

AVX-10K

Flight Line Test Set

Performance verification testing of critical airborne systems from a single device.

The AVX-10K is a comprehensive flight line test solution providing today's Avionics Technician with an easy-to-use instrument for testing Communication, Navigation, and Surveillance systems. From a quick airborne system auto-test to an in-depth troubleshooting tool, testing can conveniently be done around the aircraft or in the cockpit from the touchscreen display or using your mobile device. Easy set-up, quick testing and reporting transferable via USB, Ethernet and wireless all done from a modern user interface, or the VIAVI Solutions Mobile Tech App.



Features

- Configurable test capability
- Intuitive user interface
- Software defined applications
- Remote operation
- Android™ and iOS® compatible
- Guided Test for Navigation Applications
- Built-in GPS receiver
- International test configurations

Benefits

- Purchase only the test options that you need
- Time saving ease of operation
- Easily updated with future applications
- Conveniently test in and around the aircraft from your mobile device
- Recall saved test sequences for future use
- Provides accurate positional data for ADS-B testing
- Compliant with global regulatory requirements

Test Usage

- ATRBS and Mode S Transponders
- ADS-B In and ADS-B out
- 978/1090MHz ADS-B Traffic
- GICB
- ILS - LOC, GS, and MB
- DME/VOR, TACAN
- Communications - AM, FM, SSB, and SELCAL32 ARINC 714A Tone Frequencies
- VSWR and Distance to Fault
- TCAS, UAT and ELT optional

The Future of Flight Line Avionic System Testing

Building on nearly 50 years of providing superior avionics test sets, the AVX-10K is a compact, durable tester capable of providing a wide range of quick airborne system auto-tests and in-depth troubleshooting using software specific applications.

Using over-the-air, direct and coupled connections the AVX-10K can provide testing for the following systems:

Communications	Navigation	Surveillance
<ul style="list-style-type: none"> • AM (VHF) • FM (UHF) • SSB (HF) • SELCAL 	<ul style="list-style-type: none"> • ILS <ul style="list-style-type: none"> - LOC - GS - MB • VOR • DME • TACAN 	<ul style="list-style-type: none"> • Transponder Modes A, C, S • ADS-B Out • ADS-B In (Traffic) <ul style="list-style-type: none"> - 1030 MHz (ADS-B, ADS-R, TIS-B) - UAT (ADS-B, TIS-B, FIS-B) • TCAS I/II and TAS testing • ADS-B Monitoring • GICB Monitoring • UAT Monitoring

