



# PATHFINDER

*The Army GPS Newsletter Since 1994*

An informal electronic newsletter published for the GPS user community by PM GPS. Information presented is based on published and submitted news items of interest to the general user. Widest dissemination and reproduction is encouraged. Newsworthy items are solicited for inclusion. Editor Don Mulligan at PM GPS, Aberdeen Proving Ground MD DSN 298-9372 or (410) 278-9372 or email: [Donald.Mulligan1@us.army.mil](mailto:Donald.Mulligan1@us.army.mil)

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## “Wrist-mounted” GPS Receiver to Augment DAGR!

### From The Product Manager



*Hello GPS Users!*

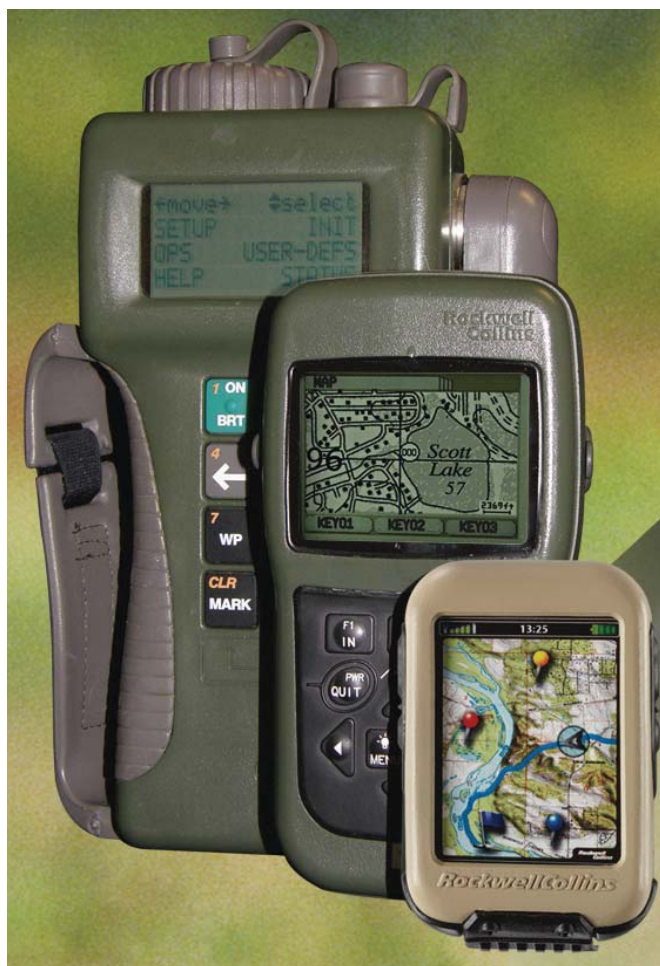
The big news is the Army decision to support a new wrist-mounted military GPS receiver!

While the full-feature Defense Advanced GPS Receiver (DAGR) remains in production to support all ground-mobile missions, the brand new Soldier Wearable Advanced GPS Receiver (SWAGR) will provide a sub-set of critical DAGR capabilities tailored to the needs of individual infantry and airborne soldiers. Please read the accompanying articles about the Micro-DAGR and the SWAGR and let us know what you think!

With this issue I say Goodbye to the Army GPS team! As I depart, I salute the folks who work hard every day to field, train and support Army users worldwide. I extend my sincere gratitude and appreciation to the entire team – contractor, military and civilian. They are dedicated to you, our Warfighters!

*Jay Spencer*

LTC, QM,  
Product Manager, GPS



*Micro-DAGR is an example of the next-generation SWAGR design, shown here in front of predecessor DAGR and PLGR. SWAGR will provide soldier-essential functions in a super-lightweight form factor to augment DAGR. See the article on Page 2.*

**Only a keyed military GPS receiver provides you with SECURE GPS.**

## SWAGR – Yes, Army PM GPS Has Heard Your Requests!

Army PM GPS at Aberdeen Proving Ground, MD is working with the Rapid Equipping Force (REF) office to introduce the military GPS receiver that Soldiers have been asking for!

The super-lightweight SAASM-based GPS receiver will go by the name Soldier Wearable Advanced GPS Receiver or “SWAGR”.

The REF office has placed a contract for the first 100 SWAGR to meet the immediate needs of a deploying unit. This first batch of SWAGRs is being produced by Rockwell Collins Inc., the same company that builds the current military handheld receiver, Defense Advanced GPS Receiver (DAGR). Rockwell Collins calls their version of the SWAGR the “Micro-DAGR”.

This initial contract was ‘fast-tracked’ by the REF so we could get our hands on working product quickly. The plan is to get these initial products out to the field in order to get some critical feedback: What hardware and software features needs to be added or deleted in order to make this the best possible military GPS receiver for the individual soldier?

