

# PHILIPS 24BDL4151T

## V1.02



[www.philips.com/welcome](http://www.philips.com/welcome)

User Manual (English)

# Safety Instructions

## Safety precautions and maintenance



**WARNING:** Use of controls, adjustments or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards and/or mechanical hazards.

### Read and follow these instructions when connecting and using your display:

#### Operation:

- Keep the display out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- When turning off the display by detaching the power cord, wait 6 seconds before re-attaching the power cord for normal operation.
- Ensure the use of an approved power cord provided by Philips at all times. If your power cord is missing, please contact your local service center.
- Do not subject the display to severe vibration or high impact conditions during operation.
- Do not knock or drop the display during operation or transportation.
- The eye bolt is for usage in short-time maintenance and installation. We suggest not to use the eye bolt for more than 1 hour. Prolong usage is prohibited. Please keep a clear safety area under the display while using the eye bolt.

#### Maintenance:

- To protect your display from possible damage, do not put excessive pressure on the LCD panel. When moving your display, grasp the frame to lift; do not lift the display by placing your hand or fingers on the LCD panel.
- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your display.
- To avoid the risk of shock or permanent damage to the set, do not expose the display to dust, rain, water or an excessively moist environment.
- If your display becomes wet, wipe it with dry cloth as soon as possible.
- If a foreign substance or water gets in your display, turn the power off immediately and disconnect the power cord. Then remove the foreign substance or water, and send the unit to the maintenance center.
- Do not store or use the display in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your display and ensure a longer lifetime, we strongly recommend using the display in a location that falls within the following temperature and humidity ranges.
  - Temperature: 0-40°C 32-104°F
  - Humidity: 20-80% RH
- LCD panel temperature need to be 25 degrees Celsius at all time for better luminance performance.

**IMPORTANT:** Always activate a moving screen saver program when you leave your display unattended. Always activate a periodic screen refresh application if the unit will display unchanging static content. Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. This is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.

**WARNING:** Severe "burn-in" or "after-image" or "ghost image" symptoms will not disappear and cannot be repaired. This is also not covered under the terms of your warranty.

#### Service:

- The casing cover should be opened only by qualified service personnel.
- If there is any need for repair or integration, please contact your local service center.
- Do not leave your display under direct sunlight.



If your display does not operate normally, having followed the instructions set out in this document, please contact a technician or your local service center.

## Read and follow these instructions when connecting and using your display:



- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use alcohol, solvents or ammonia-based liquids.
- Consult a service technician if the display does not operate normally when you have followed the instructions in this manual.
- The casing cover should be opened only by qualified service personnel.
- Keep the display out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into the vents or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- Keep the display dry. To avoid electric shock, do not expose it to rain or excessive moisture.
- When turning off the display by detaching the power cable or DC power cord, wait for 6 seconds before re-attaching the power cable or DC power cord for normal operation.
- To avoid the risk of shock or permanent damage to the set do not expose the display to rain or excessive moisture.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- **IMPORTANT:** Always activate a screen saver program during your application. If a still image in high contrast remains on the screen for an extended period of time, it may leave an 'after-image' or 'ghost image' on the front of the screen. This is a well-known phenomenon that is caused by the shortcomings inherent in LCD technology. In most cases the afterimage will disappear gradually over a period of time after the power has been switched off. Be aware that the after-image symptom cannot be repaired and is not covered under warranty.

## EU Declaration of Conformity

This device complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (2014/30/EU), Low-voltage Directive (2014/35/EU), RoHS directive (2011/65/EU), and Radio Equipment Directive (2014/53/EU).

This product has been tested and found to comply with the harmonized standards for Information Technology Equipment, these harmonized standards published under Directives of Official Journal of the European Union.

## ESD Warnings

When user close to the monitor may cause the equipment discharge and reboot to the display of main menu.

### Warning:

This equipment is compliant with Class A of EN55032/CISPR 32. In a residential environment this equipment may cause radio interference.

## Federal Communications Commission (FCC) Notice (U.S. Only)



**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Use only an RF shielded cable that was supplied with the display when connecting this display to a computer device.

To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Envision Peripherals Inc.  
490 N McCarthy Blvd, Suite #120  
Milpitas, CA 95035  
USA

## Europe – EU Declaration of Conformity

This device complies with the essential requirements of the Radio Equipment Directive (2014/53/EU). The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the Radio Equipment Directive (2014/53/EU):

- EN60950-1/EN62311/EN300328/EN301893/EN301489

## Europe Statement

### IMPORTANT NOTE:

The device is restricted to indoor use only when operating in the 5150 to 5350MHz frequency range.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK

### Radiation Exposure Statement:

This equipment complies with CE radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & body.

The frequency, mode and the maximum transmitted power in EU are listed below:

2412-2472MHz(802.11g 6Mbps): 19.98dBm

2402-2480MHz (EDR 3Mbps): 9.65dBm

2402-2480MHz (LE 1Mbps): 9.80dBm

5180-5240/5260-5320/5500-5700MHz (802.11 ac VHT40 MCS0/NSS1): 22.95dBm

## Taiwan:

### 低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

### Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Operations in the 5GHz products are restricted to indoor usage only.

### Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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**Canada:**

Industry Canada statement:

This device complies with RSS-247 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-247 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

**Radiation Exposure Statement:**

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations: Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

## Polish Center for Testing and Certification Notice

The equipment should draw power from a socket with an attached protection circuit (a three-prong socket). All equipment that works together (computer, display, printer, and so on) should have the same power supply source.

The phasing conductor of the room's electrical installation should have a reserve short-circuit protection device in the form of a fuse with a nominal value no larger than 16 amperes (A).