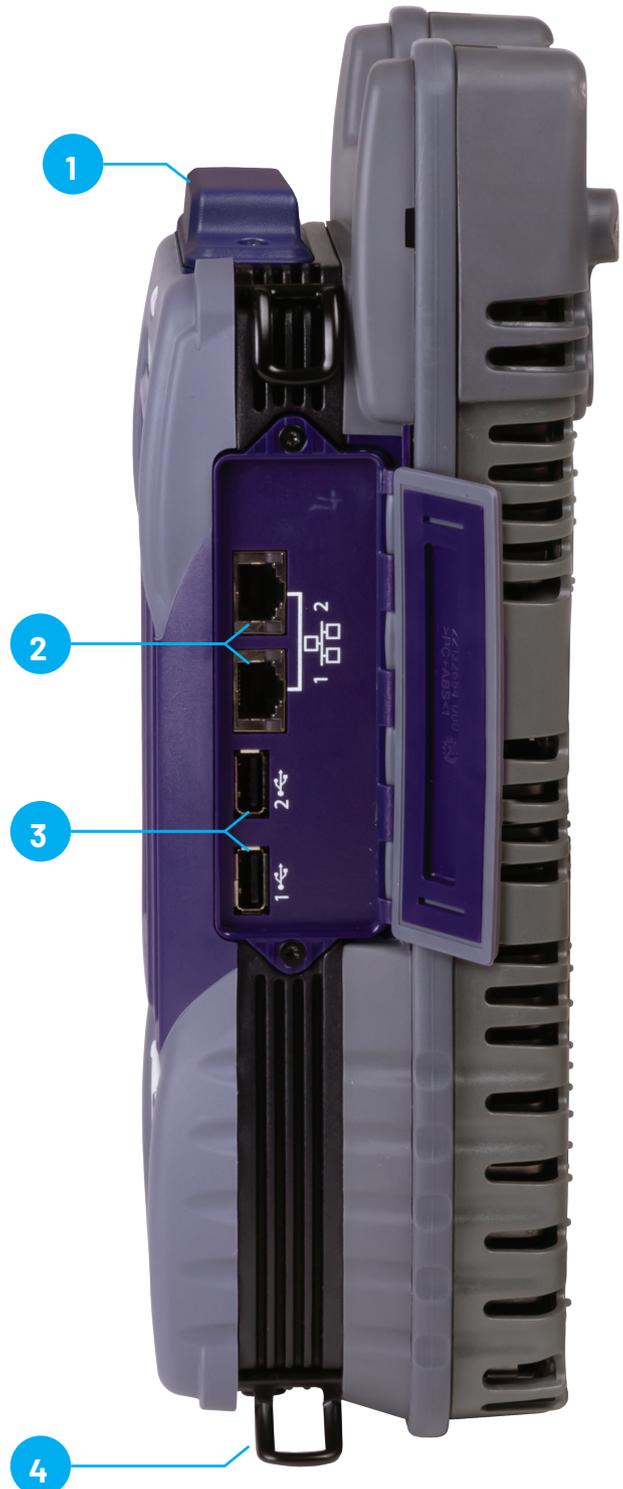
Other Test Tools

- ELT
- VSWR
- Distance to Fault

The added flexibility of software-based test configurations means the AVX-10K provides the right capabilities for every individual shop's testing needs.

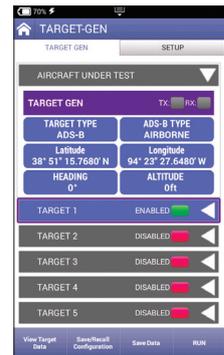
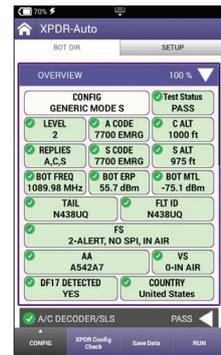
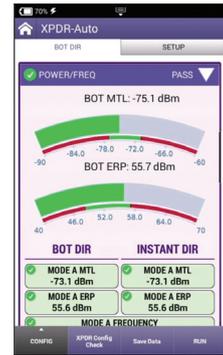


UC-584 and TC-201A antenna couplers minimize false intruders when testing.



AVX-10K Side Detail

1. GPS Antenna
2. Dual Ethernet Ports
3. Dual USB Ports
4. Hand Strap Clips



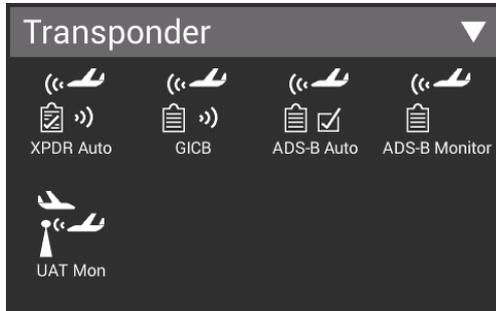
AVX-10K Front Detail

- 5. Power Button
- 6. Speaker
- 7. Back Button
- 8. Home Button
- 9. Quick Tray Button
- 10. Cursor Control Keys
- 11. Function Keys

- 12. Full Color Touch Screen Display
- 13. Status Indicator Lights
- 14. GPS Antenna
- 15. Antenna (ANT) Port
- 16. Direct (RF/IO) Port
- 17. SWR Port

Buy Only the Test Capabilities You Need. Add More When You Want.