PM GPS will then work with the CECOM Acquisition Center to award a “production” contract to buy SWAGR in quantities necessary to augment the DAGR.

Many of the key design elements of the SWAGR are already present in the Micro-DAGR design. (See the sidebar at right for key design features). Some important features will only be added later when we move to the full SWAGR design.

Comparing the SWAGR and DAGR, you can see the obvious differences in size. While the DAGR is a handheld device that can also be installed to support host vehicle requirements for GPS data, the SWAGR is focused on the individual soldier. The design is small enough to be worn on the wrist, carried in an ACU pocket or attached to a lanyard! One thing common to



***The Micro-DAGR measures about 3 X 2 1/2 inches! All Micro-DAGR pictures courtesy Rockwell Collins***

SWAGR and DAGR is the cryptology-enabled Selective Availability / Anti-Spoof Module (SAASM) that allows these receivers to access the military-only GPS signal. Some users may not realize or appreciate the value of using a keyed military receiver but it remains a critical issue when performing a combat or combat support operation. The use of keyed PPS GPS is a Dept. of Defense mandate for using GPS on the battlefield.

Does SWAGR replace DAGR? No. SWAGR only provides a sub-set of DAGR capabilities so it cannot replace DAGR which was designed to cover all the bases, both handheld users and installations where DAGR provides GPS data to support communications, target location and time synchronization.

How about swapping DAGR for Micro-DAGR? No, at this time the initial SWAGR will be a unit-funded supplement to DAGR. However, Army PM GPS is working with HQDA about possible future fielding of SWAGR. For now the action is with Unit Commander's to contact PM GPS for SWAGR procurement.

SWAGR is all about the individual soldier. “For the Soldier by the Soldier” means this product concept was based on input from Army

Rangers, Paratroopers, Cavalry Troopers and Special Forces. We used surveys, war-fighter panels, direct interaction with troops returning from deployment and Operational Need Statements (ONS) from operating deployed units. The result of all that feedback is the SWAGR concept and the first-edition called Micro-DAGR that you see here.

A common feedback from soldiers was: “Give me a Commercial Off The Shelf Item (COTS) with secure capabilities.” Soldiers want the commercial designs they are familiar with; products you can take out of the box and learn to use through a quick start guide and easy-to-read user manual. But most soldiers also know that SAASM is a key technology needed for critical battlefield operations so the combination of the COTS design with SAASM is exactly what we are working to provide.

Right now the first batch of Micro-DAGRs are being assembled and tested!

Visit the Army PM GPS website at <https://gps.army.mil>.

*Continued next page*

### **KEY DESIGN FEATURES!**

- Soldier Oriented nav functions
- Small enough for ACU pocket
- Can be worn using wrist strap or lanyard mount
- water –resistant and shock resistant package
- Touch screen
- Color display
- Moving maps, internal compass
- Digital camera, MP3 player \*

(\*Not all SWAGR design features are in the first edition SWAGR called Micro-DAGR)

## Micro-DAGR Today. SWAGR Tomorrow!



*The image above illustrates the relative size of PLGR, DAGR and Micro-DAGR. At the right is an artists' rendering of the color map display planned for the production version! Although the products shown above are obviously very different in size, weight and features, one thing they have in common is military GPS technology that enables them to access the secure GPS signal for the ultimate battlefield performance.*

*Continued from previous page*

Click on the PRODUCT/SWAGR tab at the GPS website to view the latest information on Micro-DAGR and the SWAGR program.

And for information on how your unit can procure Micro-DAGR, contact the Assistant Product Manager for GPS, MAJ Alex Babington at (410) 278-9400, BB 443-987-2184, DSN 298-9400, Alexan-

### **So Does the Arrival of SWAGR Mean Commercial GPS is Okay?**

No! It is common knowledge that many soldiers use commercial GPS receivers in their daily activities. In fact, commercial GPS receivers in the Army probably outnumber military GPS receivers by a wide margin. This situation developed for a number of reasons, but the key point for soldiers to keep

in mind is this: Commercial GPS receivers are "okay" as long as they are only used for "personal situational awareness". This authority comes from the Chairman Joint Chief of Staff who stresses the requirement that only **keyed PPS GPS receivers** be used for any mission critical function.

Army PM GPS is responsible for supporting military GPS receivers issued to Army units. This includes the [Precision Lightweight GPS Receiver \(PLGR\)](#) and [Defense Advanced GPS Receiver \(DAGR\)](#) along with some 'legacy' PPS-rated systems that are still in use.

Army PM GPS is not responsible to support commercial GPS receivers. If you have a GPS receiver that needs repair and you are not sure if it is a military receiver, check the GPS website Product Tabs. All the principle military GPS receivers have their own tabs. The Legacy Tab

includes the older military GPS systems that are still in use.

