



9-Series, A Path Forward

As of May 1, 2021 iDirect Government's 8-Series product line will reach End-of-Support. When initially introduced, the 8-Series satellite routers dramatically changed satellite communications for our Government and military customers. SCPC was no longer the communications standard. Instead, TDMA and DVB-S2/ACM became the norm. The 8-Series remotes brought increased levels of security and speed. But as our customers' needs have continued to evolve, so have our solutions.

The Time to Upgrade is NOW

iDirectGov's 9-Series remotes, our most powerful, secure remotes to date, deliver enhanced capabilities and features designed to make existing networks run with even greater performance, flexibility, efficiency, and improved Size, Weight, and Power. The core 9-Series remotes are available in four form factors: 950mp integrated satellite router board, 900 integrated satellite router board, the 9050 OM outdoor enclosure, and the 9350 rack mount. Additionally, we have three airborne variants:

the 980 integrated satellite router board, the 9800 AE (based on the ARINC 600 enclosure) and the 9800 AR rack mount.

950mp

When the e850mp was first introduced it changed the man portable market by providing a compact SATCOM solution that could easily be transported in a service member's rucksack. Size, weight, and power are essential when outfitting our Nation's Military. When developing the 950mp, reducing SWaP was an essential

element in the design. As a result we now have a product with an overall 30% reduction in SWaP. The 950mp is just 46 sq. inches and 1.45 lbs. compared to the 69 sq. inches and 2 lbs. of its predecessor the 850mp. the reduced size and weight of the 950mp directly led to an overall size and weight reduction for man portable terminals.

In addition to bringing down the size and weight, the 950mp uses Transmit Keyline, reducing the power consumption to 20 watts from 44 watts and prolonging the battery life during operation. Maintaining satellite communications is a critical requirement for the 950mp in which the only available power comes from batteries or from a small generator with limited fuel. The overall design of the 950mp makes it overall more energy efficient than its predecessor the e850mp.

9050OM

The 9050OM is unique to the 9-Series product line - our first IP67/MIL-STD 810G rated enclosure protects our 950mp from the elements. Weighing approximately five pounds this portable unit is designed to withstand the elements including temperatures ranging from -40F to +131 F, wind, rain – including submersion, and rapid pressure changes. The design provides added flexibility to the already feature-rich 950mp.

900 AND 9350

The 900 and the 9350 are the new “work horse” remotes for command and control communications replacing the e800 and e8350. Like their predecessors, the 900 is a board level satellite router and the 9350 is a 1 RU, 19” rackmount with an integrated 900 board.

The 900 and 9350 both feature dual demodulators. The demodulators can be deployed using a single antenna that has the signal go to both demodulators (one antenna, 2 carriers), or be configured with two antennas that go to two separate demodulators (2 antennas, 1 carrier each).

DUAL-MODE

Dual-mode gives users the benefit of targeted connectivity combined with ubiquitous global coverage. iDirectGov’s 9-Series modems can operate on both Evolution and Velocity networks, giving the user unparalleled flexibility.

Security

FIPS

While our 8-Series remotes were FIPS140-2 Level 2 certified, all remotes in the 9-series family are FIPS 140-2 Level 3 certified. This higher level of certification provides the user with confidence that not only are these remotes tamper-evident like the 8-Series, but tamper evidence has been taken a step further in that the modem will zeroize all plaintext critical security parameters when the cryptographic module is subject to unauthorized access. The 9350 also supports a zeroize button that the user can trigger for zeroization of the cryptographic module.

TRANSEC

With the release of the 9-Series satellite routers and Defense Line Cards (DLCs), iDirectGov has delivered a TRANSEC module designed to meet the stringent FIPS 140-2 Level 3 requirements as defined by the National Institute of Standards and Technology (NIST). Through hardware and software development, the embedded yet independent TRANSEC module operates through a separate and trusted path from all other interfaces on the product. The module features a robust physical security measure for tamper prevention and the capability to zeroize the security keys or critical security parameters (CSPs) stored on the module itself. If required, the revocation of keys or the zeroization of the remotes can be accomplished either over-the-air (OTA) by the hub operator or locally on the remote by authorized personnel.

iDirectGov has further enhanced its TRANSEC capabilities by securing one-way broadcast transmissions. Based on its encapsulation method, the iDirectGov platform can provide the same level of security for one-way networks as it provides for two-way networks mentioned above. The 900 and 9350 remotes with dual-

modulator support are capable of dual-domain TRANSEC – the ability to establish two independent chains of trust (sets of X.509) between two different Certificate Authorities (CAs).