Transponder



Transponder Auto – This test function provides a selection for configured test options including Generic ATCRBS, Generic Mode S, FAR Part 43, and many more.

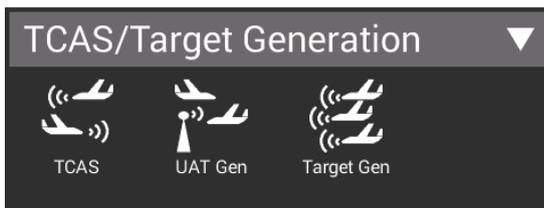
GICB – Testing the GICB capabilities can be performed in Simple Mode (known registers) or Advanced Mode (full register set).

ADS-B Auto – Available Test Types for this option include AC 20-165 and CS-ACNS. Testing supports both Airborne and Surface configurations.

ADS-B Monitor – GPS Position can be manually entered or can be determined with the built-in GPS Receiver. Monitoring supports both Airborne and Surface configurations.

UAT Monitor – Allows monitoring of received UAT messaging and will decode and display each received Aircraft Address and Payload Type Code.

TCAS/Target Generation

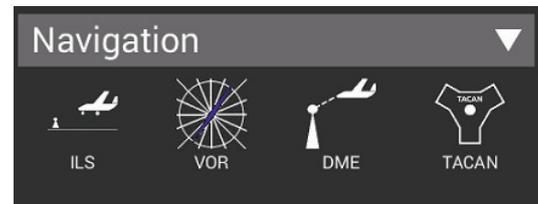


TCAS – This option lets you set up an intruder and run a scenario to ensure TCAS functionality. Intruder types includes either Mode S or ATCRBS.

UAT Gen – Provides access to setup targets and run ADS-B, FIS-B and TIS-B testing for the UAT frequency.

Target Gen – This feature allows the user to set up and stimulate up to five static targets. Target types can be 1090 MHz ADS-B, ADS-R or TIS-B. Each target will be associated with the Aircraft Under Test's Latitude, Longitude, Heading and Position which are all configurable.

Navigation



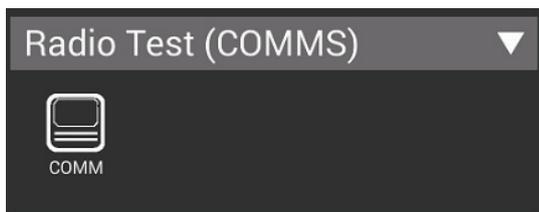
ILS – Provides simultaneous Localizer (with swept DDM), Glideslope and Marker Beacon Signals.

VOR – Generates signals over the VOR Band (108.00 to 117.95 MHz) with 30 Hz reference phase and 9960 Hz (sub-carrier frequency modulated with 30 Hz variable phase) amplitude modulated at 30% per tone. VOR bearing selection is provided in preset steps of 30° or variable steps of 0.1°.

DME – Single DME test screen provides control over DME Frequency/Channel, Range, Rate, RF level, % Reply, Squitter, Ident and Echo. UUT frequency, ERP, PRF P1/P2 width and Spacing are also displayed.

TACAN – Combines Range and Bearing control along with Range Rate and Bearing Rate including Air-to-air modes. Displays measured values on received signal.

Radio Test (COMMS)



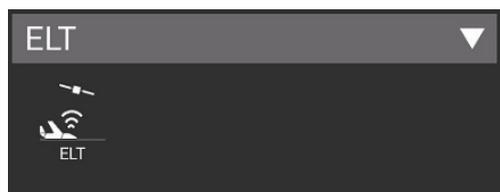
COMM AM – Provides signal generation over the Range of 10.00 to 400.00 MHz in 1 kHz increments and monitoring of transmitter power and modulation depth over the same range. A calibrated 1020 Hz tone, amplitude modulated at 30%, is also provided. Frequency control is provided in 8.33 kHz / 25 kHz channel steps or in 1 kHz variable steps. Audio output is available.

