TECHNICAL NOTE

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SD11 CONSOLE

INSTALLATION OF WAVES ® OPTION

Important Note: These instructions are a guide to fitting the Waves option to an SD11. This option is normally supplied factory fitted and is not considered a user installed option. This note is for the use of factory approved technicians only. The USB key included in the kit includes these install instructions and the operation manual.

Read the instructions carefully before starting as there are several different versions of SD11 over the life of the system requiring different work to be performed. Leave yourself plenty of time to perform the upgrade.

Before proceeding, first check the version of software and computer hardware in use.
Confirm the version of software presently running on the mixer. See master screen when the mixer is running.
If the existing mixer system is V760 (or below) and it is not intended to purchase Core 2 be aware V760 does not support current versions of Waves and the option should NOT be fitted. Contact local support for advice.

Current mixer versions support Waves only on a separate external control computer. Legacy internal Waves operation using versions up to V929 only is no longer supported by either Digico or Waves.
The new drive in the kit (if used) will be set up as Core 2 and external Waves only (V987+).

All kits include components to bring older computers up to date for use with Waves. However this should ONLY be done if required according to the following checks. DO NOT attempt to update computers already to the correct specification.

Mixers built and supplied after Mid 2018 do NOT require the update as they are fitted with a different computer processor.

The following check is for older computers and do not apply to later systems (see above).
Older mixers can be checked in software (in Windows Explorer).
What size is the D:\ partition? If greater than 4Gb, the mixer has up to date hardware and the (flash) hard drive does NOT require to be changed. If less, then the updated drive should be installed.

This revised drive was generally used after 2012 and so only the oldest systems will require updating.
If required, follow the notes the regarding changing the drive in older mixers.

Important Note: If the Hard drive is changed, any software option passwords will require to be re-authorised and time should be allowed to obtain these before the mixer is to be used.

You will need to have the following tools to hand: Pozi-screwdriver #2.

You should also have available:

1) Authorisations for Waves Multirack, Superack, Waves Studio or a PC driver for recording at least, as obtained from Waves (http://www.waveslive.com/html/soundgrid-for-digico.aspx) This will be required to use the installation.
2) To fully test Waves functionality, you will also require a compatible PC to run the Waves software required, also usually a Soundgrid Server, a Waves approved 1GB Network switch and 3 CAT5e/CAT6 network cables. Details of approved switches and appropriate Cables can be found at http://www.waveslive.com/html/soundgrid-switches.aspx
3) If the drive is changed you will also require an overview screen to be available to set this up if required.

Ensure you have taken appropriate anti-static precautions
The kit includes a disposable wrist strap and heel strap. Ensure you wear both. The wrist strap should be connected to the chassis of the engine whilst you work on it, in or out of the mixer. The heel strap ensures the skin of your leg is connected to the floor and not isolated by a rubber soled shoe.

Avoid working in areas with synthetic floor coverings or carpet, especially polypropylene material, as opposed to natural materials such as solid wood or wool. Ideally work at a proper workbench with ESD safe features, such as a metal frame. Before work, try to discharge yourself into a mains earth fitment, water pipe etc.

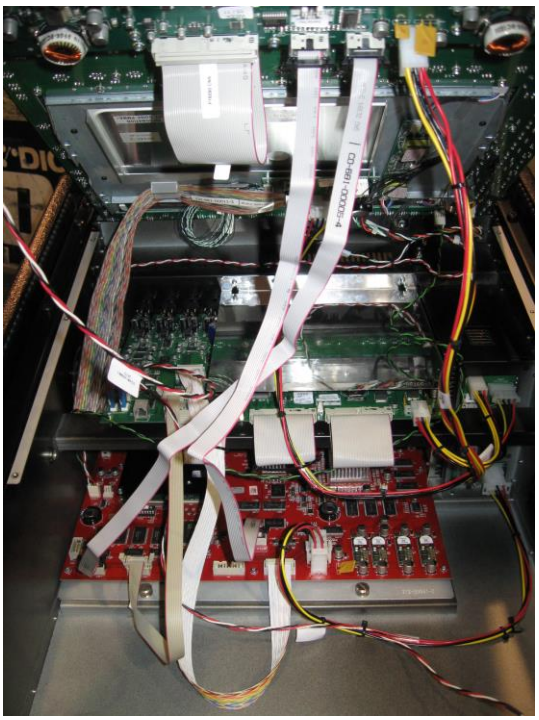
This is important as parts of this kit are static sensitive and even if any damage is not immediately obvious, so called “latent damage” can occur, where a device may be partially degraded yet continue to perform its intended function. However, the operating life of the device may be reduced dramatically, leading to premature failure.

If you are unsure about any part of the upgrade procedure, seek advice before proceeding.