To completely switch off the equipment, the power supply cable must be removed from the power supply socket, which should be located near the equipment and easily accessible.

A protection mark "B" confirms that the equipment is in compliance with the protection usage requirements of standards PN-93/T-42107 and PN-89/E-06251.

### ***Wymagania Polskiego Centrum Badań i Certyfikacji***

Urządzenie powinno być zasilane z gniazda z przyłączonym obwodem ochronnym (gniazdo z kolkiem). Współpracujące ze sobą urządzenia (komputer, monitor, drukarka) powinny być zasilane z tego samego źródła.

Instalacja elektryczna pomieszczenia powinna zawierać w przewodzie fazowym rezerwową ochronę przed zwarciami, w postaci bezpiecznika o wartości znamionowej nie większej niż 16A (amperów).

W celu całkowitego wyłączenia urządzenia z sieci zasilania, należy wyjąć wtyczkę kabla zasilającego z gniazdka, które powinno znajdować się w pobliżu urządzenia i być łatwo dostępne.

Znak bezpieczeństwa "B" potwierdza zgodność urządzenia z wymaganiami bezpieczeństwa użytkownika zawartymi w PN-93/T-42107 i PN-89/E-06251.

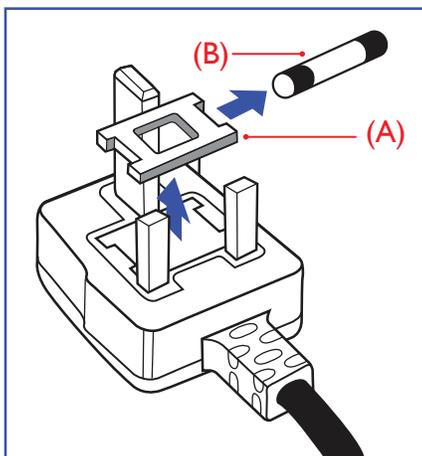
### ***Pozostałe instrukcje bezpieczeństwa***

- Nie należy używać wtyczek adapterowych lub usuwać kolka obwodu ochronnego z wtyczki. Jeżeli konieczne jest użycie przedłużacza to należy użyć przedłużacza 3-żyłowego z prawidłowo połączonym przewodem ochronnym.
- System komputerowy należy zabezpieczyć przed nagłymi, chwilowymi wzrostami lub spadkami napięcia, używając eliminatora przepięć, urządzenia dopasowującego lub bezzakłóceniewego źródła zasilania.
- Należy upewnić się, aby nic nie leżało na kablach systemu komputerowego, oraz aby kable nie były umieszczone w miejscu, gdzie można byłoby na nie nadeptywać lub potykać się o nie.
- Nie należy rozlewać napojów ani innych płynów na system komputerowy.
- Nie należy wpychać żadnych przedmiotów do otworów systemu komputerowego, gdyż może to spowodować pożar lub porażenie prądem, poprzez zwarcie elementów wewnętrznych.
- System komputerowy powinien znajdować się z dala od grzejników i źródeł ciepła. Ponadto, nie należy blokować otworów wentylacyjnych. Należy unikać kładzenia luźnych papierów pod komputer oraz umieszczania komputera w ciasnym miejscu bez możliwości cyrkulacji powietrza wokół niego.

## Electric, Magnetic and Electromagnetic Fields ("EMF")

1. We manufacture and sell many products targeted at consumers, which, like any electronic apparatus, in general have the ability to emit and receive electromagnetic signals.
2. One of our leading Business Principles is to take all necessary health and safety measures for our products, to comply with all applicable legal requirements and to stay well within the EMF standards applicable at the time of producing the products.
3. We are committed to develop, produce and market products that cause no adverse health effects.
4. We confirm that if its products are handled properly for their intended use, they are safe to use according to scientific evidence available today.
5. We play an active role in the development of international EMF and safety standards, enabling us to anticipate further developments in standardization for early integration in its products.

## Information for U.K. only



### WARNING - THIS APPLIANCE MUST BE EARTHED.

#### Important:

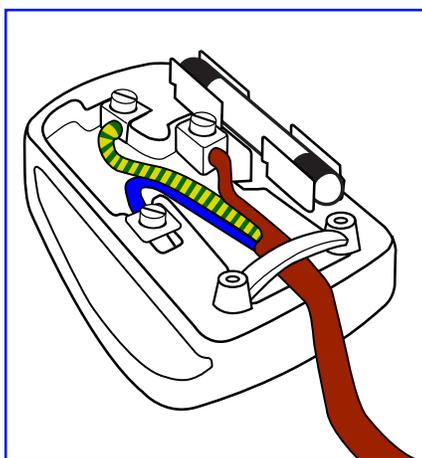
This apparatus is supplied with an approved moulded 13A plug. To change a fuse in this type of plug proceed as follows:+

1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS 1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate 3-pin plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.

NOTE: The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.



#### How to connect a plug

The wires in the mains lead are coloured in accordance with the following code:

- BLUE - "NEUTRAL" ("N")
- BROWN - "LIVE" ("L")
- GREEN & YELLOW - "EARTH" ("E")

1. The GREEN & YELLOW wire must be connected to the terminal in the plug which is marked with the letter "E" or by the Earth symbol or coloured GREEN or GREEN & YELLOW.
2. The BLUE wire must be connected to the terminal which is marked with the letter "N" or coloured BLACK.
3. The BROWN wire must be connected to the terminal which marked with the letter "L" or coloured RED.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the three wires.

## North Europe (Nordic Countries) Information

Placering/Ventilation

#### VARNING:

FÖRSÄKRA DIG OM ATT HUVUDBRYTARE OCH UTTAG ÄR LÄTÅTKOMLIGA, NÄR DU STÄLLER DIN UTRUSTNING PÅPLATS.