COMM FM – Provides signal generation over the Range of 10.00 to 400.00 MHz in 1 kHz increments and monitoring of transmitter power and modulation deviation over the same range. A 1000 Hz tone, frequency modulated at 5 kHz, is also provided. Frequency control is provided in 12.5 kHz/25 kHz channel steps or in 1 kHz variable steps. Audio output is available.

COMM SSB – Provides signal generation and monitoring of transmitter power and modulation depth over the range of 10.00 to 30.00 MHz. A 1000 Hz tone is also provided. Audio output is available.

SELCAL – Provides selectable consecutive amplitude modulated tone pulse pairs, which may be sent continuously or as a burst.

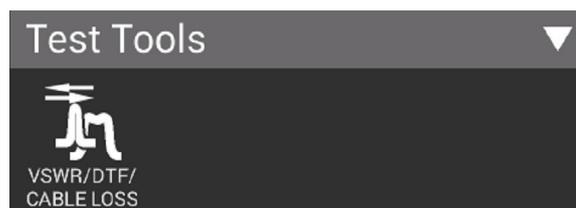
ELT



121.5/243 BCN Modes – Provides monitoring for 121.5/243 MHz swept tone short range Beacons and displays transmitter frequency, power and start/stop tone frequencies. Audio output is available.

406 BEACON Mode – Provides monitoring for 406 MHz COPAS/SARSAT Emergency Locator Transmitter (ELT), Emergency Position Indicating Radio Beacons (EPIRB and Personal Locator) PLB Beacons. The Beacon utilizes BPSK data to transmit position information derived from a long-range navigation system or GPS receiver. The Protocol management and data field decode is automatically handled by the AVX-10K.

Test Tools



VSWR/DTF – This test tool is provided to assist in troubleshooting RF level issues. Test mode for both VSWR and Distance To Fault (DTF) testing can be set to VSWR or Return Loss.

Guided Test – Leverage the instructions from work cards to create a guided test. This process ensures consistent and repeatable test steps for mistake free work.

Cable Loss – This feature helps identify problems, as the loss identified on a cable may not be correct causing erroneous readings in test set ups and also to identify issues with wiring that can contribute to poor system performance.

Templates – allows the user to save all set-up parameters for the entire test set and recall for a later use. This is useful should you have common repeatable set-up parameters across multiple test applications for a specific aircraft platform. Next time you test that platform, simply choose the desired template and all saved set-up parameters will be recalled, saving time.

Mobile Application for Remote Operation

The VIAVI Solutions Mobile Tech App, is a handy tool for remotely controlling the AVX-10K in and around the aircraft. A directory of applicable on-line information is also available to users on-the-fly to get answers right when they're needed.

- The Mobile Tech app enables remote operation via the smart device, which allows techs to operate the unit from a remote location, without going back and forth from the test set to the cockpit
- Convenient access to documentation and training material



Use your favorite mobile device with the AVX-10K for easy remote access to the test set.

StrataSync™ Cloud-Enabled Test-Data Management

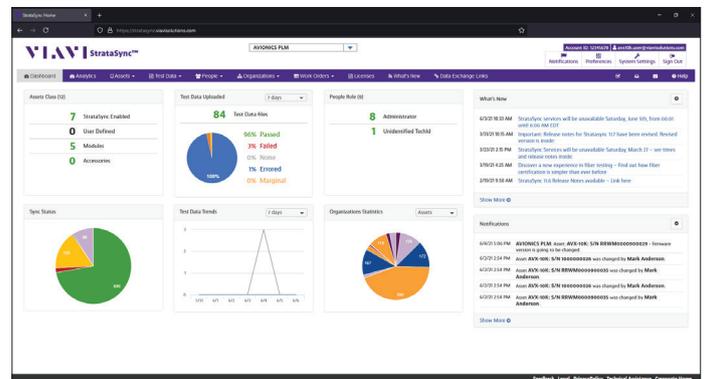
StrataSync is a hosted, cloud-based software application that provides asset, configuration, and test-data management for a wide range of VIAVI Solutions instruments. StrataSync manages inventory, test results, and performance data anywhere with browser-based ease and improves technician and instrument efficiency.

