



Application Note

Migrating from oMG to AirLink MG90

Affects:

- oMG 2000, oMG 500
- AirLink MG90

Introduction

This document is intended to familiarize Sierra Wireless oMG users with the new AirLink® MG90 platform in order to either add MG90 gateways to their existing fleet, or replace a fleet of aging oMG gateways with the new model.

About the AirLink MG90

The AirLink MG90 is the successor product to the oMG 2000 and oMG 500, and is a full functional replacement that can be used to extend existing oMG deployments. The MG90 provides all the familiar features and benefits of the oMG 2000 and 500, including seamless connectivity across multiple cellular and Wi-Fi networks, public safety Band 14, mobile-optimized VPN, unparalleled network management, and world-class technical support.

The MG90 builds on the oMG with a number of additional benefits:

- Greater performance, reach, and coverage for the vehicle area network
- Full coverage of all major network operators on a single SKU
- Support for more connected devices in the vehicle through Gigabit Ethernet, Gigabit Wi-Fi, I/O and integrated Bluetooth support
- More accurate and reliable vehicle location through state-of-the-art GNSS technology
- An even more rugged design to overcome extreme temperatures, water and dust ingress, and vehicle power transients

Preparing for Migration or Addition

If you would like to fix any configuration issues, or review and refresh your settings before adding new devices to your fleet, Sierra Wireless can assist with your project either on-site or remotely. Contact your Sierra Wireless Partner or Sierra Wireless Sales to inquire about assistance¹.

Note: Any support contract covering a deployment of oMGs can be extended to cover MG90s as well.

As you prepare to deploy MG90 devices, it is recommended that you upgrade your “golden master” unit to the latest software version available from [The Source](#) before you start building the configuration.

1. Sierra Wireless Inside Sales can be reached by emailing insidesales@sierrawireless.com, or phoning toll-free 1-877-687-7795.

Hardware Considerations

The MG90 has a few physical differences from the oMG that you must consider when replacing oMG devices with MG90 devices, including:

- **Gateway "footprint"**—The MG90 has a slightly smaller physical footprint than the oMG. If you have mounting brackets installed, an oMG–MG mounting bracket adapter kit is available to fit the new unit in the older bracket (see [Accessories](#) on page 6).
- **Power connector**—The MG90 has a rugged, automotive-grade power connector and a much heavier power cable. Sierra Wireless recommends that you use the MG90 wiring harness, but if you prefer to reuse the oMG harness then Sierra has a cable and antenna adapter kit available (see [Accessories](#) on page 6).
- **Antenna connectors**—The MG90 has SMA antenna connectors for each cellular and Wi-Fi radio module—12 connectors in all (Cellular × 4, Wi-Fi × 6, GNSS, and Bluetooth). oMGs, depending on the model, have 7 or 11 connectors. The antennas used on certain oMG devices use different connector types, and may need to be replaced:
 - **Older oMGs** have TNC connectors. Although you can purchase TNC-to-SMA adapters, Sierra Wireless very strongly recommends that you upgrade your Wi-Fi and cellular antennas to take full advantage of the high performance 802.11ac 3×3 MIMO Wi-Fi and LTE Advanced capabilities of the MG90. Older antennas only have a single element, and may not support the frequencies now in use for LTE. See the [Sierra Wireless AirLink Antennas page](#) for MG90 antenna specifications and recommendations.
 - **Newer oMGs** have reverse-polarity SMA (RP-SMA) connectors. The cable and antenna adapter kit (see [Accessories](#) on page 6) includes RP-SMA to SMA adapters to reuse earlier 4G/LTE antennas with the new MG90. Note that depending on the age of the older antennas, they may not support all the current LTE bands in use by your cellular provider.
- **Ethernet ports and WAN Uplink**—The default uplink Ethernet port on the MG90 is port 5. The default uplink Ethernet port on the oMG is port 4. The default Ethernet port allows you to configure devices without dealing with SIM cards and antennas. Note that the sixth RJ45 port on the MG90 is not actually an Ethernet port—it is a high-speed serial port reserved for future use and cannot be used for network connection.
- **Power conditioning**—The MG90 has an improved power supply that is less susceptible to issues caused by unstable vehicle power connections. If you used a line conditioner of some sort with your oMG systems, you will probably find that it is not required with the MG90.

