RAMPAGE 6
Android (AOSP) FAQs

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Can I download applications from the Android Market/Google Play?
Our Android is based on the Android Open Source Project (AOSP) which does not include support for Google Play. We have found that many of our customers do not want Google Play on the rugged device, so they can control what apps are installed. Users have the following options, and perhaps more, for installing applications.

- Alternative markets like the Amazon App Store, GetJar, or SlideME can be installed to provide functionality that is similar to Google Play.
- rs can also install applications using the "adb" command from the Android lb install <application.apk>'), or use the Android Central Side Load Wonder on on Windows.
- rs can copy an APK file to an SD card, then use the OI File Manager on to open and install the APK from the device itself.
- rs can browse to an APK in the web browser to install it.
- ns found in the Market/Play may also be found for download at sites like http://eware.org/, http://www.aproov.com/, or http://freewarelovers.org/android/.

Note: the user may need to enable Unknown Sources in Settings for application installation.

Is there a SDK available?
The standard Android SDK is available here: http://developer.android.com/sdk/index.html
Intents and example code for barcode scanning are available here: http://developer.sdgsystems.com/sdk/SDGScanDemo.zip
http://developer.sdgsystems.com/sdk/Barcode_API_Dev_Doc.pdf
Developers can read from RFID using the Android NFC package. More documentation about Android NFC can be found here: http://developer.android.com/reference/android/nfc/package-summary.html

Can I control when my device is upgraded to a new build of Android? How do I upgrade my device?
Android updates are usually done through a process called "OTA" updates (over-the-air). This process does not necessarily need to be done using a computer network. It can also be done using an SD card and booting into Recovery mode. SDG also provides a first-boot application where the administrator may configure the upgrade server (e.g. choosing to use a corporate server instead of SDG's server).

If the defaults are selected on boot, Android updates can be applied from Settings > About phone > Check for Updates. Our Android implementation does not check for and apply updates automatically.

How do I boot into Recovery mode?
If the reboot menu is configured (first-boot option), while booted in Android, hold the power button to bring up the Power menu, then choose Reboot and pick "Recovery" from the list that appears. You can also boot into recovery by rebooting, then pressing the right or left soft key 3 times while SDGBoot is loading. You will know you are in Recovery mode when you see the green Android robot holding a box. Press the Home button to continue to the Recovery menu.

Do I need to have a SD card in my device?
An SD card is not required, but it is recommended in order to allow full functionality in all applications. Many applications such as the Camera and Browser save files to the SD card and those functions will not work without one.

My touchscreen calibration seems off. What should I do? How can I run the calibration program using just key presses?
If the calibration of the touch screen is incorrect, touch input may be inaccurate or may not work at all. To resolve this, run the "Calibrate Touchscreen" app and follow the onscreen instructions. If the touch screen is not working at all you can start the calibration app using only the keypad:
1. From the home screen, use the arrow keys to highlight the Application drawer (grid icon in center of launcher) then press Enter to open the Application drawer.
2. Use the arrow keys to highlight the "Calibrate Touchscreen" app and press Enter to launch
3. Follow the onscreen instructions to calibrate the screen.
   Note: If you make a mistake during calibration you can use the arrow keys to highlight the "Try Again" button on the calibration test screen.
4. Tap "Save" to save the new calibration.

Do you have an application that synchronizes the device with Windows, like ActiveSync?
MyPhoneExplorer (http://www.fjsoft.at/en/) syncs contacts, calendars, notes, music, photos, and files with your Windows PC. Other similar applications are available (e.g. DoubleTwist).

How do I backup (and restore) my device and applications?
There are several apps available for Android that can backup and restore applications such as "Ultimate Backup" or "SanDisk Memory Zone". SanDisk Memory Zone allows files and apps to be backed up to the SD card or online storage locations such as Dropbox, Facebook, Google Drive, and SkyDrive.

Can I push applications directly to field devices?
Many MDM solutions such as SOTI MobiControl offer the ability to remotely deploy applications to devices in the field. Applications can be pushed to the device or simply made available for the user to install themselves if needed.

A less sophisticated method (and isn't really a "push" method) is to email a web link for the user to tap on the device, which will download the application (apk file) and allow the user to install it.