StrataSync stores test data in a central location, enabling viewing and sharing of test-data results. Often, data is not centrally collected and its long-term value is underrated. The causes of system failures, and data from previous tests is not available or is not analyzed. With StrataSync, critical aircraft performance information can be stored in a secure location, enabling proactive problem-area identification. Data is also accessible via an API to simplify automated retrieval.

Asset Management

StrataSync asset management provides a single, intuitive way to monitor and assure your AVX-10K has the latest firmware installed. An administrator can quickly identify out-of-date test sets and apply firmware updates automatically via StrataSync which are deployed to the test set by simply syncing to StrataSync via the internet. New software options can also be purchase at a later date and deployed via StrataSync. This dramatically reduces the amount of time spent in the work center identifying upgrade requirements, and then manually upgrading the test set.

With StrataSync, registration can identify which test units are assigned to each technician. StrataSync tracks each test-set sync with the server, making utilization and test practices visible.



The StrataSync online asset management and reporting tool ensure test sets are up-to-date with the latest firmware, test capabilities, and provides access to test report data.

Ordering Information

(• = Standard Item, all other items optional)

Catalog Number	Item Description	Preconfigured Kits			
		AVX-10K-FLTS (Test Set Only)	AVX-10K-NAV (NAV/COMM)	AVX-10K-SVLC (Surveillance)	AVX-10K-CNS (COMM/NAV/SVLC)
AVX-10K	AVX-10K Unit	•	•	•	•
AC10K-PWRADPTR	AC/DC Power Adapter	•	•	•	•
AC10K-HANDSTRAP	Hand Strap	•	•	•	•
AC10K-OPSMNL	Manual, Operations	•	•	•	•
AC10K-QSGUIDE	Manual, Quick Start	•	•	•	•
AC10K-TRANSITCASE	Carrying Case, Hard Transit		•	•	•
AC10K-ADPTRKIT	Calibration Kit, VSWR/DTF	•	•	•	•
AC10K-ANT-ILS	Antenna, VOR/ILS		•		•
AC10K-ANT-MB	Antenna, Marker Beacon		•		•
AC10K-CBL6FT	Cable, Coax 6'		•	•	•
AC10K-FPANT	Antenna, RF Flat Panel w/1' Cbl(62401)			•	•
62401	Cable, Coax 1'	•	•		
AC10K-UC-584	Shield/Coupler, UC-584 w/25' Cbl(14131)			•	•
Software Options	Select Test Capability				
AVX-10K-SXPDR	Transponder Modes A,C,S			•	•
AVX-10K-SADSB	ADS-B-In/Out/GICB/Target Gen			•	•
AVX-10K-STCAS	TCAS I/II				
AVX-10K-SDME	DME		•	•	•
AVX-10K-STACAN	TACAN				
AVX-10K-SUAT	UAT In/Out				
AVX-10K-SNAV	Navigation (ILS/MB/VOR)		•		•
AVX-10K-SELT	ELT 121.5/243/406MHz				
AVX-10K-SCOM	Radio Test AM/FM (Comms)		•		•

Selectable Power Cords

AC10K-PWRCRD-US/CAN	AC Power Cord - US/Canada
AC10K-PWRCRD-EU	AC Power Cord - Continental Europe
AC10K-PWRCRD-AUSNZ	AC Power Cord - Australia/New Zealand
AC10K-PWRCRD-INDIA	AC Power Cord - India
AC10K-PWRCRD-UK/IRE	AC Power Cord - UK/Ireland
AC10K-PWRCRD-SWITZ	AC Power Cord - Switzerland

AVX-10K-FLTS - Flight Line Test Set only configuration - allows customer to pick and choose what hardware and software options desired.

AVX-10K-NAV - Communication, Navigation package includes the NAV/COMM software options shown and all NAV/COMM required hardware. This package is comparable to the IFR4000.

