

Orderman Emulations

The Sol / Max emulator as an installable Android app supported on Orderman mobile devices

Installation and Configuration Manual

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Introduction

The new Sol and Max emulation clients (project “Omega”) are bringing the well-known Sol (also called ‘Hermes’) and the Max/Don clients to current Android devices (portrait mode only). The focus is to be able to extend existing installations, that are already running a Sol or Max/Don system, with new devices which means that there are not changes on the POS side required.

Max/Don and Sol clients are delivered as 2 separate Android apps available that can be run on Orderman Android devices (tested are OM9 and OM10 but should also work on OX9).

On addition to the option to use Max/Don or the Sol clients the OM10 OSR device can also be used completely without any emulations app which previously was called the BYOA (= BringYourOwnApp) mode. When using SystemCenterNext (SCN) for configuration no special steps are necessary. When not using SCN please install the RadioSettings-*.apk application to do the radio config (see below).

NOTE: When not using the emulations but your own app no classic proxy is required.

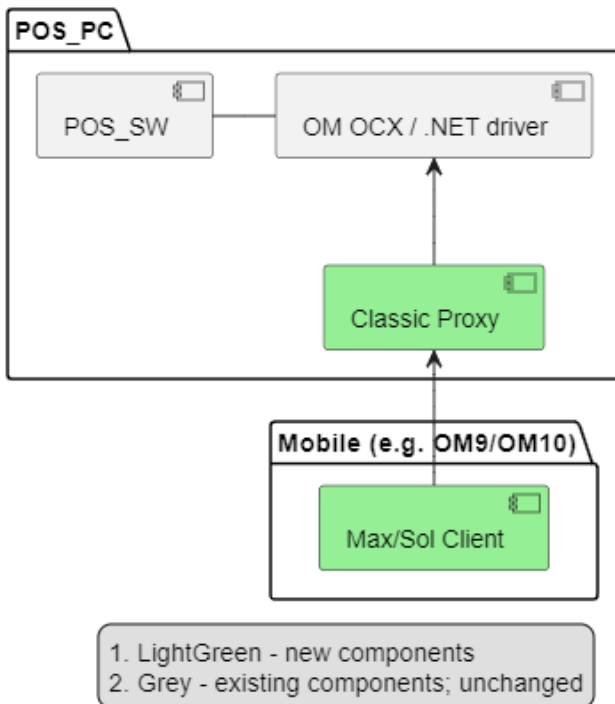
Connection to the POS PC can be made by all available options of these devices to connect to local, on site, network infrastructure.

- On OM9 this is Wi-Fi and Ethernet (via cradles)
- On OM10 this is Wi-Fi
- On OM10 OSR on OMB4/Wi-Fi as well as OMB3 (as of 2024-06-10 this is currently under development)

OMB4 with OM10 OSR and Wi-Fi connections (for Sol or Max Emulations)

To connect the Sol or Max emulation apps to an existing POS system a new proxy application has to be installed on the POS PC. The Max/Don and Sol Client will communicate with this proxy and the proxy will tunnel the communication to the POS Software that is running a current version of the Orderman libraries (oman.OCX or .NET omanDRV), that support OMB4 setups.

NOTE: When using your own app via OMB4 (which previously was called BYOA mode) no proxy is required as your app will handle communication with the POS by itself!



Usage note: When running Wi-Fi and OSR/OMB4 in parallel the Sol and Max/Don Emu in this mode will also try to connect via Wi-Fi to the POS and OSR/OMB4 connection is only getting used when no Wi-Fi is available or Wi-Fi connection is very bad.

OMB3 with OM10 OSR connections

Communication is directly happening in the same way as on Sol/Max/OM5/OM7.

For Sol Emulations in addition a Wi-Fi connection must be available at the location where the device is getting charged so that while charging the Sol Emulator will use Wi-Fi to connect to the POS and resource synchronization will be possible on a faster connection.

NOTE: This means that no classic proxy is necessary for this setup. Just the pure communication with the POS via RS232 and when using a Sol Emulation via Wi-Fi + power connection cable to trigger resource sync.

System Requirements

OMB4 / Wi-Fi setups

Component	Requirements
	Windows 7+*
Operating system	Permission to install Windows Services ("administrator") <small>*) the system is tested on Win7, Win10, Win11 and should work on any Windows7 and newer</small>
Software Prerequisites	A POS system using the Orderman OmanDRV .NET library or the oman.ocx component in a version that has full support for the OMB4 / OSR setup. (ideally the latest version)
	Only Orderman Android devices are supported running Android12 or newer.
Android device	As of today this means: * OM9 with latest firmware * OM10 with latest firmware * OX9 with latest firmware

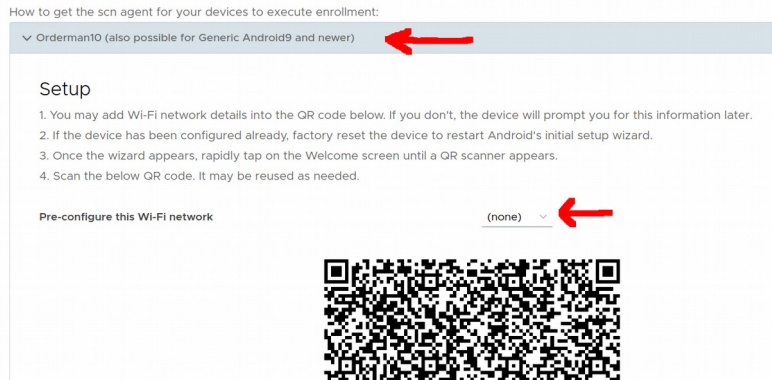
OMB3 setups

Component	Requirements
	Only Orderman Android devices are supported running Android12 or newer.
Android device	As of today this means: * OM9 with latest firmware * OM10 with latest firmware * OX9 with latest firmware
Sol Emulation	A working Wi-Fi connection to the POS at the location where the device is getting charged

Device setup with Max / Sol Emulation

With SystemCenterNext (SCN)