Placering/Ventilation

#### ADVARSEL:

SØRG VED PLACERINGSFOR, AT NETLEDNINGENS STIK OG STIKKONTAKT ER NEMT TILGÆNGLIGE.

Paikka/Ilmankierto

#### VAROITUS:

SIIJOITA LAITE SITEN, ETTÄ VERKKOJOHTO VOIDAAN TARVITTAESSA HELPOSTI IRROTTAA PISTORASIESTA.

Plassering/Ventilasjon

#### ADVARSEL:

NÅR DETTE UTSTYRET PLASSERES, MÅ DU PASSE PÅ AT KONTAKTENE FOR STØMTILFØRSEL ER LETTE Å NÅ.

## China RoHS

根据中国大陆《电子电气产品有害物质限制使用标识要求》，以下部分列出了本产品中可能包含的有害物质的名称和含量。

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
外壳	○	○	○	○	○	○
液晶显示屏	×	○	○	○	○	○
电路板组件*	×	○	○	○	○	○
电源适配器	×	○	○	○	○	○
电源线/连接线	×	○	○	○	○	○

本表格依据SJ/T 11364 的规定编制。

\*: 电路板组件包括印刷电路板及其构成的零部件，如电阻、电容、集成电路、连接器等。

○: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572规定的限量要求以下。

×: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。

上表中打“×”的部件，应功能需要，部分有害物质含量超出GB/T 26572规定的限量要求，但符合欧盟RoHS法规要求（属于豁免部分）。

备注：上表仅做为范例，实际标示时应依照各产品的实际部件及所含有害物质进行标示。



### 环保使用期限

此标识指期限(十年)，电子电气产品中含有的有害物质在正常使用的条件下不会发生外泄或突变，电子电气产品用户使用该电子电气产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限。

### 《废弃电器电子产品回收处理管理条例》提示性说明

为了更好地关爱及保护地球，当用户不再需要此产品或产品寿命终止时，请遵守国家废弃电器电子产品回收处理相关法律法规，将其交给当地具有国家认可的回收处理资质的厂商进行回收处理。

#### 警告

此为A级产品。在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

單元	限用物質及其化學符號					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr <sup>+6</sup> )	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
塑料外框	○	○	○	○	○	○
後殼	○	○	○	○	○	○
液晶面板	—	○	○	○	○	○
電路板組件	—	○	○	○	○	○
底座	○	○	○	○	○	○
電源線	—	○	○	○	○	○
其他線材	—	○	○	○	○	○
遙控器	—	○	○	○	○	○
喇叭（選配）	—	○	○	○	○	○
風扇（選配）	—	○	○	○	○	○

備考1. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。  
備考2. “—” 係指該項限用物質為排除項目。

警語：使用過度恐傷害視力。

注意事項：

- (1) 使用30分鐘請休息10分鐘。
- (2) 未滿2歲幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。

警告使用者：

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

### Turkey RoHS:

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

### Ukraine RoHS:

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

## End-of-Life Disposal

Your new Public Information Display contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old display from your local Philips dealer.

### (For customers in Canada and U.S.A.)

This product may contain lead and/or mercury. Dispose of in accordance to local-state and federal regulations. For additional information on recycling contact [www.eia.org](http://www.eia.org) (Consumer Education Initiative)

## Waste Electrical and Electronic Equipment-WEEE

### Attention users in European Union private households



This marking on the product or on its packaging illustrates that, under European Directive 2012/19/EU governing used electrical and electronic appliances, this product may not be disposed of with normal household waste. You are responsible for disposal of this equipment through a designated waste electrical and electronic equipment collection. To determine the locations for dropping off such waste electrical and electronic, contact your local government office, the waste disposal organization that serves your household or the store at which you purchased the product.

### Attention users in United States:

Please dispose of according to all Local, State and Federal Laws. For the disposal or recycling information, contact: [www.mygreenelectronics.com](http://www.mygreenelectronics.com) or [www.eiae.org](http://www.eiae.org).

### End of Life Directives-Recycling



Your new Public Information Display contains several materials that can be recycled for new users.

Please dispose of according to all Local, State, and Federal laws.

### Restriction on Hazardous Substances statement (India)

This product complies with the "E-Waste (Management) Rules, 2016" CHAPTER V, rule 16, sub-rule (1). Whereas New Electrical and Electronic Equipment and their components or consumables or parts or spares do not contain Lead, Mercury, Cadmium, Hexavalent Chromium, polybrominated biphenyls and polybrominated diphenyl ethers beyond a maximum concentration value of 0.1% by weight in homogenous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers and of 0.01% by weight in homogenous materials for cadmium, except of exemptions set in Schedule 2 of the Rule.

### E-Waste Declaration for India



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about E-waste please visit <http://www.india.philips.com/about/sustainability/recycling/index.page> and to know where you can drop off your waste equipment for recycling in India please contact on below given contact details.

Helpline number: 1800-425-6396 (Monday to Saturday, 9 a.m. to 5:30 pm)

E-mail: [india.callcentre@tpv-tech.com](mailto:india.callcentre@tpv-tech.com)

Information for EAC	
Month and year of manufacturing	please refer information in Rating label.
Name and location of manufacturer	ООО “Профтехника” Адрес: 3-й Проезд Марьиной роши, 40/1 офис 1. Москва, 127018, Россия
Importer and information	Наименование организации: ООО “Профтехника” Адрес: 3-й Проезд Марьиной роши, 40/1 офис 1. Москва, 127018, Россия Контактное лицо: Наталья Астафьева, +7 495 640 20 20 nat@profdisplays.ru

**Information for FAC:**

“Подтверждение соответствия Мининформсвязи России: Декларация соответствия № Д-PD-4342 от 01.09.2016 года, действительна до 01.09.2024 года, зарегистрирована в Федеральном агенстве связи 14.09.2016 года”

## NOTICE

### SOFTWARE END USER LICENSE AGREEMENT

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You can find the detailed information in Android OSD.