AVX-10K-SVLC - Surveillance package includes Transponder, ADS-B and DME software options and all required hardware like the IFR6000.

AVX-10K-CNS - Communication, Navigation and Surveillance package includes all hardware to support all software options. TCAS, UAT and ELT are optional.

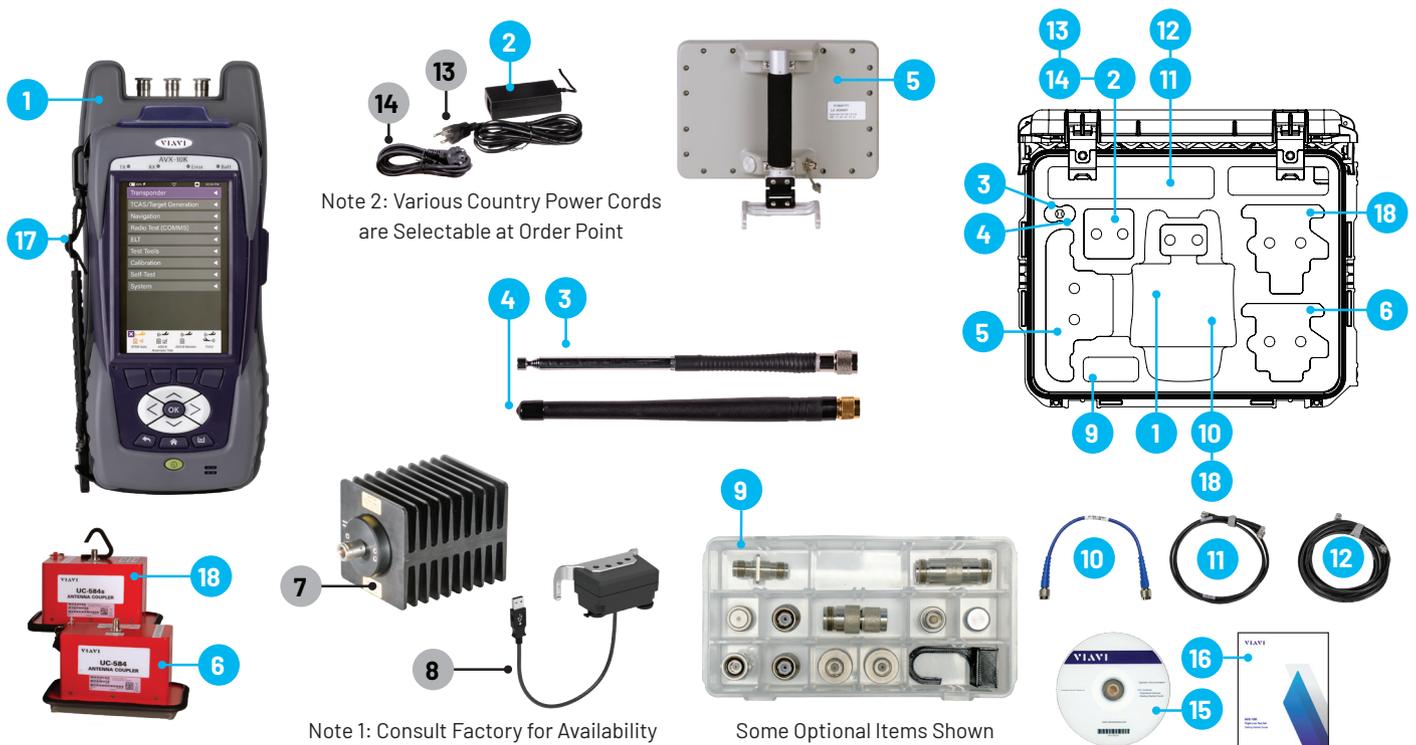
Additional Accessories

AC10K-ANTBRKT	Required to use your current IFR6000 1030/1090 RF Antenna
AC10K-CC	Soft Side Carrying Case
AC10K-BATTERY	Internal Battery, Lithium Ion 7.3V 13Ah
AC10K-CBL12FT	Cable, Coax 12'
141131	Cable, Coax 25'
142839	Cable, Coax 50'
140889	TC-201A TCAS/XPDR Directional Antenna Coupler (Min. 110" fuselage)
22163082	TC-201B TCAS/XPDR Directional Antenna Coupler (Min. 92" fuselage)
AC10K-UC-584S	Shield/Coupler, UC-584S w/25' Cable
90106	UC-584S Coupler Placement Pole

