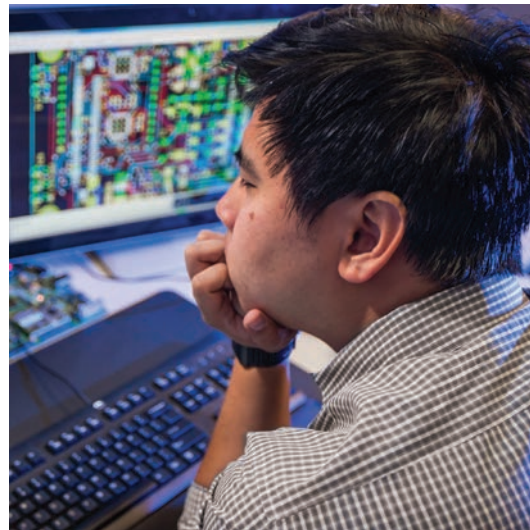


THREE GENERATIONS OF EXPERIENCE BEHIND NEXTGEN AVIONICS —

Building on systems engineering and integration know-how, FreeFlight Systems effectively implements comprehensive, high-integrity avionics solutions. We are focused on the practical application of NextGen technology to real-world operational needs — OEM, retro fit, platform or infrastructure.

FreeFlight Systems is a community of respected innovators in technologies of positioning, state-sensing, air traffic management datalinks — including rule-compliant ADS-B systems, data and flight management. An international brand, FreeFlight Systems is a trusted partner as well as a direct-source provider through an established network of relationships.



2020 STARTS TODAY.

A COMPLETE ADS-B SYSTEM

for less than \$2,000

EquipIt2020.com



For more information on this program, visit: EquipIt2020.com

3700 Interstate 35 South
Waco, Texas 76706-3756 USA
US: 800.487.4662
International: +1.254.662.0000

Made in U.S.A. 

freeflightsystems.com





RANGR ADS-B Lite unit

RANGR 978 Lite

A complete ADS-B system for light general aviation aircraft.

The RANGR Lite product line features rule-compliant, certified ADS-B systems.

The FDL-978-TXL (Out only) and the FDL-978-XVRL (In and Out), come complete, no "fine print," with built-in WAAS/GPS, and include ADS-B and GPS antennas, an install kit, control head, and/or a WiFi module if needed.

Highlights Include:

- + Complete, rule-compliant ADS-B solutions for those operating at FL180 and below
- + Upgradeability from the TXL to the XVRL
- + Both systems are TSO certified to C154c and C145c
- + The XVRL is also TSO certified to C157a

The Lite systems are based on our 'Blue Box' RANGR product line with some reduced feature sets. Lite systems are non-diversity capable and have a clear coat box finish. The In/Out XVRL product has the ability to display free weather and traffic via our WiFi module to a portable device only. Some of the I/O required for integration in larger aircraft has also been removed.

We offer the ability to upgrade from the TXL to the XVRL at any time.



For more information on ADS-B, visit ADSBUiversity.com

To find a participating dealer visit: EquipIt2020.com

RANGR LITE UNIVERSAL ACCESS TRANSCEIVER (UAT) ADS-B DATALINK SYSTEM

A summary of the RANGR Lite products and their capabilities is in the table below.

	RANGR TXL	RANGR XVRL
Model	FDL-978-TXL Transmitter includes internal WAAS/GPS sensor	FDL-978-XVRL Transceiver includes internal WAAS/GPS sensor
Capabilities	TSO Rule Compliant ADS-B Out	TSO Rule Compliant ADS-B In/Out
Link Frequency	978 MHz	978 MHz
Display Options	N/A	WiFi to Compatible Tablets

**BOTH PRODUCTS INCLUDE ANTENNAS AND INSTALLATION KITS
WIFI MODULE INCLUDED WITH XVRL**

CERTIFICATIONS

System	TSO-C154c (UAT) TSO-C145c (GNSS)	TSO-C154c (UAT) TSO-C145c (GNSS) TSO-C157a (FIS-B) TSO-C195a (TIS-B/Traffic)
Design Assurance	DO-160G DO-178B Level C DO-254 Level C SW/HW	DO-160G DO-178B Level C DO-254 Level C SW/HW
Installation Approvals	STC approved in accordance with AC 20-165A, AC 20-172A	

PHYSICAL CHARACTERISTICS

(Includes RANGR TXL, RANGR XVRL models)

Size	1.7" H 5.0" W 5.8" D
Weight	Less than 1 pound
Transponder Interface	Mode A/C Mode S
Interface	4 RS-232/422 1 RS-485 4 Discrete Inputs 2 Discrete Outputs
Power Requirements	10-40 VDC 0.2 A at 12 VDC

SERIAL-WIFI TRANSCEIVER

Certifications	PMA-d
FCC Identification	T9JRN171-1
Physical Dimensions	1.0" H 3.1" W 4.0" D
Weight	2.9 oz (0.08 kg)
Operating Temp	-40°C to +70°C
Storage Temp	-55°C to +85°C
Power Requirements	10-37 VDC, 0.4 A at 28 VDC
Frequency	2402 ~ 2480MHz
Receiver Sensitivity	-83dBm typical

TC 978 CONTROL HEAD

Certification	
TSO Compliance	TSO-C154c TSO-C88b
ETSO Compliance	ETSO-C88a
Physical Dimensions	1.8" H 2.5" W 2.0" D
Weight	0.11 lbs (0.05 kg)
Software	DO-178B Level B
Panel cut-out	Standard 2.25 inch (round adapters provided)
Altitude	35,000 ft.
Power Requirements	5.5-10 VDC, provided by FDL-978 unit