- Go to <https://next.orderman.com> and login to SystemCenterNext (SCN). If you do not yet have an account, please get in contact with your area manager or contact our support.
 - Take care that the Android devices you plan to use for the emulation app(s) are enrolled to a SCN site. If not done yet follow these steps:
 - Setup the the agent app on your target device.
- If you are not using an OM10 / OM10 OSR:



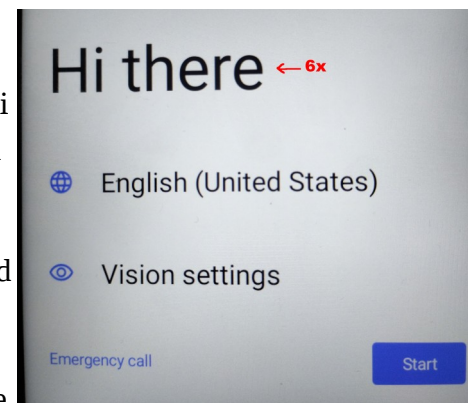
- Click on the “Enroll” button in your SCN site when in the device list (initial location when entering a site).
- Select “Orderman10...” which will show a QR code.
 - You can directly configure Wi-Fi by clicking on (none). Can also be done later on the device.
- Boot your device.


ATTENTION: If you used that device before you have to run a factory reset first. But take care that this means losing all your data on that Android device.

- In the initial screen shown you can read “Welcome” or “Hi there” or “Hello”. Touch that text fast at least 5 times until a QR code scanner opens to scan with your build in camera.
- Scan the QR code shown in the browser with your Android device.
- Follow the on-screen steps until the Orderman agent is showing its welcome screen with the Orderman logo at the top and, if you have internet connectivity, with the enrollment code in the middle.

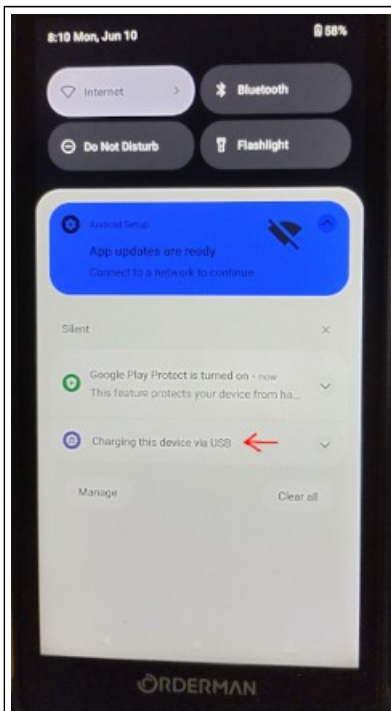
TIP: For the emulations you do not need to login with a Google account so you can just skip that step. If wanted, you can add a Google account to your device at any time.

- In the Enroll screen in the browser, that opens when clicking on “Enroll” in the site where the device list is shown, at the top you can find an input field to enter the enrollment code. Enter the code in this screen that is shown on your device.

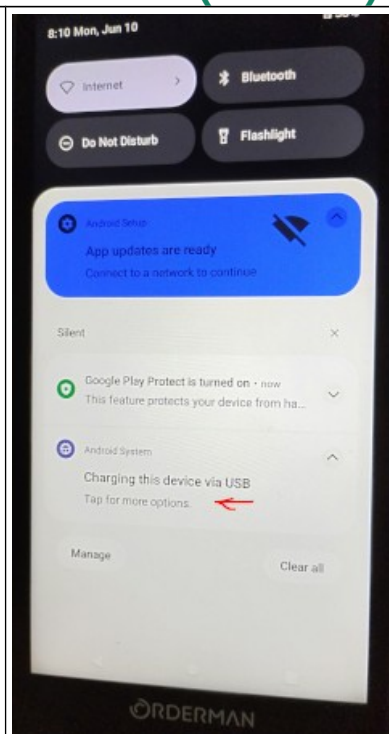


- NOTE: After enrollment to a site often the agent update starts. In case update starts just wait until done before continuing.
- Click on the device and go to config (on the right)
- Install and configure the app
 - Select the emulation app to be installed. If your intended version is not yet in public files or in your own files please check the emulations package or directly on the Orderman partner area for the APK version of the app to add it to your SCN instance.
 - At the right side of the app when selected for installation you can find a cog icon. Click it to open the app settings. 
 - Configure the host address with the IP address of your POS PC.
 - When using Wi-Fi, the IPv4 or the IPv6 address.
 - When using OSR the IPv6LL address that start with *fe80::*
 - Configure the port. Default is 24998
- When on OM10 OSR – configure the radio system
 - Select OMB3 / OMB4 mode
 - Select the radio channels used
- Click on apply to send the configuration to the device

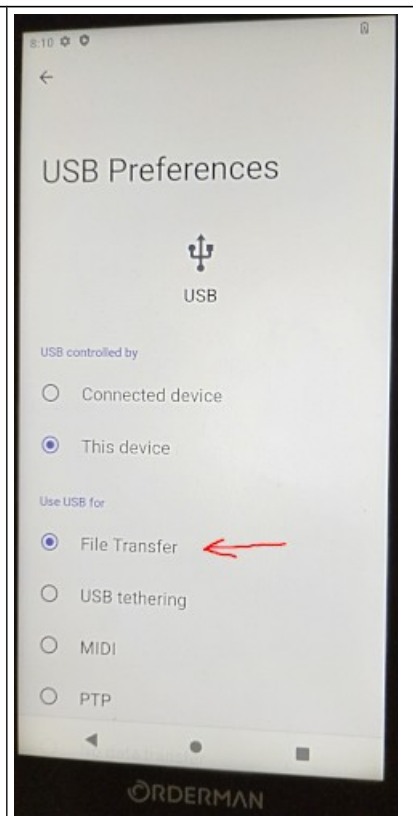
Via USB cable and file transfer (no SCN)