Settings -> About -> Legal information -> Open source licenses

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- [/recovery/root/sbin/mkfs.f2fs](#)
- [/recovery/root/sbin/recovery](#)
- [/root/file\\_contexts.bin](#)
- [/root/init](#)
- [/root/property\\_contexts](#)
- [/root/sbin/adbd](#)
- [/root/sbin/slideshow](#)
- [/root/seapp\\_contexts](#)
- [/root/selinux\\_version](#)
- [/root/sepolicy](#)
- [/root/service\\_contexts](#)
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- [/system/app/WAPPushManager/WAPPushManager.apk](#)
- [/system/app/tpvStorage/tpvStorage.apk](#)
- [/system/bin/am](#)
- [/system/bin/app\\_process32](#)
- [/system/bin/app\\_process64](#)
- [/system/bin/applvpatch](#)
- [/system/bin/appops](#)
- [/system/bin/appwldget](#)
- [/system/bin/arping](#)
- [/system/bin/atrace](#)
- [/system/bin/bu](#)
- [/system/bin/clatd](#)
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# 1. Unpacking and Installation

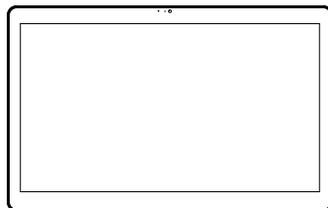
## 1.1. Unpacking

- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- After opening the carton, ensure that the contents are complete and in good condition.

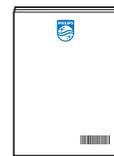
## 1.2. Package Contents

Please verify that you received the following items with your package content:

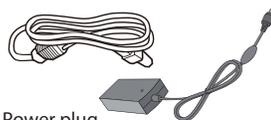
- LCD display
- Quick start guide
- DC Power adapter
- Power plug
- USB cable
- HDMI cable
- Stand
- Screws for Stand (4 PCS)
- Wire Clamper (2 PCS)
- Screws for 4G module board (2 PCS)



LCD display



Quick start guide

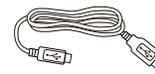


Power plug

DC power adapter



HDMI Cable



USB Cable



Stand



Screws for Stand  
(4 PCS)



Wire Clamper  
(2 PCS)



Screws for 4G module  
board (2 PCS)

\* Items may differ in different locations

\* Display design and accessories may differ from the images shown.

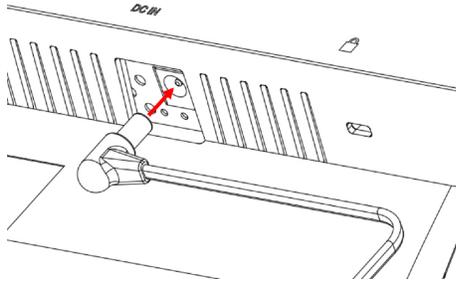
Notes:

- The recommended AC/DC adapter model: Philips ADPC2065  
The recommended AC/DC adapter model: ADP-65DE B (for India).
- For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country (Type H05W-F, 2G or 3G, 0.75 or 1 mm<sup>2</sup> should be used).
- Keep the packaging materials appropriately after unpacking the product.

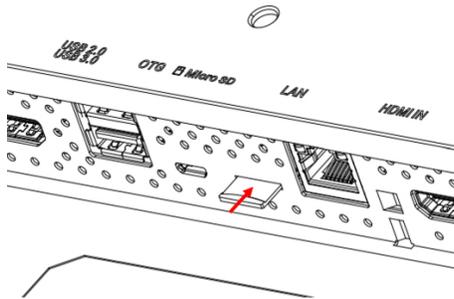
## 1.3. Installation

### 1.3.1. Connecting the power cable

1. Connect the power adapter's connector into the display's power input socket.
2. Insert the matching AC plug fully into the power adapter.
3. Plug the AC plug of your power adapter into an electric outlet to power on the device.

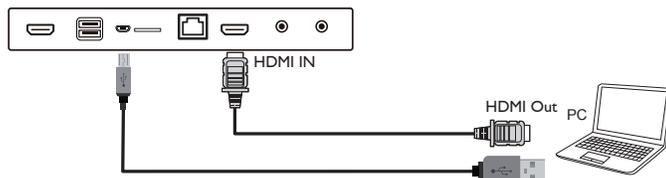


### 1.3.2. Inserting the Micro SD card



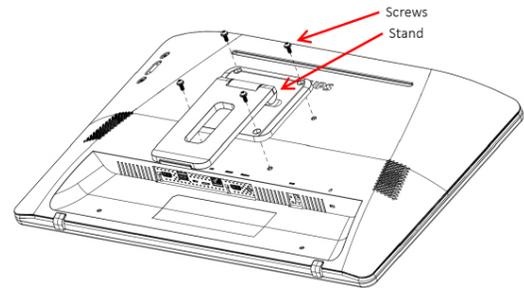
### 1.3.3. Using the touch function through a PC

1. Use the HDMI cable provided to connect from HDMI input to HDMI output of the PC.
2. Use the USB cable provided to connect the display to a PC through OTG port.