If your receiver is not listed, it is probably a commercial receiver. You can double-check that by sending an email via the website "User Request" or "Contact Us" tab. Provide the product, part number, manufacturer and we will confirm to the best of our ability whether or not it contains a COMSEC security device.

Commercial GPS receivers do not contain COMSEC security devices and can be disposed of locally. Any military GPS receiver with a COMSEC chip is subject to specific demilitarization procedures.

If you aren't sure, let's be "safe not sorry": you can return "commercial" GPS receivers to PM GPS for a final check and disposal. Contact us via the website "User Request" tab with information and we will follow-up.

## PM GPS Wants to Hear from You.



We aren't done asking for Soldier Feedback! Army PM GPS is soliciting feedback from leaders at all levels on the proposed "Unit of Issue" for [Soldier Wearable Advanced GPS Receiver \(SWAGR\)](#). We need your input on how [Defense Advanced GPS Receiver \(DAGR\)](#) and SWAGR should complement each other at the unit level.

For example:

Should every Soldier have a SWAGR to know where they are on the battlefield?

Should only green tab leaders have the DAGR with its more advanced coordination functions?

Who should be outfitted with the DAGR and who should be outfitted with the SWAGR?

PM GPS has a pretty good idea what the answer is. However, since this is a product that was originally designed by Soldiers, we would like to continue with that point of view so if you're a soldier who knows the Unit of Issue game, drop us a note, share your input!

Contact Army PM GPS by using the "User Request" feature at the website at <https://gps.army.mil> or contact the product manager, MAJ Babington at DSN 298-9400, Alexander.babington@us.army.mil

## Delayed Delivery of Replacement DAGR to Overseas Users is Resolved.

As of early January 2010, Rockwell Collins resumed shipments of replacement [Defense Advanced GPS Receiver \(DAGR\)](#) GPS receivers to [Army Post Office \(APO\)/ Fleet Post Office \( FPO\)](#) addresses.

These shipments had been disrupted in October 2009 due to [Defense Contract Management Agency \(DCMA\)](#) concerns which have now been resolved. Several hundred shipments were delayed during this timeframe and the Defense Transportation Agency attempted to use alternative means of shipment to try to provide support to theater customers which were not always successful. With the restoration of return service using the US Postal Service, Rockwell is now shipping replacement DAGR to originating APO FPO addresses.

We are also working to locate missed deliveries and get DAGR to all users who need them.

The estimated completion date to ship all overdue replacements is February 1<sup>st</sup>, with an in-theater target arrival date no later than February 15<sup>th</sup>.

Any organization that returned DAGR from an APO FPO address during the past 90 days and has not received replacement items should contact Army PM GPS via the website User Request or Contact Us tabs or by direct email or telephone to [Shelby.Fortune@us.army.mil](mailto:Shelby.Fortune@us.army.mil) (410) 278-9366 / DSN 298-9366.

## DAGR Operating Software Status

The current version of [Defense Advanced GPS Receiver \(DAGR\)](#) software was released back in March 2009.

984-2461-016 for AN/PSN13 or  
984-3006-006 for AN/PSN-13A

The January 2009 issue of this newsletter outlined the features of the new operating software. The October 2009 issue of PS Magazine also highlighted the new DAGR software. Read both articles at the publications link on the GPS website.

Check your DAGR software Version #; (it pops up when you turn on DAGR or you can go through the menu screens for a software version check).

The next DAGR Software update will provide Mission Planning capabilities and other operating enhancements. It is scheduled for release in Spring 2010. The next issue of this newsletter will carry all the details.

## More Big News on GPS Technology in the Next issue:

The next issue of this newsletter will contain information about an application of new technology that Army PM GPS is working on: Wireless SAASM technology that can interface with commercial GPS devices. This is an example of our ongoing efforts to bring commercial technology to the military GPS user community.

See you next issue.

## ***A Little Help PLEASE When Returning DAGR for Warranty Repair!***

The folks at Cedar Rapids Iowa who run the DAGR warranty repair depot ask users to include a little more information when returning DAGRs for repair.

Please include a commercial phone number, email address along with DODAAC so that the repair team can contact you if the need arises. Add your contact info in the remarks or open text section of whatever form you use to accompany returning DAGRs.

## ***GPS Mil WIKI and Mil Blog are here!***

During 2009, PM GPS began implementing Army Knowledge Management (KM) Principles in day-to-day operations.

Following the KM Objectives, collaboration tools have been put into place for use by PM GPS Team members and more importantly, you, our customers.

The milSuite products (milWiki, milBlog, and milBook, are now up and running. We are seeing a steady rate of growth in activity at each site.

Internally we use SharePoint for online document collaboration and as a document repository site.

Sametime/GreenForce Tracker is being used to link PM GPS's geographically dispersed locations in real-time.