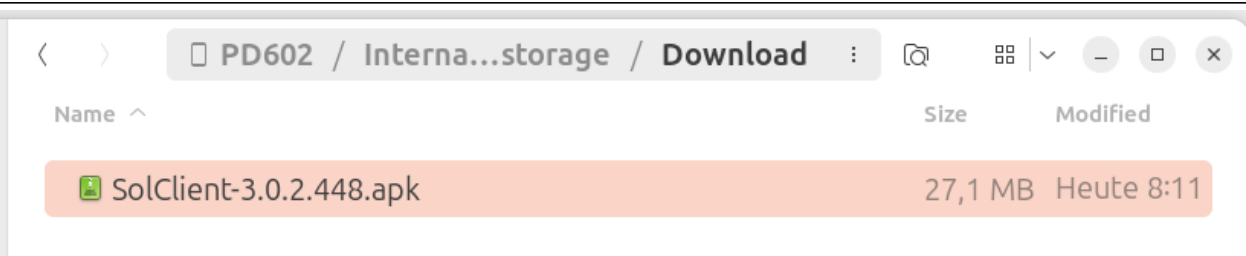
Pull down from the top and touch “charging this device via USB”



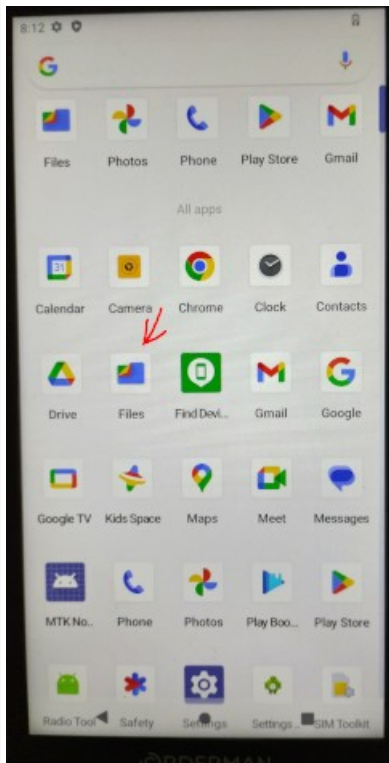
Touch it a 2nd time to open the options



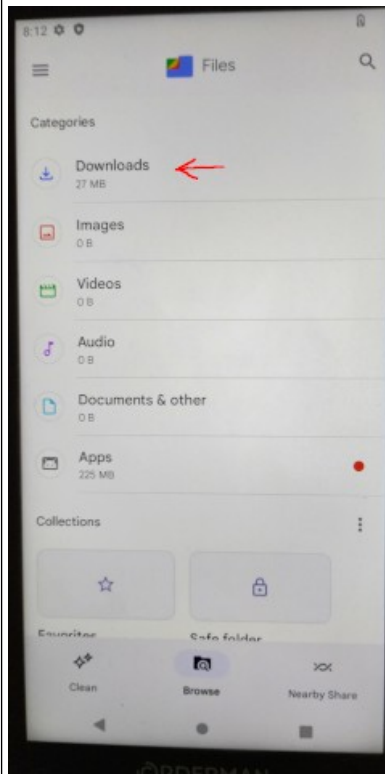
select “File Transfer”



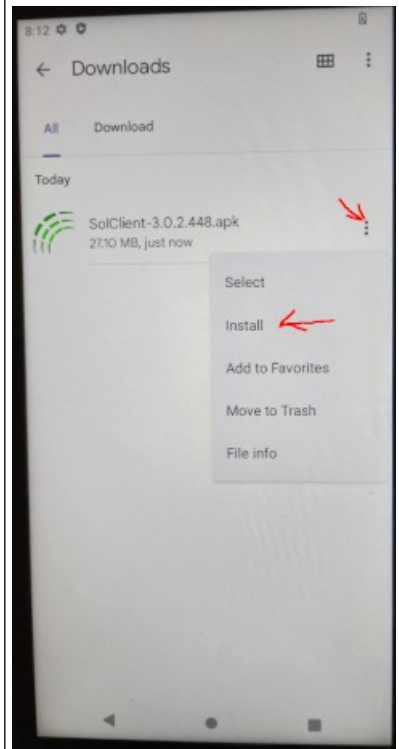
Copy the Sol or Max Client or RadioSettings app (.APK) file to your devices *OM10 / Internal storage / Download* folder



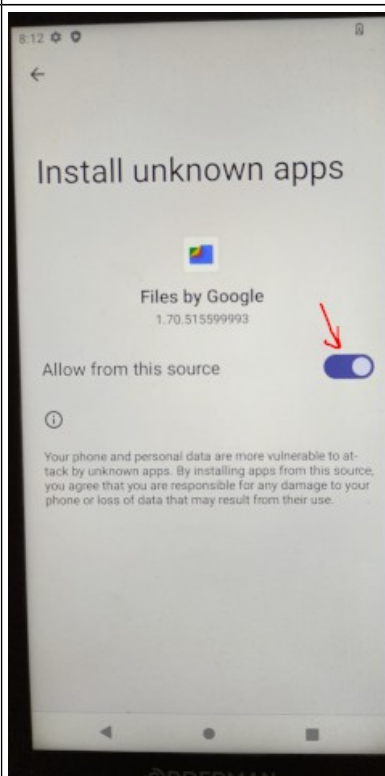
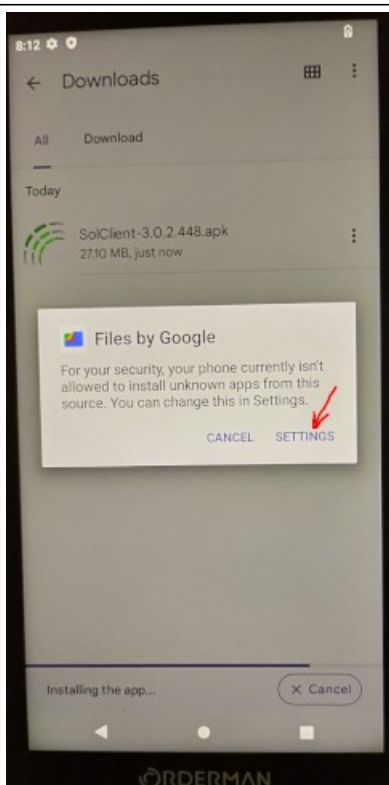
Go to the apps and open the "Files" app