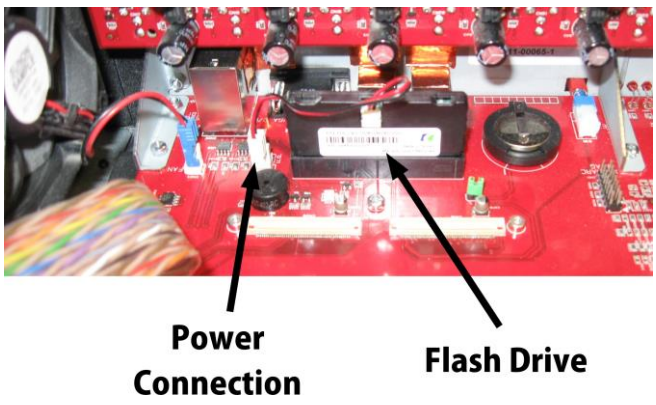
Before you start:
Shut the mixer down, switch off, and remove power leads.

Lift upper surface section by first removing the end cheeks and rear and front rest, if fitted; these are secured by 4 hex drive (4mm AF) bolts.

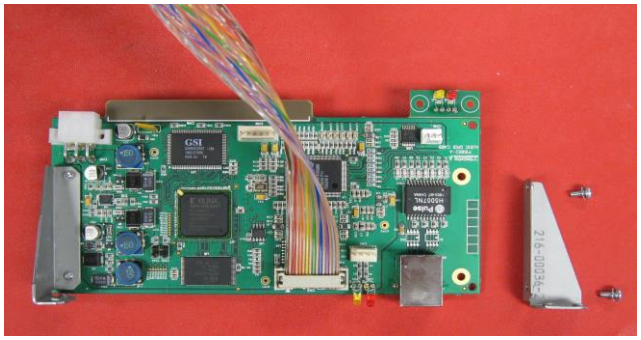
Next remove the 12 hex drive (2mm AF) screws that hold the upper surface panel in place. It is important to use a good quality unworn (preferably brand new) tool for these screws.
Lift the panel carefully and prop or hold securely. See below for the general internal arrangement.



If required to update the drive, remove the Flash drive and replace with the Flash drive supplied in the kit. The new Flash drive is supplied with a power cable. Check connector orientation when unplugging and replugging.



Attach the brackets to the Waves PCB assembly (Waves IO Card)

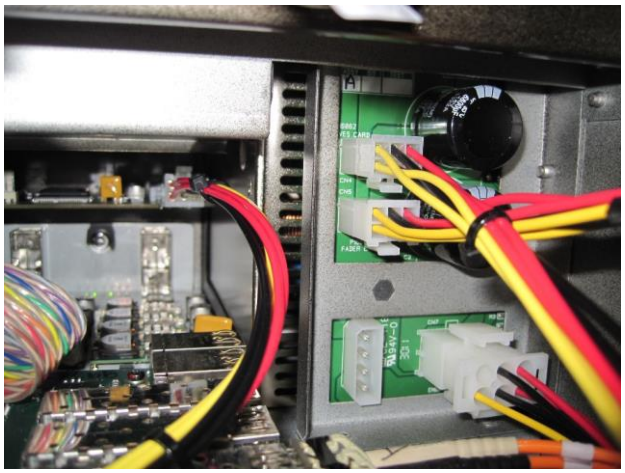


Connect the multi coloured ribbon cable and the 6 pin power cable (not shown in picture) provided in the kit to the PCB. Do this BEFORE attempting to fit the PCB to the chassis.

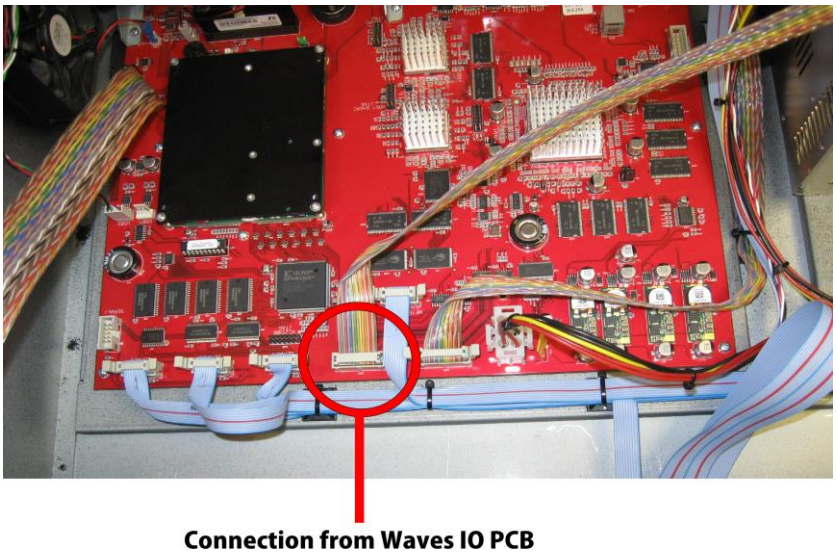
Remove the cover panel over the waves socket on the mixer rear panel. (4 x hex screws)
Catch the rear cover panel inside the mixer. Retain the 4 screws for re-use.

Install the Waves PCB into the rear of the SD9 chassis into the now vacant fixing holes.
Ensure the leds adjacent to the Cat socket, line up with their respective holes.