Software Considerations

oMG configuration files cannot be used on the MG90—the MG90 uses different software and has different internal hardware components that require different hardware drivers.

Note: The oMG uses software version 3.x, and the MG90 starts at version 4.x.

Local Configuration Interface

The LCI interface has not changed significantly from the oMG to the MG90. The MG90 interface has a few additions to support the new hardware configuration, but has largely the same look and feel as the oMG interface.

To log in to the MG90's LCI, connect to the router, and then go to:

- <http://welcome.to.sierrawireless/MG-LCI>

Note: The address for the oMG was welcome.to.inmotion.

–or–

- <http://172.22.0.1/MG-LCI>

Note: To use welcome.to.sierrawireless, the MG90 must be the only network you are connected to, as the DNS name must be resolved by the MG90's local DNS server.

MG90 Server Compatibility

The MG90 is compatible with the recent versions of both AirLink Mobility Manager (AMM, from version 2.15.1 onwards) and AirLink Connection Manager (ACM) and can easily reside side-by-side with oMG devices using either of these servers. If you require assistance determining the version of your on-premise AMM or ACM servers, contact your support provider. Sierra Wireless regularly upgrades all hosted and accessible AMM servers with appropriate advance notice and coordination.

Creating the MG90 Configuration

To configure new MG90 devices to match an existing oMG configuration, you will have to replicate the configuration manually, screen-by-screen. Once you have created a “golden configuration” image on the MG90, you can use that as a basis for additional units just as you did with the oMG.

Sierra Wireless recommends that you follow the guidelines below to create the MG90 configuration. In general, it is best to work through the configuration screens left to right with few exceptions. Following the order of the screens as described below is recommended.

Note: For more information, see the [MG90 Series Software Configuration Guide](#), available from [The Source](#). The Software Configuration Guide describes how to configure various MG90 features, provides a full listing of interface parameters, and provides additional information for troubleshooting the MG90.

1. **Devices**—Create friendly names appropriate for the new devices, but probably not identical to the oMG names (different names will allow you to differentiate the devices in reporting). Specify the uses of devices according to the previous configuration.

Note: Wi-Fi A and B are now the same component (unlike in oMGs). If you use Wi-Fi for both WAN and LAN, it is recommended to leave Wi-Fi A as WAN and B as LAN for cabling consistency.

2. Security—Ensure that you change the default admin password.

Because you cannot see the letters as you enter them and there is no “confirm password” field, it is good practice to enter the new password in Notepad or some other simple text application, and copy and paste it into the MG90.

It is recommended that you test the new login ID and password right away, to ensure you properly captured the password before you continue. If you make an unrecoverable mistake setting the new password, you will need to reset the MG90 to factory default settings and start again. See the [AirLink MG90 Hardware User Guide](#) for more information.

3. LAN—Allocate Ethernet ports, and create LAN segments and Wi-Fi SSIDs according to your standard practice.

- If you require unique LAN segments, follow your addressing plan to create them. If you are replacing oMGs with MG90s and are configuring LAN to LAN VPN, carefully document the new LAN allocation according to serial number and/or IP address so you can program your VPN concentrator properly.
- You will probably want to name LAN segments and Wi-Fi SSIDs the same way for the MG90 as you did for the oMG.
- If you have Virtual LANs, Networking rules or LAN throughput settings configured, replicate them in the new configuration.
- If you have configured MAC address filtering on any systems, you need to upload the whitelist or blacklist files to the new systems. You can do this on the AMM server using the Config > Deploy > Upload feature.