In the "Files" app go to the Download folder



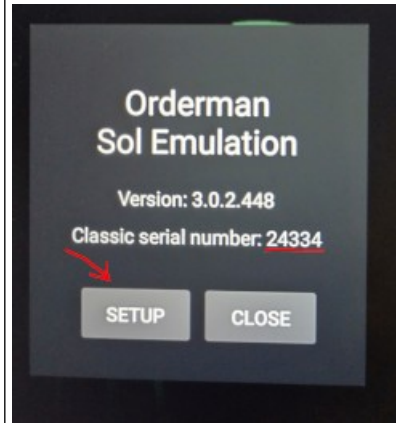
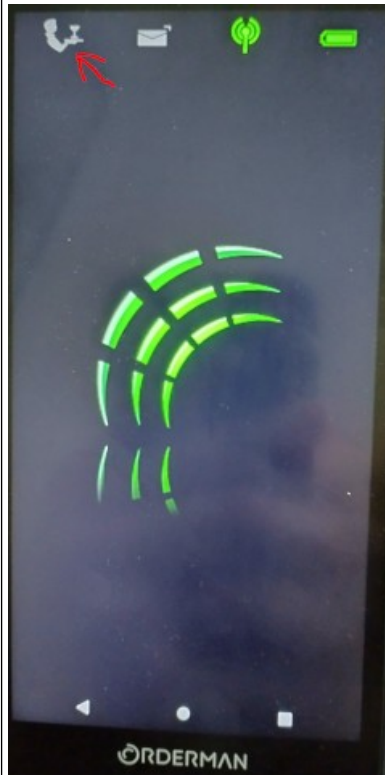
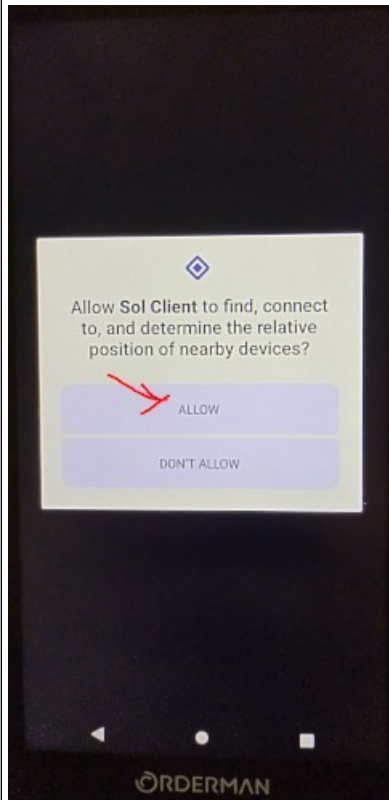
Click the Sol or Max Client app to install it



Now your app is installed. Lets start it so that we can do the configuration

When prompted click Settings as we need to give the “Files” app the permission to install apps from folder on the device

Enable “Allow from this source” so that you can install apps from the “Files” app

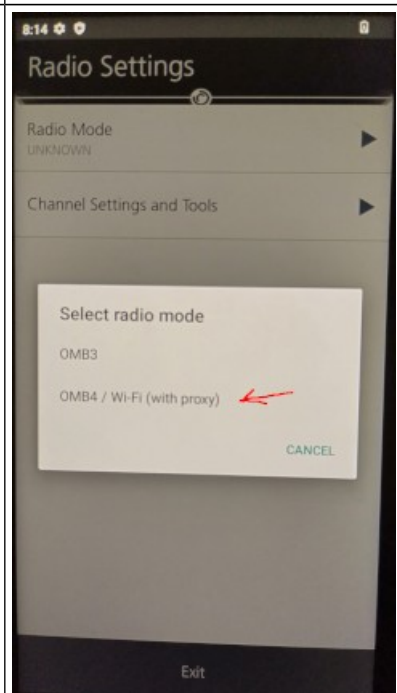
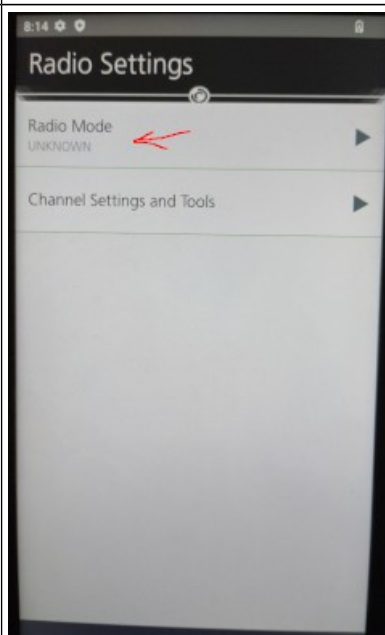
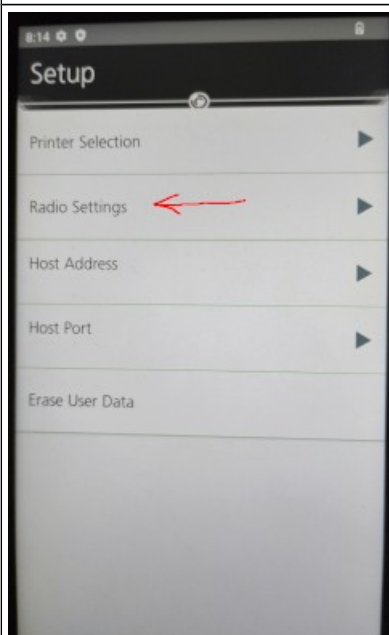


When opening the Sol or Max Client the first time it might ask for some permissions. Click on “Allow” on all that appear to guarantee correct operation.

Now we are inside the Emulation. On Sol Emulation click on the Waiter icon at the top. When in Max Emulation click the M+ or D+ symbol on the right middle.

Click on “Setup” (SolEmulation) or “Settings” (Max Emulation in the appearing buttons in the middle of the screen) to go to the app config section.