Fit the power cable from the Waves PCB to the spare 6 pin socket on the rear of the PSU



Connect the multi coloured ribbon cable from the Waves PCB to the engine board. The picture shows the older red PCB. Later mixers use the mark 2 Black (or White) PCB. Use the same connector (marked CN5 Aux I/O).



Reassemble the upper surface section to the console, referring to the disassembly instructions at the beginning of this document as necessary.

THE FOLLOWING SOFTWARE ADJUSTMENTS ARE REQUIRED ONLY IF THE DRIVE HAS BEEN CHANGED

Set Date and Time

Connect an Overview VGA monitor and the console keyboard and switch on the console. It will boot from the new Flash Drive and will stop in Windows.

Double click the time (clock) in the Windows Task Bar to open the ***Date and Time*** Control Panel. Set the correct Date and Time. Check that Internet Time Synchronisation is disabled.
Close the Panel.

Disable Write Caching

Right Click on the Start Button and choose Explore.

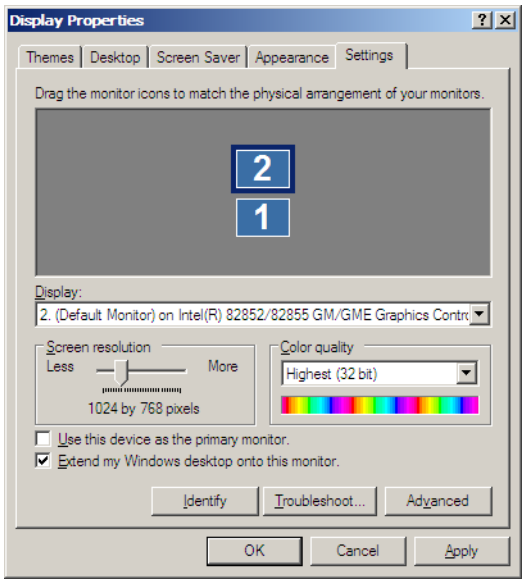
Right Click on the C Drive ***OS(C:)*** and choose Properties.
Select the Hardware Tab, and press the Properties Button
In the window that opens, select the Policies Tab, and ensure that the "Enable write caching on the disk" option is ***not*** ticked. If the option is greyed out (even if ticked) then leave it as it is.
Press OK to close the window and confirm the changes.

Set Display Properties

You will now have to restart the console. When it restarts, it will stop in Windows.

To check and adjust the arrangement of the Overview screen, right-click on the desktop and select Properties (the last menu item).

In the window that opens, select the Settings tab. You should then ensure that the two screens are arranged vertically, as shown below. To adjust the positioning, pick up the 2nd screen box, and drag into position above screen 1.



Click Apply, then OK to close this Display Properties Window.

Update Console Firmware

If the new drive runs a version newer than that which was installed be the associated firmware may require to be updated to match.

Please note that in the unlikely event that any of the serial devices (worksurface and local I/O) fail to update correctly, you may be required to reprogram them using an ICD2 programmer.
Please consult your local DiGiCo distributor for more information.

Right-Click on the Start Menu, and choose "Explore".
In Explorer, navigate to D:\SD8\UpdateHardware.exe and run the UpdateHardware.exe application.

For each device, you will see the current running version in the “running” column, with the new version in the “available” column.

Perform each update in the following order, and wait for the green tick to disappear indicating that each update has finished before continuing with the next one:

Host
FPGA
Effects
Device 0 (surface)
Device 1 (Local IO)

Do not update any codes not listed in the update hardware program above.
Do not attempt to update Rack code.

Close UpdateHardware.

Enable Ready On

Shut down
Connect an overview screen

Power up the console – it will stop at the Windows desktop.

Right-Click on the Start Menu, and choose “Explore”.

Navigate to C:\Program Files\Ardence\ReadyOn, and then run ReadyOn.exe

Close any Explorer windows that are open behind the ReadyOn window, so that the only window open on the screen is the ReadyOn window.

Press the Flush Button.

In the “Command or Application to run at ReadyOn Boot” box, type the following ***D:\SD9\SD9.exe***

Press the Image Button. The screen should show the System Hibernating.

NOTE: If there is an error message at this point, OK the error, close the Ready On program and restart the console using the Windows Start button menu. The console will restart and then halt at the Windows desktop. Now repeat the above procedure.

Once complete, power the console off & restart.

SOFTWARE SETUP NOTES FOR WAVES

Enable Waves in the Console options page and restart.

The Waves IO port will appear as an option and can be added in the audio IO page.
The option will also activate external Waves control integration features allowing the Waves system to synchronize features such as snapshot firing and the session load and save, via Ethernet.

Connect both the Waves port and the console network port to the Waves compatible network switch.

Ensure the Waves computer is on the current version compatible with the mixer version installed on the mixer. Refer to your Waves Central account to download and install this, following instructions included from Waves.

The Waves port will appear as “Digico IO” in the Waves inventory. Refer to Waves instructions for the relevant Waves software for operation of the integration features.

If required the PC waves audio only driver can be downloaded from Wave Central once an account has been created. This can be created at no initial cost by using the serial number on the Waves licence card included in the kit.

For all further information on the operation of the Waves software please refer to Waves Support