap Time	
Range	50 ms to 250 ms
Resolution	1 ms
Default	125 ms
Dash Time	
Range	150 ms to 750 ms
Resolution	1 ms
Default	375 ms
MIDDLE	
Dot Time	125 ms, fixed
Gap Time	125 ms, fixed
Dash Time	375 ms, fixed
INNER	
Dot Time	83 ms, fixed
Gap Time	83 ms, fixed
Dash Time	0 ms, fixed

ILS GENERATOR

Settings	
Phase Shift	
Range	0.0 to 359.9°
Resolution	0.1°
Default	0.0°
Total MOD	Not to exceed 99%
	LOC includes 1020 Hz IDENT modulation
	See *INDENT SPECIFIC DATA*
DDM Settings	
Range	
(Glideslope)	0.000 to 0.800 DDM
(Localizer)	0.000 to 0.400 DDM
Resolution	0.001 DDM
Default	0.000 DDM
Total System Error	
(Glideslope)	±0.001 DDM from 0.000 to 0.045 DDM
	±2% from 0.045 to 0.400 DDM
(Localizer)	±0.001 DDM from 0.000 to 0.045 DDM
	±2% from 0.045 to 0.200 DDM
Glideslope and Localizer Tone Settings	
Frequency	
Range	90 Hz 72 Hz to 108 Hz
	150 Hz 120 Hz to 180 Hz
Resolution	1 Hz
Accuracy	±0.01%
Distortion	<0.40% THD
Modulation	90 and 150 Hz
	Total modulation not to exceed 99%
Default	20%
Overall Accuracy	±2% of setting for 5% to 90% AM
Tone Distortion	0.5% maximum

VOR GENERATOR

RF Level Settings	Total MOD Not to exceed 99%
Direction	
Bearing	
Range	000.0° to 359.9°
Resolution	0.1°
Radial Accuracy	±0.05°
Tone Settings	
Frequencies	30 VAR and 30 REF Freq
Range	20 Hz to 40 Hz
Resolution	1 Hz
Default	30 Hz
9960 Frequency	
Range	9000 Hz to 11000 Hz
Resolution	1 Hz
Default	9960 Hz
Frequency Deviation	
Range	240 Hz to 540 Hz
Resolution	1 Hz
Default	480 Hz
Accuracy	±0.01%
Distortion	<0.40% THD
Modulation	30 VAR and 9960 MOD
Range	Total % mod not to exceed 99%

	Includes 1020 Hz IDENT modulation
	See *IDENT SPECIFIC DATA*
Default	30%
Overall Accuracy	±2% of setting for 5% to 90% AM
Tone Distortion	0.5% max

***IDENT (ADF, ILS LOC AND VOR)**

IDENT Code	
Valid Characters	A-Z, 0-9
Length	1 to 5 characters
Default	IDENT
Word Rate	
Range	1 sec. to 65 sec.
Default	10 sec.
Resolution	1 sec.
Frequency	
Range	10 Hz to 18000 Hz
Resolution	1 Hz
Default	1020 Hz
Accuracy	±0.01%
Distortion	<0.40% THD
Modulation	
Range	Total % MOD not to exceed 99%
Resolution	0.01%
Default	0.00%
Overall Accuracy	±2% of setting for 5% to 90% AM
Tone Distortion	0.5% max
Dot Time	
Range	50 ms to 250 ms
Default	150 ms
Resolution	1 ms
Gap (Dot/Dash) Time	
Range	50 ms to 250 ms
Default	150 ms
Resolution	1 ms
Dash Time	
Range	150 ms to 750 ms
Default	450 ms
Resolution	1 ms
Character Spacing	
Range	150 ms to 750 ms
Default	450 ms
Resolution	1 ms

VHF COMM GENERATOR

MODES	
AM Mode	
Modulation	
Frequency Range (per Tone)	30 Hz to 18 kHz
Default	1000 Hz
Resolution	1 Hz
Accuracy	±1% from 10% to 90%
Range	Total % mod not to exceed 99%
Default (Per Tone)	30%
Overall Accuracy	±2% of setting for 5% to 90% AM
Distortion	<0.40% THD

SELCAL Mode User selectable tone set with programmable tone periods.

SELCAL Settings	
P1 and P2 Codes	
Range	2 characters
Valid Characters	A through H, J through M, P through S
P1 and P2 Tones	
Frequencies	
Range	Set from code, 312.6 Hz to 1479.1 Hz
Pulse MOD	
Range	0.00% to 99% Applies to ALL pulses including test tone
Resolution	0.01%
Default	90.00%
Timing	
P1 and P2 Time	
Range	0.000 to 2.000 sec.
Resolution	0.001 sec.
Default	1.000 sec.
Gap Time	
Range	0 to 999 ms
Resolution	1 ms
Default	200 ms
Test Tone	
Frequency	
Range	10 Hz to 18000 Hz
Resolution	1 ms
Default	1020 Hz
MOD	
Range	0.00% to 99% Applies to ALL pulses including P1 and P2
Resolution	0.01%
Default	30.00%
Enable	ON (Checked) or OFF (Unchecked)
AM	0 to 99%, ±3.0%
FM	10 to 500 kHz, ±3.0%

General Information

Environmental

Operating temperature 0° - 50° C
Storage temperature -40° - 71° C
Humidity 95% to 40° C (in accordance with MIL-PRF-28800F)
Altitude 4600 m
Functional shock 30 G (in accordance with MILPRF-28800F)
Random vibration 5 Hz - 500 Hz (in accordance with MIL-PRF-28800F)

Remote Control Interface

- Ethernet

Regulatory
Safety compliance IEC / EN 61010-1
EMC compliance IEC / EN 61326-1
IEC / EN 61000-3-2
IEC / EN 61000-3-3
MIL-PRF-28800F Class 3

Mechanical
Rack units mA-1302: 2U x 19”
Dimensions mA-1302: 432 mm (W) x 88 mm (H) x 435 mm (D)
Weight mA-1302: 10.5 kg (23.1 lbs)
Acoustic emissions 78 LWA dB (max), 63 LWA dB (typical)

ORDERING INFORMATION

142759 ATB-7300NG Avionics NAV/Comm Test Bench

Optional Accessories

139910 Rack Mount Kit (2U)

For more information please contact:
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