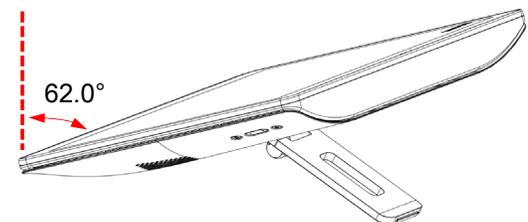
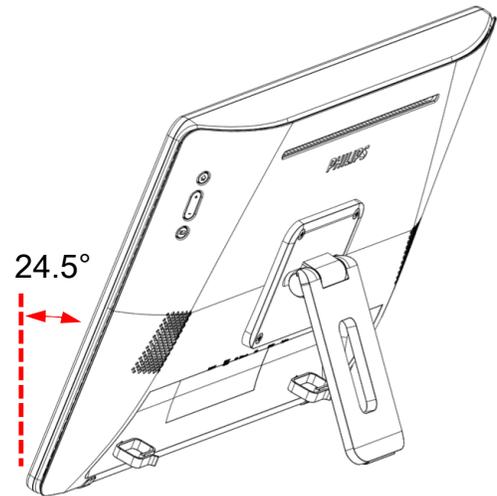
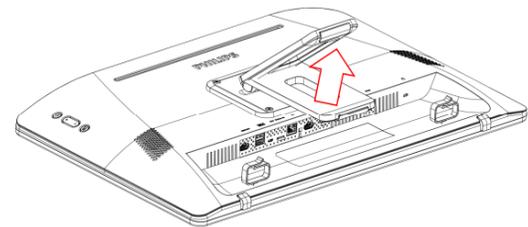


### 1.3.4. Installing the stand

1. Ensure that the display is powered off.
2. Spread a protective sheet on a flat surface to facilitate your operation without scratching the screen.
3. Lay the display face-down on the protective sheet.
4. Install the stand with four screws.

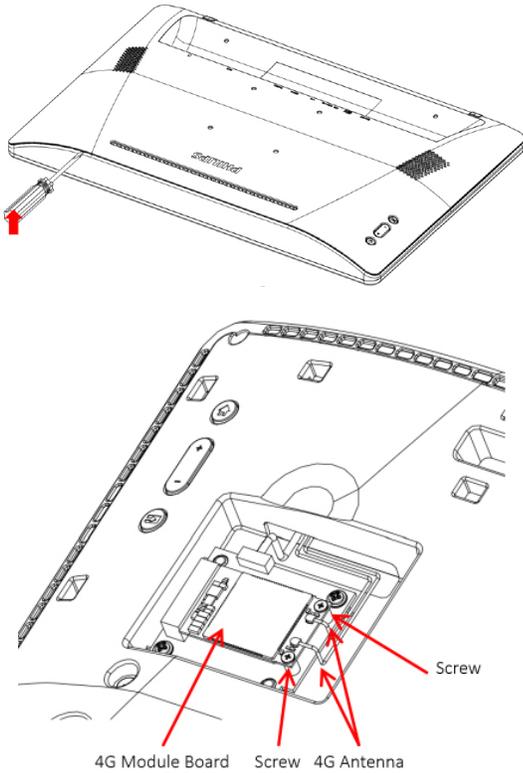


5. Lift the stand until a click sound is heard. The tilt angles for keeping the stand stable are 24.5 and 62 degrees.



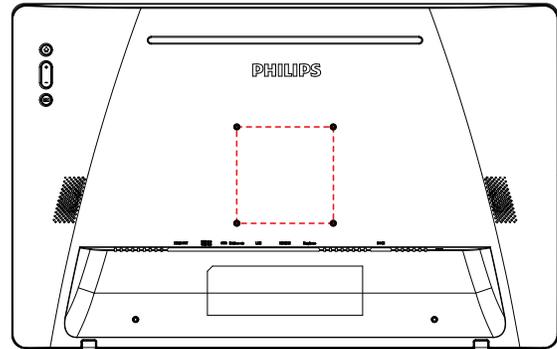
### 1.3.5. Installing the 4G Module

1. Carefully insert the flat head screwdriver into the gap of the rear cover:
2. Slightly lift the rear cover open.
3. Install the 4G module board by tightening the two screws using a suitable screwdriver.
4. Connect the 4G antenna cables to the connectors on the board.
5. Install back the rear cover.