Is Mobile Device Management (MDM) available for your Android devices?
We are currently working with SOTI, who is testing the SDG Android implementation with their MobiControl application. Some of the features it will support are:
- Active Directory integration
- Remote wipe/lockdown
- Wireless application and security policy deployment
- Alerts, reports, location-based services, data collection
- Expected for RAMPAGE 6 by the end of 2012

How do I ensure my application is compatible?
Most applications designed to run on Android 2.3 or lower should be compatible. However, applications that require any of the following may not be compatible with all devices:
- Adobe Flash
- OpenGL ES 2.0 (e.g. ESRI ArcGIS)
- ARMv6 or higher processor
- Google Maps and those apps requiring the Maps API are not directly supported, but may be supported by adding the Maps Framework.

Can I run both WM and Android on the device (dual boot)?
Android and Windows Mobile cannot be dual-booted on the same device.

Can I install Android on my device that is currently WM?
In general, no. Only devices with the RAMPAGE logo may be installed with Android. If you have a Mesa installation that you would like to convert to Android, please contact SDG Systems for options (info@sdgsystems.com).

What are the advantages to the Android OS?
Android has many advantages over Windows Mobile and iOS:
- Familiar user interface to end users (48.8% of consumer smartphones shipped in 2011 shipped with Android, only 19.1% with iOS, and 1.4% with Windows Mobile). http://www.canalys.com/newsroom/smart-phones-overtake-client-pcs-2011 http://phandroid.com/2012/02/27/android-by-the-numbers-850000-devicesday-300-million-phones-450000-apps/
- Comprehensive documentation for developers, abundant tutorials, and large developer base are available on the web.
- Over-The-Air upgradeable OS, with the ability to have the customer host an upgrade server for tighter control of OS upgrades.
- Android permits a mix of high-level code in Java, and low-level code in C or C++ providing flexibility for the end-user's performance and abstraction needs.
- BYOD increasing the number of business apps available.

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Will Android 4.0 be available for the RAMPAGE 6?
The RAMPAGE 6 does not meet the hardware requirements for Android 4.0. However, some of the important features of the tablet versions of Android, like the Fragment API have been backported and are available as part of the Support Package for Android 2.3 (http://developer.android.com/tools/extras/support-library.html).

What scanning symbologies are available on the RAMPAGE 6?
The barcode scanner should support all major 1D barcodes and the following 2D barcodes: PDF417, MicroPDF417, Composite, RSS, TLC-39, Datamatrix, QR code, Micro QR code, Aztec, MaxiCode, US PostNet, US Planet, UK Postal, Australian Postal, Japan Postal, Dutch Postal (KIX). This information is from the Motorola SE4500 documentation.

What 802.11 encryption types are supported?
The RAMPAGE 6 supports all the common wireless encryption types such as WEP, WPA-PSK (TKIP), and WPA2-PSK (AES). It does not support Cisco CCX extensions.

What Bluetooth profiles work with the RAMPAGE 6? What specific Bluetooth devices have been tested?
The RAMPAGE 6 supports HSP, A2DP, OPP, and SPP Bluetooth profiles. It has been tested with Samsung SBH-500 headphones (A2DP/HSP), SysOn BT GPS (SPP), IDBLUE RFID readers (SPP), and numerous computers and other Android devices (OPP).

Can I capture video with my device?
Video capture is not supported at this time, but may be added in the future. Please contact us if you have this need for your deployment.

How do I transfer pictures to my PC?
Pictures taken with the RAMPAGE 6 are stored on the SD card.
- Customers can remove the SD card from the RAMPAGE 6, insert it into their PC, and copy the files from there.
- Customers can connect the RAMPAGE 6 to their computer using the USB client port, then tap on the "USB Connected" message in the notification bar and turn on USB storage. The SD card will be mounted on the computer as a removable storage device (i.e. flash drive) and pictures can be copied to the computer from there.
- DoubleTwist provides synchronization of files, including pictures.
- Some sync programs (e.g. Dropbox) will upload photos to the Internet.

What is the accuracy of the internal GPS?
The internal GPS has a typical accuracy of 2 to 5 meters. It also includes integrated real-time SBAS for improved accuracy.