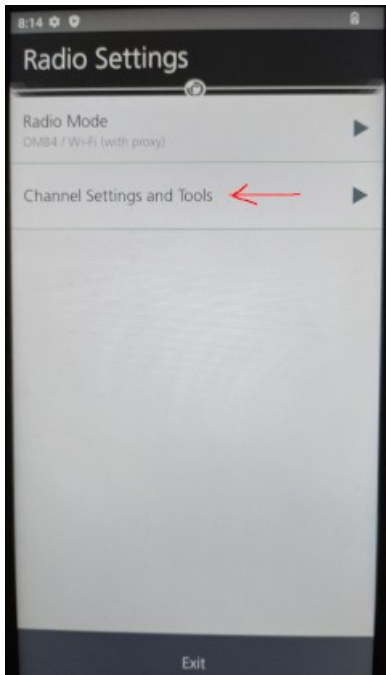
NOTE: Also in this screen you can see the classic serial number used by the emulator. In some POS systems it is necessary to configure this serial number in the POS to allow connection or to get a license to allow connecting with that serial number.



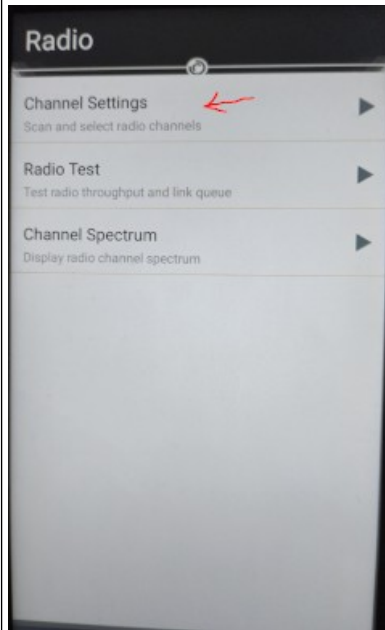
In the setup/settings click on “Radio Settings”

In radio settings first define the Radio Mode

Choose OMB4 / Wi-Fi or OMB3 which will then trigger the radio module firmware upgrade.
 NOTE: This can be very fast if the firmware in the radio module is already of the correct type or can take a while. Just wait until done.

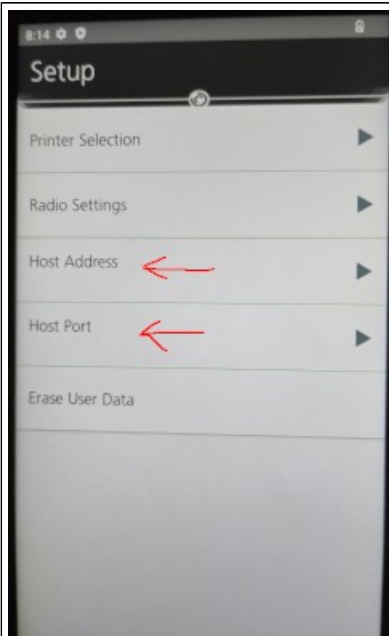


When the radio mode is set go to Channel settings.

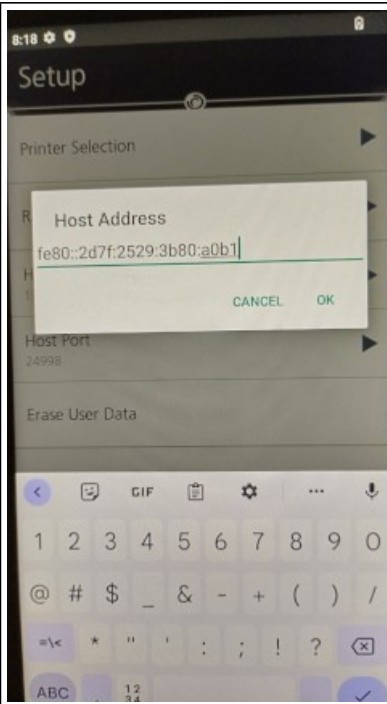


If you have multiple channels in your setup just select all of them.

NOTE: In OMB3 mode the yellow ones are in the harmonized range in EU which should not be used.

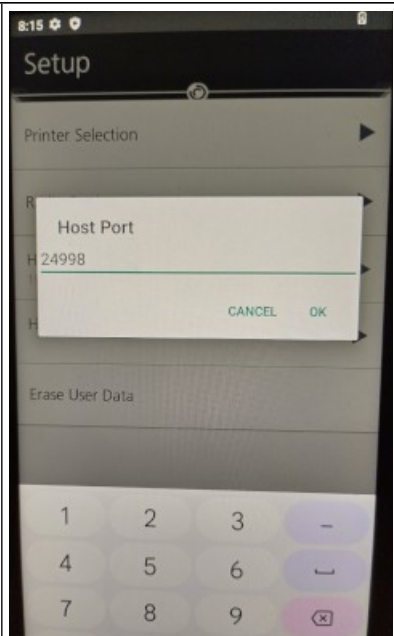


Go back to the first setup screen and configure *Host Address* and *Host Port*



OMB4 mode – only IPv6LL addresses (starting with fe80...) are supported.

OMB3 mode with Sol Emulation – Also required to correctly setup resource synchronization via Wi-Fi. In this case do not forget to also configure Wi-Fi!



OMB4 mode – default port of the proxy is 24998

OMB3 mode with Sol Emulation for resource sync via Wi-Fi – default port is 25000

Extended Communication configuration options in case default setting are failing

There are 2 new app configurations option in the app settings (here the screenshot from SCN):

Sync only when charging

In OMB4 mode, only indicate connection over Ethernet to host if device is charging.

Connectivity
mode *

Automatic (all enabled) ▼

Requires IPv6. Controls whether/when Wi-Fi should be allowed.

(note: These are the settings for Sol Emulation. For Max Emulation only “Connectivity mode” is available.)

The default setting is shown above and installations or tests made so far used these.

IMPORTANT: This means if your POS system works correctly without any issues please do not touch these settings!

Sync only when charging (for Sol Emu only)

Per default this is disabled. The original Sol did use a cradle for charging that also allowed for fast Ethernet connectivity. If the Sol is connected via Radio (reliable but slow) or Ethernet (fast) was indicated to the POS via a simple flag in its power on messages.