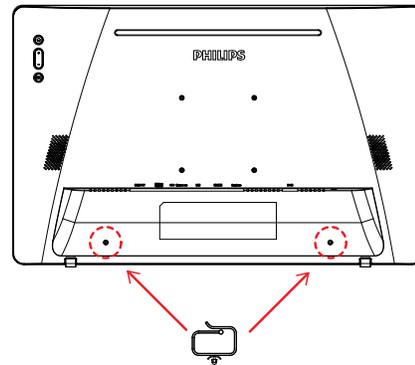


### 1.3.6. Mounting the display to the wall

1. Wall mount holes grid: 100mm(H) × 100mm(V)
2. Wall mount screw: M4x(14+X) (X=thickness of wall mount plate)

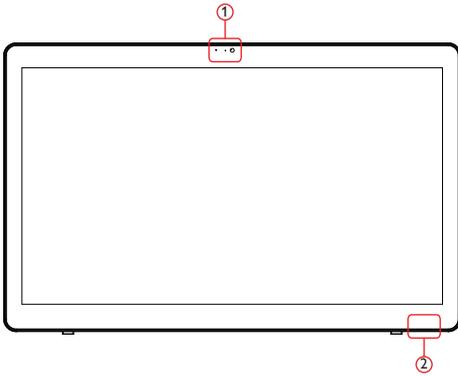


### 1.3.7. Using the wire clammer



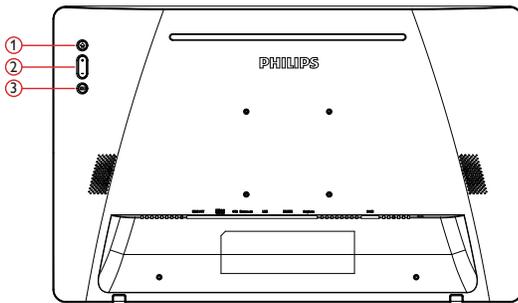
## 2. Physical view and features

### 2.1. Front View



- ① Front camera and microphone receiver
- ② Power status indicator

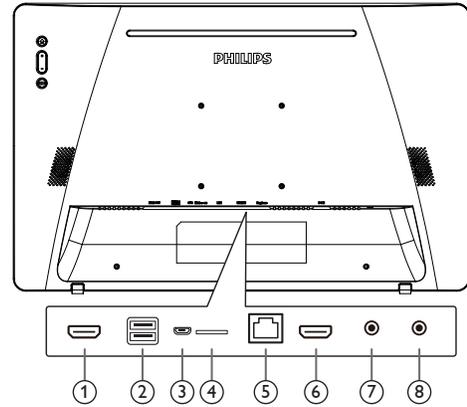
### 2.2. Rear View



- ① Menu: To activate the OSD menu.
- ② Volume +/-: Volume up and down.
- ③ Input: Select the input source.

Operation	Function
Menu + Volume-	Launch the Admin mode app
Menu + Volume+	Launch the Quick Information app
Menu + Menu + Volume+ + Volume- + Volume- + Volume+	Enable the touch function
Menu + Menu + Volume- + Volume-	Turn on the screen
Input	Switch between HDMI/Android source
Volume+	Launch the OSD of volume
Volume-	Launch the OSD of volume
Menu + Menu + Menu + Menu + Menu + Menu	Enable IME

### 2.3. Input/Output Terminals



- ① **HDMI OUT**  
Connect to an HDMI device.
- ② **USB PORT**  
Connect to a USB storage device.
- ③ **OTG**  
Connect to a USB storage for updating the firmware of the mainboard.  
Note: Reserved for updating the firmware only.  
USB touch will switch to PC USB upstream when the source selected is HDMI. (refer to 1.3.3. Using the touch function through a PC)
- ④ **Micro SD**  
Insert a Micro SD card.
- ⑤ **LAN**
  - The LAN control function is used for sending the remote control signal from the control center.
  - PoE+ (Power over Ethernet)
Notes:
  1. The PoE device should comply with the requirements of IEC60950-1 LPS.
  2. Use a shielded cable for the PoE function.
- ⑥ **HDMI IN**  
Connect to a source device via an HDMI cable.
- ⑦ **Earphone**  
Connect to an earphone through this 3.5 mm Ear Jack (CTIA standard).
- ⑧ **DC IN**  
Connect to the DC power adapter.

### 3. Operation

**NOTE:** The control button described in this section is mainly on the remote control unless specified otherwise.

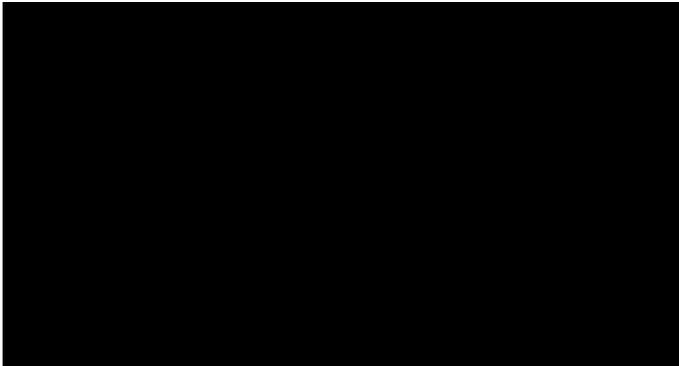
#### 3.1. Watch the Connected Video Source

1. Press the  SOURCE button to switch the video source between HDMI and Android.

#### 3.2. Overview

##### 1. Launcher:

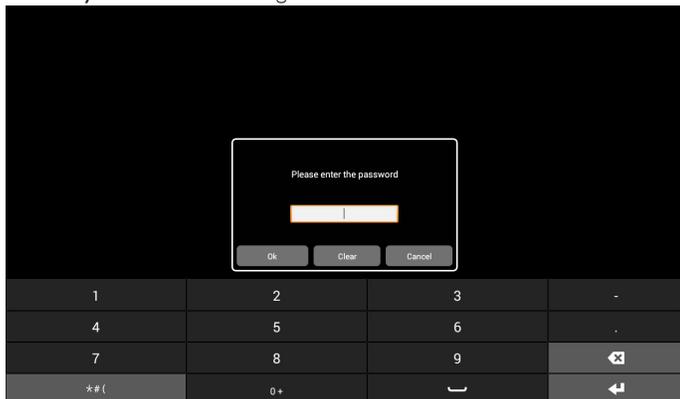
- The platform launcher is a black page as shown below:



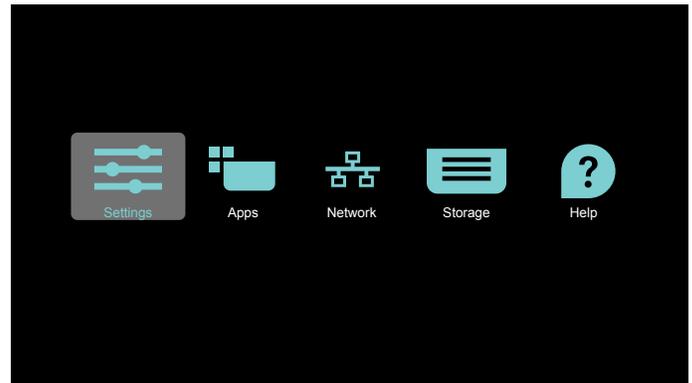
- Exit the App by pressing the "Return" key and the screen will enter Android PD launcher:

##### 2. Admin mode:

Admin mode allows you to setup and control the device. Press "Menu + Volume-" on the keypad to enter the Admin mode. A dialog box appears asking for the password. The default password is "1234". To change the password, go to **Settings > Signage Display > System Tools > Change the Administrator Password**.