We invite readers to use the Mil Blog or WIKI to contact PM GPS and the rest of our Team!

Go to: <https://www.kc.army.mil/milsuite> and search "PM GPS" or "GPS".

## ***DAGR Now Included in the SKL Menu!***

Unit COMSEC officers are familiar with loading GPS crypto-keys to PLGR and DAGR using the AN/PYQ-10 Simple Key Loader ([SKL](#)).

The SKL was designed a few years ago to replace the AN/CYZ-10. At that time, the primary military GPS receiver in use was the PLGR. Since then, the DAGR has superseded PLGR in many organizations.

The "pull down" menu selection in the original version of SKL included PLGR but did not include DAGR. COMSEC custodians know to use "other" as the menu choice when loading keys to DAGR. The DAGR TM also provides guidance on how to load keys using "other" on the SKL menu.

The PM for Crypto and Networking Initialization and PM GPS worked together to update the SKL menu to include "DAGR" to make life a little easier. This feature will be included in the latest update to SKL operating software (version 6.0) and the supporting TM.

Target release date is 2QFY10. The PM Crypto and Network folks also have a help desk at 1-866-651-1199.



Authorized SKL operators can access latest SKL software and TM information at the support site:  
<https://rdit.army.mil/commsec/menu.cfm>.

## ***Old Soldier PLGR Still Serving***

The AN/PSN-11 and AN/PSN-11(V) PLGRs remain in service with many units even as DAGR is replacing them. Army PM GPS is collecting and re-issuing PLGR to certain users; [and](#) we are disposing of the older model PLGRs (mostly Tan in color). We are taking steps to "pure fleet" as many organization as we can, meaning we swap out remaining PLGRs so that the organization is fully equipped with DAGRs. Obviously this simplifies your MTOE accounting and unit sustainment process by eliminating one of two military GPS receivers to

be supported at the unit level. We demilitarize and dispose of tan PLGR in a specific authorized manner. They may be obsolete or excess to unit requirements, but PLGR contain a COMSEC security device and must be disposed of in accordance with GPS Security Policy. Turn-in PLGR to your unit supply activity. Organizations holding surplus PLGR can contact the Item manager or PM GPS logistics at the GPS website if they have any questions about what to do with these legacy GPS receivers.



## **How to Contact PM GPS <https://gps.army.mil>**

### **Product Manager (PM GPS)**

Ft Monmouth, NJ, Warner Robins, GA and  
Aberdeen Proving Grounds, MD

(410) 278-9387, DSN 298-9387

### **Deputy PM GPS (DPM GPS)**

Mr. Eric Adair  
410) 278-9386, DSN 298-9386  
eric.adair@us.army.mil

### **Army Fielding Manager**

Mr. Dennis Rotenberry  
410) 278-9372, DSN 298-9372  
dennis.rotenberry@us.army.mil

### **Logistics Manager**

*For Army Logistics Issues*  
Mr. Rodney Griffin  
410) 278-9388, DSN 298-938  
rodney.griffin@us.army.mil

For other Service Logistics on DAGR, PLGR:

Mr. Stephen Morrissey  
478) 926-6089, DSN 468-6089  
Stephen.morrissey@robins.af.mil

### **GPS Chief Engineer**

Mr. Frank Rowe  
478) 926-9511 DSN: 468-9511  
frank.rowe@robins.af.mil

### **Army Weapon System Integrations—DAGR**

Mr. Willie Jackson  
410) 278-9379, DSN 298-9379  
willie.c.jackson@us.army.mil

### **Army Weapon System Integrations—GB-GRAM**

Mr. Mike Vincelli  
410) 278-9391 DSN 298-9391  
michael.vincelli@us.army.mil

### **Who to Call for Army Issues?**

Call the Army Logistics Manager for:

- Army GPS User Equipment Policy
- User Equipment Authorizations & Procurement
- Maintenance Status or GPS Loans

Call the Army Fielding Manager for Army DAGR fielding and NET issues.

### **Other Service/Civilian Agencies?**

Contact our representatives at the GPS Joint Service Support Office at Warner Robins AFB, Georgia: Frank Rowe or Steve Morrissey as listed in the column at left.

### **Or use the User Information Request Form**

**Go to <https://gps.army.mil>**

Click on the “Contact PM GPS” tab at the homepage.

### **Or use the GPS Help Line**

by contacting Mr Vincent Solomeno at

410) 278-9371 DSN: 298-9371

Vincent.solomeno@us.army.mil

### **Please Note**

***We have had some recent personnel changes. If you have trouble reaching anyone at GPS, please use the “contact PM GPS” tab at our homepage and we will route your query to the right person.***

## **Why Use Military instead of Commercial GPS?**

**Soldier Safety! Mission Accuracy! Signal Protection!**

**View the video on the GPS homepage! <https://gps.army.mil>**