With Sol Emulation, where the usual target devices like the OM10 does not have an Ethernet enabled cradle this way of operation was not usable anymore. Instead of fast Ethernet connectivity Wi-Fi was used. So that the POS systems do not need any changes we report “Ethernet” connectivity to the POS when we are connected via Wi-Fi.

What this switch can control beginning with Sol Emulation 3.4.0.x+:

- Default behavior when **Sync only when charging** is disabled: The Sol Emu will always report to the POS that we are connected via Ethernet. It does not matter if in reality we are connected via Wi-Fi or Radio or if the device is currently charged. Most POS systems will therefore allow to trigger resource sync via Radio and Wi-Fi and when the resources are in sync normal operation of the device is possible.
- Enabling **Sync only when charging**: Independent of its connectivity the Sol Emu will report to the POS “Ethernet” connectivity when it is getting charged. And “Radio” connectivity when it is not charged. This is very similar to how it happened on the original Sol. Use this configuration when in “Ethernet” connectivity your POS does not allow normal waiter operations.

Connectivity mode

Beginning Max and Sol Emulation 3.4.0.x+ the connectivity handling can be controlled.

These options are available:

- **Automatic (all enabled)**
DEFAULT. This was the mode always used so far. When Wi-Fi connection to the POS was possible Wi-Fi was used. When Wi-Fi is not available OSR connectivity is used. This usually results in improved speed when in Wi-Fi range but still allows very reliable connection when there are regions in the restaurant or outdoors where no Wi-Fi connection is available but OSR is.
- **Only OSR, unless charging**
No automatic switching will be done. When the device is charging it will use Wi-Fi when available and OSR in case Wi-Fi connection is not available.
When not charging the device will only use OSR.
- **Only OSR**
Only OSR will be used. If Wi-Fi is available it is still ignored independent if the device is charging or not.

IMPORTANT: Please leave the setting at Automatic unless you are facing problems in your setup where the above explanations might help to improve the situation.

Belt printer pairing

The Max and Sol Emulation apps do support OM-BP 113 and OM-BP 114 printers. Older printers might work but we do not give any guarantee or support.

Setups with SCN

When using SCN there is no special handling required. Just pair the printer by reading the printers NFC tag after turning it on. Our agent will take care to turn on Bluetooth at boot, calculate the printers PIN, execute a test printout.

Setups without SCN where Sol/Max client where installed via USB cable

Steps:

- Turn on Bluetooth (e.g., with OM10 OSR after setup Bluetooth is turned off by default so pairing via NFC will fail)
- Open your emulation app (Max or Sol Client). If you do not have the app open automatic PIN calculation does not work and Android will ask for the PIN.
- Turn on the printer and read the printers NFC tag with our Android device
 - On some devices a message “Could not connect to ...” might appear after ~10s. Ignore it and continue with the next step.

- Open the Setup (Sol) or Settings (Max) screen (see steps above) and go to “Printer Selection”
- Your paired printer should appear in the list of printers.
- Select the printer you want to use
- Execute “TEST PRINT” to be sure you did select the correct printer as it is possible that the list contains multiple printers from previous pairing attempts.
- Press “SAVE” to save your selected printer

Configuration with OMB4 and/or Wi-Fi

Steps on your POS PC

1. Ensure that .NET framework 3.5 is installed on the Windows host.
2. Execute the Orderman_ClassicProxyInstaller executable to install the proxy service. This will install the proxy as a service that is automatically started and will configure your Windows firewall to allow incoming traffic to reach the proxy. As of today this proxy is using fixed ports:
 - 2.1. Incoming connections from the Android devices / the emulation app(s): TCP 24498
 - 2.2. From the proxy to your POS (omanDRV .NET library or oman.ocx) on *localhost*:
 - a) For Sol Emulation: UDP 25000
 - b) For Max Emulation: TCP 24999

After these steps the proxy will be running and waiting for incoming connections from the emulations and will forward these to your locally running POS.

For further information about the Classic Proxy, the Linux version and how to configure it, please refer to OrdermanClassicProxy-2.0-guide.pdf document in Partner area.

Setting up Max Emulation Menu Card

This is only needed if you do use the Max Emulation client app. Not needed when using the Sol Emulation client app.

The Max Emulation needs the menu card in as special format that has an *.mem* extension. It is the same format as used for the emulation app on Orderman5/Orderman7 devices. But that one was a little hard to get access to in SystemCenter1. Therefore a new export tool was created to more easily create the correct file from a menu card created with the Orderman Menu Card Designer.

Get the export tool

In the "Orderman_Emulations" package you should find a file called *OrdermanMenucardExport_x.x.x.x.7z* where the x.x.x.x is showing the version of the export tool

Extract this to your PC (on Windows11 directly via the Windows File Explorer right click or on other systems you need to install the 7zip tool you can find in the internet).

When extracted you can find *OrdermanMenucardExport.exe* file in there witch is the conversion tool.

NOTE: This tool requires the .NET Framework 4.6.2 to be installed on your target systems. On Windows 10 or newer this is already preinstalled and the tool should work out of the box.

Convert your menu card with the export tool

- Open the *OrdermanMenucardExport.exe*
- At the right top of this tool select *Browse...* button which opens the file selection dialog of Windows.
- Now select the *.lay* file you created with the Menu Card Designer.
- Now you should see the menu card in the preview box.
 - IMPORTANT: If pictures are missing then it is possible that the images the *.lay* file references are not, or not anymore, in the right folders. The problem is that the Menu Card Designer uses full paths to the images and is not copying the image files into the *.lay* file. Idealy you run the export tool on the machine where you also use the Menu Card Designer where you created the *.lay* file. In this case the preview can find all the images on the PC and can then correctly export it.
- When the preview is OK and shows the expected menu card click on *Convert To ...* and save the menucard. It must use the *.mem* extension.
 - NOTE: In contrast to the *.lay* file the *.mem* file format does already contain all the images and you only need this single file for the full menu card.