The Admin mode consists of the following Apps: "Settings", "Apps", "Network", "Storage" and "Help".



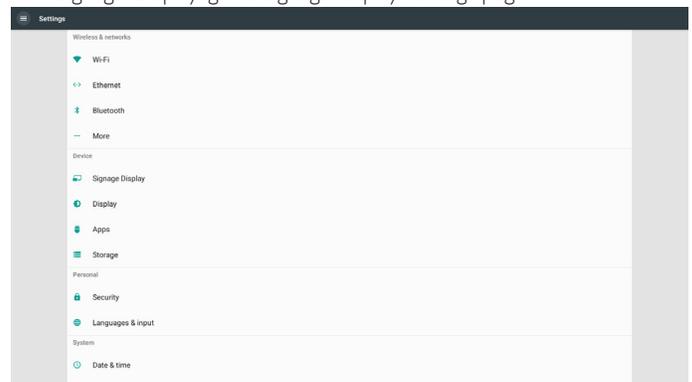
1. Settings: launch the App "Settings".
2. Applications: show all Apps.
3. Network: setup Wi-Fi, Ethernet and mobile network.
4. Storage: a simple file manager for user to view the list of file in the system.
5. Help: a link is provided for user to get help from Philips official website.

**Note:** When leaving from the Admin mode, the system goes back to boot on source.

##### 1) Settings page:

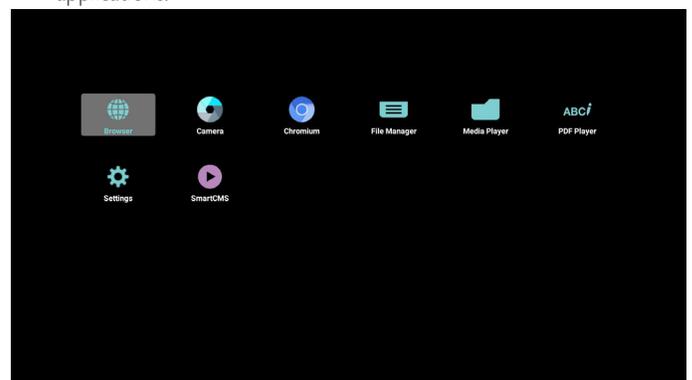
Settings: go to settings page.

Signage Display: go to signage display settings page.



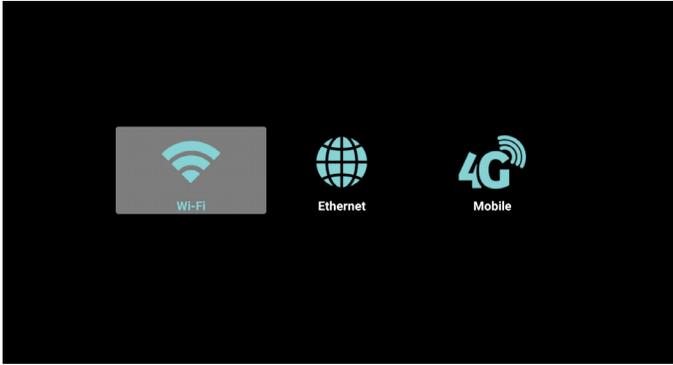
##### 2) Application page:

List all applications in this page, including user self-installed applications.



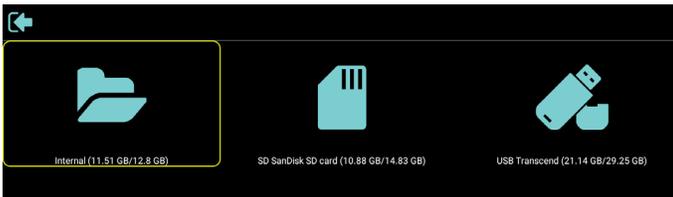
3) Network page:

Wi-Fi and Mobile options appear only when the Wi-Fi and Mobile modules are available.



4) Storage page:

Select from internal and external memories.



5) Help page:

Scan the QR code to link to Philips support website.



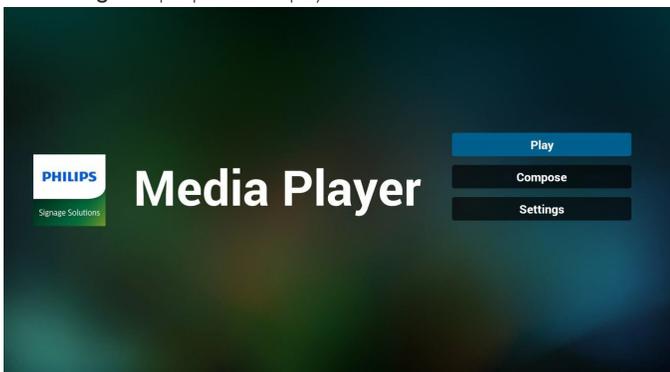
### 3.3. Media Player

#### 3.3.1. OSD menu interaction with media player

- Boot on source:
  - Input:
    - If you select "Media Player" as the source, the system will enter **Media Player** automatically after the boot process is completed.
  - Playlist:
    - Main page: go to the main page of media player.
    - Playlist 1 - Playlist 7: go to media player and playback File1 - File7 of the playlist automatically.
- Schedule:
  - Schedule list:
    - Set up to 7 schedules.
  - Enable:
    - Enable or disable the schedule.
  - Start time:
    - Set start time.
  - End time:
    - Set end time.
  - Playlist:
    - 1 - 7: go to media player and playback File1 - File7 of the playlist automatically.
  - Days of the week:
    - Set Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday.
  - Every week:
    - Set a weekly schedule.
  - Save
    - Save the schedule.