AVX-10K Commercial Kits Comprising Items List

Item #	Qty	Part #	Description	AVX-10K-NAV 22154862	AVX-10K-SVLC 22154822	AVX-10K-CNS 22154861
1	1	22137163	AVX-10K Base Unit	●	●	●
2	1	22146602	AC/DC Power Adapter	●	●	●
3	1	22153600	Antenna - ILS	●		●
4	1	22153599	Antenna 75 Mhz MB	●		●
5	1	22141787	Antenna, RF Flat Panel		●	●
6	1	87431	Shield/Coupler, UC-584		●	●
7	Opt	22183050	Attenuator			
8	Opt	22183051	Headset Adapter (Note 1)			
9	1	AC10K-ADPTRKIT	Adapter Kit (See Figure 1)	●	●	●
10	1	62401	Cable, Coax 1'	●	●	●
11	1	22152432	Cable, Coax 6'	●	●	●
12	1	141131	Cable, Coax 25'		●	●
13	Opt	22022754	Power Cord - US (Note 2)			
14	Opt	22022744	Power Cord - European (Note 2)			
15	1	22141759	Operations Manual	●	●	●
16	1	22135253	Quick Start Guide	●	●	●
17	1	22142165	Handstrap	●	●	●
18	1	142094	Shield/Coupler, UC-584S			●

● Included Item ● Optional Item



AC10K-ADPTRKIT (22183132) Comprising Items List

Item #	Qty	Part #	Description	AVX-10K-NAV-M 22182233	AVX-10K-SVLC-M 22182230	AVX-10K-MIL 22182232
1	1	24140	CAP, TNC, FEMALE SHORT	●	●	●
2	1	24141	Conn; Conn Acc; LOAD 50 Ohm; TNC/F; DC - 6.0 GHz	●	●	●
3	1	138598	Adapter, TNC-F to TNC-F	●	●	●
4	1	22183053	Adapter, TNC-M to BNC-M	●	●	●
5	1	23758	Adapter, TNC-M to BNC-F	●	●	●
6	Opt	22181865	Adapter, N-F to TNC-F			
7	Opt	23773	Adapter, N-F to N-F			
8	Opt	92553	Adapter, N-F to TNC-M			
9	Opt	38589	Adapter, N-M to TNC-F			
10	Opt	22183052	Hook, Cplr Placement			
11	Opt	22183055	Cap, TNC for Coupler Hook			