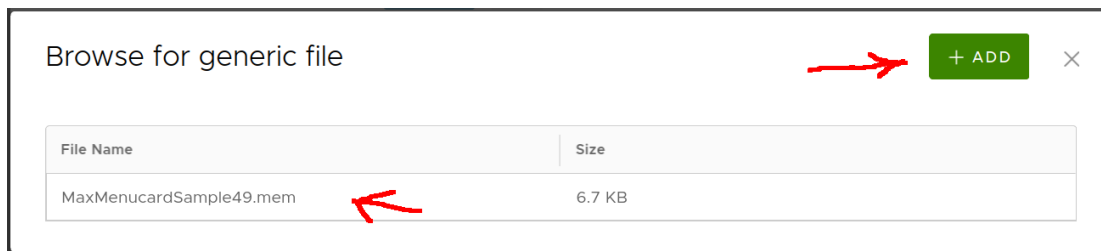
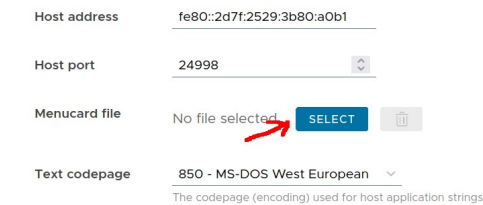
Install the menu card in Max Emulation – via SCN

Note: this is a new feature with end of June SCN release. Before that an error *invalid value for enum type: "FILE"* was shown.

Open the app config of the Max Client app in SCN:



Select your menu card file (either an existing one or add a new one):



Note: The files are added to the “Generic Files” section of your Enterprise in SCN. The storage location might change in future with new upcoming SCN features.

Install the menu card in Max Emulation – via USB cable

As of today the menu card has to be copied manually to the target device (e.g., the OM10). Here are the steps how to achieve this via using a USB cable and OM10:

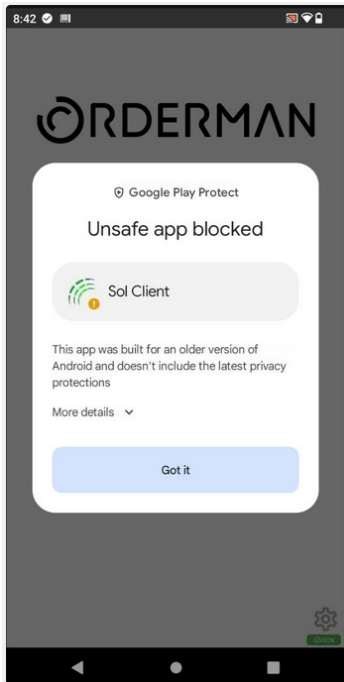
- Connect your OM10 to your PC via a USB cable.
- On the OM10 notifications you should see when you drop down from the top “Charging this device via USB”. Touch it so that the options open.
- In the open new screen “USB Preferences” you can now select “File Transfer” in the “Use USB for” section. Select it.
- Open the File Explorer on Windows and you should find now a new “Orderman10” device in the left navigation bar under “This PC”.
- Open it and go to the “Internal shared storage” of the Orderman10 in the Windows File Explorer.
- Now copy your converted menu card with the *.mem* extension to this “Internal shared storage” folder.
- Open the “Max Client” app on your Orderman10.
- In the right middle touch “OM M+” or “OM D+” (which one you can see depends on the mode you configured in SCN).
- Now in the same bar you can see 3 buttons. Touch on “LOAD MC”.

- The file explorer on Orderman10 opens. Select your *.mem* file.
- **DONE:** You should now see your menu card in the Max emulation app.

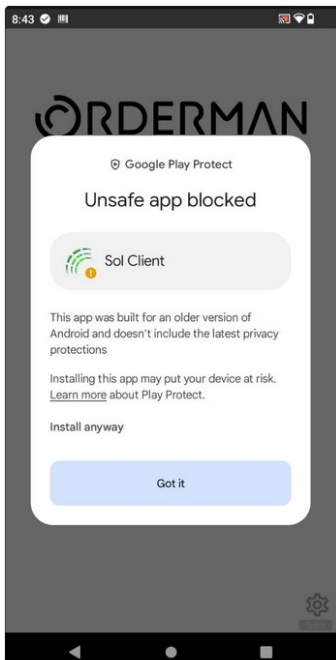
Known issues and possible pitfalls

Sol Emulation “Unsafe app blocked” by Google Play protect

Sol Emulation is a legacy app based on an older version of Android. As a result the following message is shown when installing the Sol Emulation app:



When seeing this message click on “More Details” so that the further options open:



Now click on “Install anyway” to instruct Google Play Protect to still accept the installation.

Troubleshooting

Logfiles

Are in %appdata%\Orderman\ClassicProxy folder. When using the installer this means you can find the logfiles here:

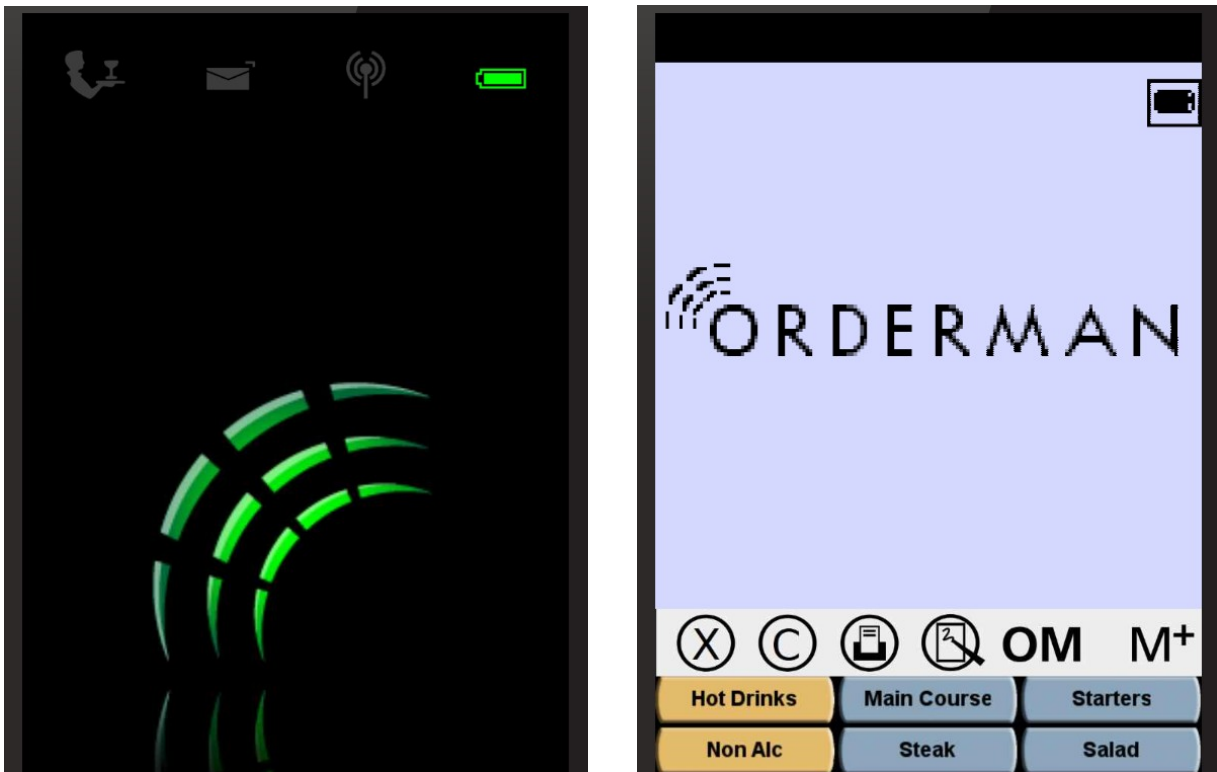
`C:\Windows\ServiceProfiles\NetworkService\AppData\Roaming\Orderman\ClassicProxy*.log`

When having problems and are on contact with support please try to include these in addition to the description and steps how to reproduce the anomaly.


NOTE: The classic proxy is also writing to the Windows event log and critical startup issues can also be seen there.

Connection to the POS PC does not work

If you see the following screen the connection from the Max/Don or Sol client to the proxy is not working.



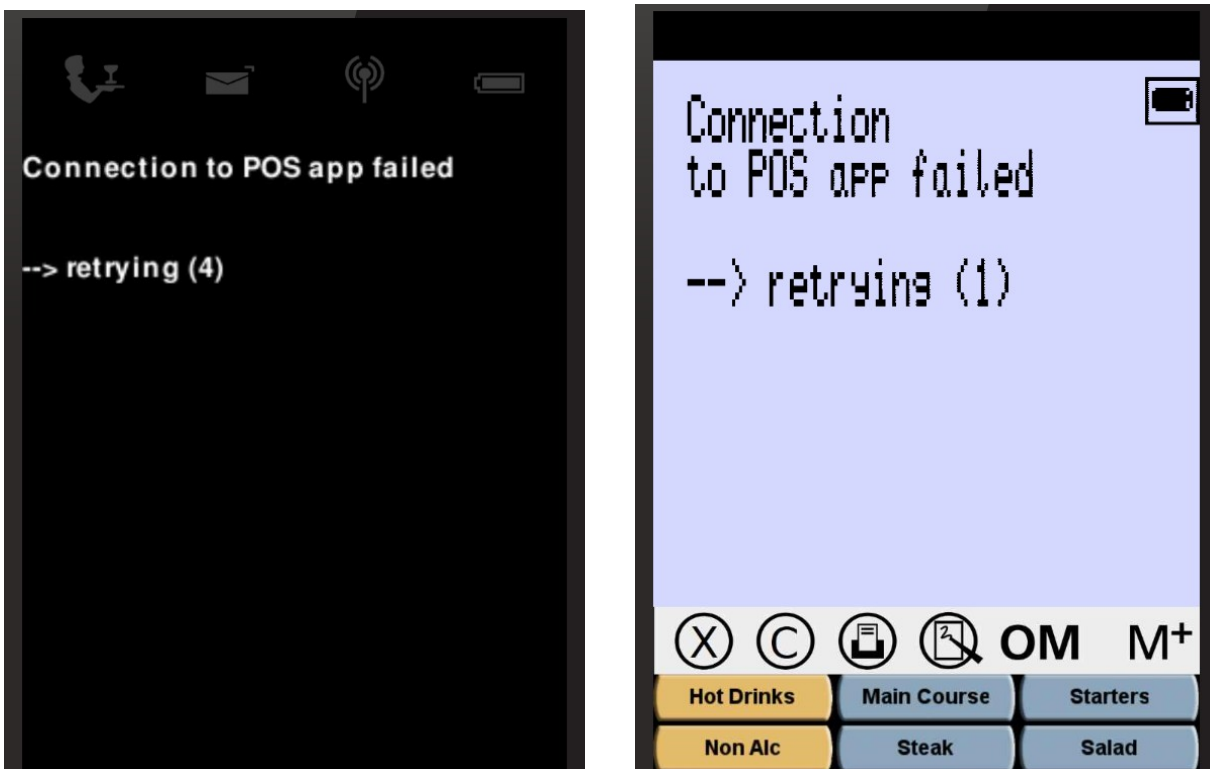
What to do:

- Check that the app configuration of the Max/Don or Sol Client is correct. In SCN click on the  icon next to the app in the device configuration and check that the host address is the IP address of your POS PC and that the host port is also the port used by the proxy (default 24998)

- Check that the Orderman Classic Proxy service is shown as running in Windows service settings.
- Check that the firewall configuration is correct (either by temporarily disabling the firewall on the POS PC or by checking that the used host port as configured in SCN is allowed (TCP ingress)).
- Check the windows Application event log if you can find out the root cause of the problem.

Connection to the proxy works but not possible to connect to the POS

If you see the following screen then you have a successful connection to the proxy running on your POS PC but the proxy is not able to connect to your POS Software.



NOTE: The number in the braces of --> *retrying* (x) where x is the number is telling you how often the proxy did retry to connect already.

What to do:

- Check if your POS software is running
- Check which ports the POS software is using