4. WAN—Recreate WAN items in the following order:

- a. Monitors**—If you have monitors configured, replicate them in the MG90 master. You should consider having two monitors for each link, which can be the same if desired and appropriate.
- b. Wi-Fi Networks**—Configure your WAN Wi-Fi to connect to your depot or station Wi-Fi, if available. Add the desired monitors accordingly, which will often be directed to an internal DNS or similar server, or a network switch of some kind.
- c. Links**—Configure the WAN links for Cellular, Wi-Fi and any others you may have customized. Include the monitors that you've already created, and specify the WAN Wi-Fi network profile(s).
 - Recreate the policies for Dynamic Prioritization, etc. once the links are configured and tested.
 - Recreate any networking rules (local or global) as required.
 - Recreate the VPN profiles and add them to the appropriate Cellular and Wi-Fi network profiles after you know the links are working as expected.

5. GPS—Configure the local and remote content and forwarding mechanisms as per the previous configuration. Note that the GPS screen has changed very slightly. Some entries included in the latest oMG releases have been removed because the MG90 has the capacity for sensor-based GPS tracking.

Note that you may have extraneous entries in the old system, so you may want to contact your CAD/AVL administrator to determine the most effective forwarding mechanism and content required.

6. **General**—Configure the General settings as follows:
 - a. Configure the Startup and Shutdown behavior to suit your existing installation.
 - b. If you have configured Advanced Routing Rules to support specific requirements in your deployment, you can recreate these rules by cutting and pasting content from the oMG system to the MG90 system.
 - c. A new feature in the MG90 software is the ability to configure software upgrade options so the system will only attempt to apply an upgrade during specific periods. You can configure this in your master configuration, or you can set the schedule on the AMM when you set up an upgrade for one or more routers.
 - d. Configure the Radio Module Firmware Options if necessary (for example, if you had configured options for the oMG). Otherwise, it is recommended that you leave the default settings.

In most cases, this completes the configuration of the MG90 system based on the previous oMG configuration. If you have other scripts or configuration files for private DNS zone configuration, network time server setup, or other items, you can check for them using the file list display in the AMM Config > Deploy > Deploy page. If you are not familiar with specific requirements for your organization, then they likely have not been implemented. If you are unsure, contact your support provider or Sierra Wireless support to ensure nothing is missed.

Additional Resources

For complete product documentation and software downloads, visit the following product pages on [The Source](#):

- [AirLink oMG 2000 product page](#)
- [AirLink oMG 500 product page](#)
- [AirLink MG90 product page](#)

Accessories

You can purchase the following accessories to assist you in adapting your existing oMG installation to an MG90 installation.

Cable and antenna adapter kit

This adapter kit enables the installation of an MG90 into an existing oMG deployment (with oMG DC cable part number IMTCAB001 and antenna leads).

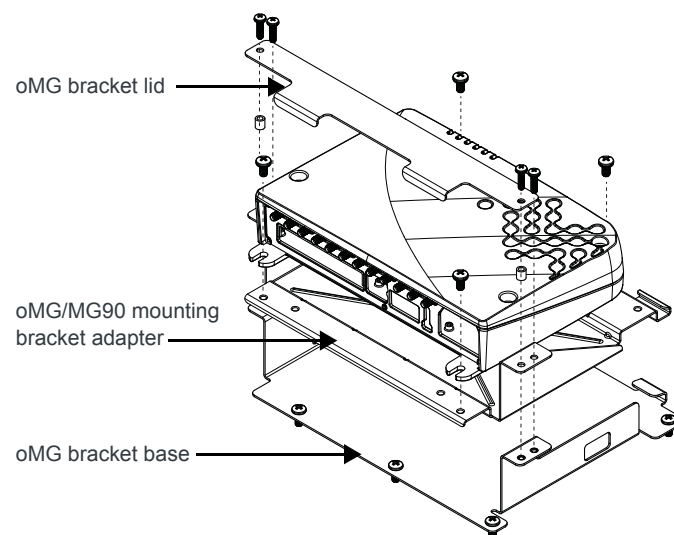
SKU	6001140
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oMG–MG mounting bracket adapter

This adapter enables the mounting of MG90 into an existing oMG installation (with quick-release bracket part number IMTMIS042).

SKU	6001138
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Document History

Revision number	Release date	Changes
1	April 2019	New document
2	May 2019	Added Additional Resources and links

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