● Included Item ● Optional Item

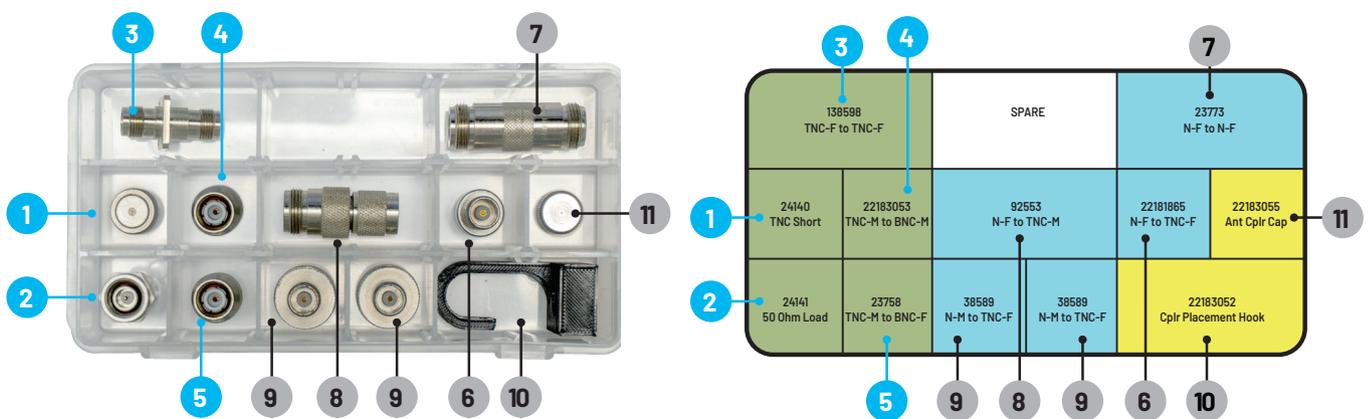


Figure 1: Adapter Kit

Physical Characteristics

Test Set	12" H x 5.3" W x 3.75" D (30.48 cm x 13.5 cm x 9.5 cm)
Transit Case Size	24.5" H x 19.3" W x 22.2" D (62.23 cm x 49.2 cm x 31 cm)
Weight	6.5 lbs. (2.94 kg) test set only
	32 lbs. (14.51 kg) shipping weight
Battery	4 hrs continuous, > 8 hrs typical
Power	100 - 250 VAC, 1.5 A max, 47-63 hz

Environmental

Operating Temp	-20° to 55°C (-4° to 131° F)
Storage Temp	-30° to 71°C (-22° to 159.8°F)

General Specification

Care Support Extended Warranty

AVX-10K-SILVER-5	5 Yr Total HW Warranty + Certified Calibrations - SILVER-5	60 Month
AVX-10K-SILVER-3	3 Yr Total HW Warranty + Certified Calibrations - SILVER-3	36 Month
AVX-10K-BRONZE-2	1 Yr Extended HW Warranty only - BRONZE-2	24 Month

Certified Calibration Care Plan Add-ons (Requires corresponding Silver Care/MaxCare Plan)

CERT-CAL-DATA-3	Certified Calibration Data - Pre and Post Cal Data Report for Care Plans - First 3 Years
CERT-CAL-DATA-5	Certified Calibration Data - Pre and Post Cal Data Report

Training

AVX-10K-TT	How to test with the AVX-10K - On-Site Instructor-Led Training, 1 day
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Test Compatibility

Transponder	Modes A, C, S
	ADS-B 1090 MHz In/Out/GICB
	UAT 978 MHz In/Out
TCAS/Target Generation	ADS-B In (Traffic - Target Gen) 1030 MHz (ADS-B, ADS-R, TIS-B) 978 MHz UAT (ADS-B, TIS-B, FIS-B)
Navigation	VOR, ILS (LOC/GS/MB), DME, TACAN
ELT	121.5, 243, 406 MHz Beacons
Radio Test (COMMS)	HF, VHF, UHF, SSB, AM/FM, SELCAL
Test Tools	Distance-To-Fault (DTF), VSWR, Cable Loss

Certificates and Certifications

AVX-10K Calibration Certificate (ISO 9001)(Included)
AVX-10K Calibration Certificate with Test Data (ISO 9001)
MIL-PRF-28800F Class 2
MIL-STD-810F
UL
EN
CE



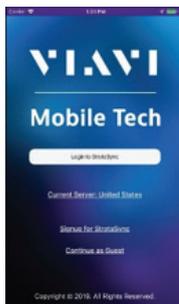
Rugged case provides storage for all accessories necessary for testing multiple systems.



Ergonomic integrated kick stand makes running tests and reviewing results simple.



Flat panel antenna, whip antenna, or antenna couplers provide a variety of methods to connect to the system under test.



Download the free VIAVI Mobile Tech app from the App Store® or Google Play store and remotely control the AVX-10K, access technical documentation, and training videos.



StrataSync is a free hosted, cloud-based solution that provides asset, configuration, and test data management for VIAVI instruments and ensures all instruments have the latest software installed.

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