Is there an option for high-accuracy GPS for the RAMPAGE 6?
The SX Blue II is a sub-meter IP67-rated GPS receiver that can connect to the RAMPAGE 6 via Bluetooth. The RAMPAGE 6 should be compatible with most Bluetooth GPS receivers that provide NMEA 183 output, however the SX Blue II has not yet been tested with the RAMPAGE 6.

Does the RAMPAGE 6 support voice calling?
The RAMPAGE 6 does not support voice calling, although VoIP/SIP applications may be used over the WiFi or 3G data connections.

Can I connect the RAMPAGE 6 with Ethernet?
Customers can connect a USB Ethernet adapter to the USB Host port on the RAMPAGE 6 to add Ethernet functionality. The RAMPAGE 6 should automatically recognize the adapter and an Ethernet symbol will appear in the notification bar indicating that Ethernet is connected. SDG Systems sells compatible USB Ethernet adapters.

Does the RAMPAGE 6 support 3G cellular service?
Yes. The RAMPAGE 6 includes a 3.5G HSDPA modem for 3G cellular connectivity. In the United States, HSDPA is supported on the AT&T network. For T-Mobile, only GSM eGPRS (EDGE) is supported.
Supported frequencies are:
HSDPA/UMTS: 850/1900/2100 MHz
GSM/GPRS/EDGE: 850/900/1800/1900 MHz
AT&T® Network Ready Approved (Geo 3G Model Only)

How can I connect my RS-232 serial device to the RAMPAGE 6?
The RS-232 serial port on the RAMPAGE 6 is /dev/ttySA0. This port can be accessed from a command line (adb shell, terminal emulator, etc.) or using the "android-serialport-api" project (http://code.google.com/p/android-serialport-api/).
Note: /dev/ttySA0 is shared with the barcode scanner (barcode models only) so the RS-232 port will not work when the scanner is active. You will need to uncheck the barcode scanner in Settings > Data Collection if you want to use the external serial port on those models.

Will a USB mass storage (UMS) device work in my RAMPAGE 6 if I connect it to the USB host port?
USB mass storage devices will not work automatically with the RAMPAGE 6. (*UMS devices can be mounted manually by connecting the device to the USB Host port on the RAMPAGE 6, then running "mount -t vfat /dev/block/sda1 /path/to/mount" from the shell, but they will not be accessible to native Android applications.*)

Does RFID work with the RAMPAGE 6?
The RAMPAGE 6 can interface with IDBLUE Bluetooth RFID readers using the IDBLUE RFID or IDBLUE Keyboard Wedge apps. Other Bluetooth (SPP) RFID readers can also be used through a SPP-keyboard wedge such as BluePiano (http://www.tec-it.com/en/software/android/

bluepiano/). USB RFID readers are supported through the USB human interface device (HID) profile.

A UHF RFID reader is expected to be available from Axon in Q1 2013.

What are the button assignments on the RAMPAGE 6?
From left to right along the top:
- Camera = Camera
- Document = OI Notes
- Contrast (moon) = decrease backlight
- Brightness (sun) = increase backlight

From left to right along the bottom:
- Home = Home
- Left Context = Menu
- Rotate = Rotate display
- D-pad = direction arrows and OK button
- Enter = Enter
- Right Context = Back
- Power = Power

How can I conserve power on my RAMPAGE 6?
The best way to conserve power on any mobile devices is to turn off WiFi, Bluetooth, and GPS when not in use. Turning down the screen brightness can also extend battery life. The Android Power widget provides easy access to these controls right from the home screen.

How much battery life can I expect out of my RAMPAGE 6?
The maximum battery life is 16 hours, but will vary depending on usage. Customers can expect at least a full work day (8 hours) under heavy usage.

My RAMPAGE 6 seems to be frozen. What should I do?
- If only the touchscreen is unresponsive see the instructions for calibrating the screen in "My touchscreen calibration seems off" above.
- If calibration does not resolve the issue or the device is completely unresponsive, hold the power button for 15 seconds to perform a soft reset.
- If a soft reset does not resolve the issue you may need to perform a factory data reset (Settings > Privacy > Factory data reset) or reload the OS. Please note that latter two (factory reset and OS reload) will erase all personal data and user-installed applications.
- If the device is still having issues or does not boot up, contact your reseller for further troubleshooting or to arrange repair.