An example of this feature is having one demodulator on a two-way TRANSEC network while the second demodulator receives a separate one-way TRANSEC secured broadcast. With one-way TRANSEC, Elliptical Curve Cryptography (ECC) is used for key generation along with X.509 certificates for authentication in each security domain.

iDirectGov's 9-Series Satellite Routers and DLCs have been designed to balance higher performance and data rates plus increased functionality and security with the solid reliability the iDirectGov brand represents.

INFORMATION ASSURANCE

SHIELD is a service available to users operating 9-Series remotes beginning with Major Evolution Defense release 4.2.2.0. iDirectGov identifies potential vulnerabilities in remotes using a DoD-approved scanning tool called Nessus developed by Tenable. The Nessus scanner identifies vulnerabilities that could allow unauthorized control or access to sensitive data, misconfiguration, default passwords and service vulnerabilities.

iDirectGov conducts the SHIELD scans to evaluate the 9-Series remotes for vulnerabilities that hackers could use to access a system or network. The data is then used to design a Remote Security Bulletin (RSB) that is posted to the iDirectGov TAC website for iSupport Premium customers and for SHIELD subscribers to load to their remote hardware. These security

update packages for remotes are targeted for a semi-annual cadence and cover all 9-Series modems including airborne variants.

SIGNAL EXCISION

Available via license on 9-Series remotes, iDirectGov addresses the concern of interference through signal excision technology. iDirectGov's Communications Signal Interference Removal (CSIR) eliminates an interfering signal from the authorized signal of interest (SOI). With only the SOI's center frequency, bandwidth and symbol rate information, iDirectGov's CSIR will monitor and remove an interfering signal in real time. iDirectGov's CSIR can remove a variety of unwanted signals, whether they are modulated carriers, unmodulated tones or interference that changes characteristics (such as burst or frequency hopping).

iDirectGov CSIR is a mature digital signal processing solution designed to excise an interfering signal before it reaches the receiver's demodulator and decoder. Based on the SOI's information noted above, iDirectGov CSIR can monitor and remove an interfering signal with as little as 1dB of power separation from the SOI. Additionally, iDirect CSIR has little to no effect on the signal quality of the SOI.

Why Wait?

So, what are you waiting for? The time to upgrade is NOW! The 8-Series remotes are approaching End of Support on May 1, 2021. Take advantage of all the features and functionalities of our 9-Series and have the most powerful and secure SATCOM network available.

9-SERIES ADVANTAGES OVER 8-SERIES

Feature	8-Series (e850mp, e800)	9-Series (900, 950mp)
Max Single Channel TDMA Symbol Rate	7.5 Msps	29 Msps
Packet Per Second (PPS)	Up to 5,000	Up to 80,000
Multi-Image Support	1	4
Status Interface	Systray	Web API
Power Required	44 watts (e850mp)	20 watts (950mp)
Footprint	69 Square Inches (e850mp)	46.2 Square Inches (950mp)
DVB-S2 Demodulator Support	1	2 (900)
Velocity HTS Support	No	Yes
FIPS Certification	FIPS 140-2 Level 2	FIPS 140-2 Level 3
WGS Certification	Yes (limited to iDX 3.4.3.8)	Yes
Transport Layer Security (TLS) Support	1.1	1.2
SHIELD (IA)*	No	Yes
CSIR	No	Yes

About

iDirect Government, LLC a wholly owned subsidiary of ST Engineering iDirect, delivers secure satellite-based voice, video and data applications with anytime and anywhere connectivity in the air, at sea and on land. iDirect Government's advanced satellite IP solutions are used for critical ISR, airborne, maritime and COTM communications to support force protection, logistics, situational awareness, disaster recovery and emergency response. Building on more than 15 years of global satellite communications experience, iDirect Government provides the most bandwidth-efficient, scalable and highly secure platform to meet specialized applications of multiple federal, state and local government agencies, including the Department of Defense, both domestically and abroad.

iDirect Government's specialized technology includes transmission security (TRANSEC), Communication Signal Interference Removal (CSIR™) anti-jam technology and Open Antenna Modem Interface Protocol (OpenAMIP).

iDirect Government is headquartered in Herndon, Va. For more information, please visit <http://www.idirectgov.com>.