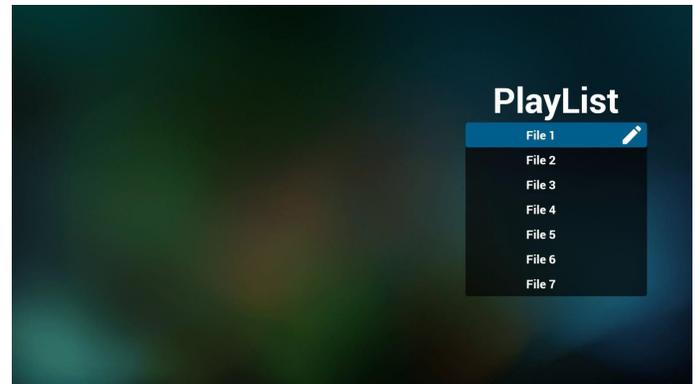
#### 3.3.2. Media Player introduction

- Main page of Media Player App, this App consists of three items: "Play", "Compose" and "Settings".  
**Play**: select the playlist to play.  
**Compose**: edit the playlist.  
**Settings**: set properties of playback.



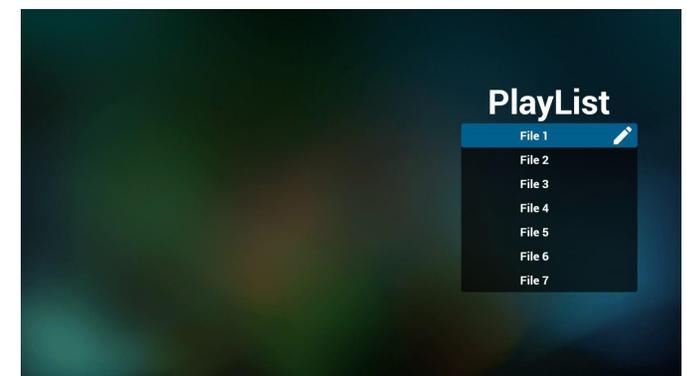
- Select "Play" on the main page, first you should select one playlist to play between FILE 1 and FILE 7.

The pencil icon means the playlist contains the content.



- Select "Compose" on the main page, first you should select one playlist to edit between FILE 1 and FILE 7.

The pencil icon means the playlist contains the content.



- If an empty playlist is selected, the App will guide you through selecting the media source.

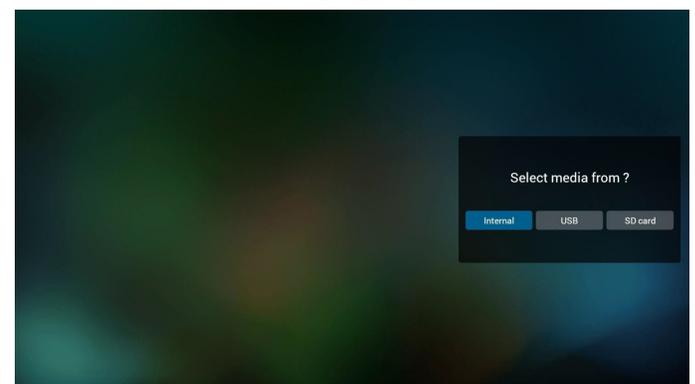
All media files should be stored in /philips/ of root directory.

For example:

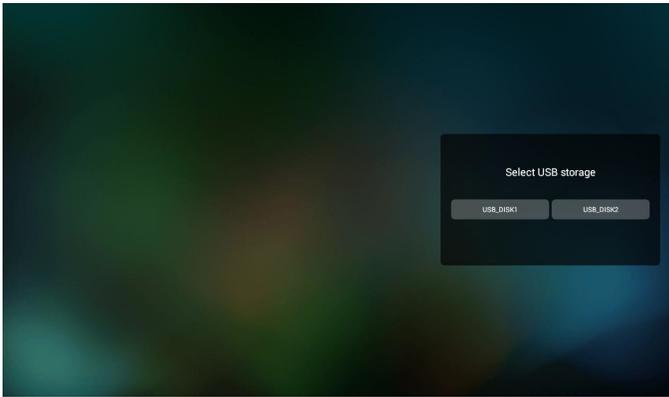
**videos: {root dir of storage}/philips/video/**

**photos: {root dir of storage}/philips/photo/**

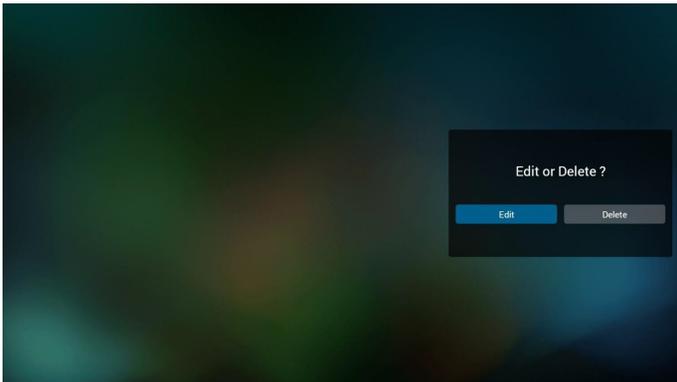
**music : {root dir of storage}/philips/music/**



- If you select "USB" storage, the App will guide you through selecting the USB device.



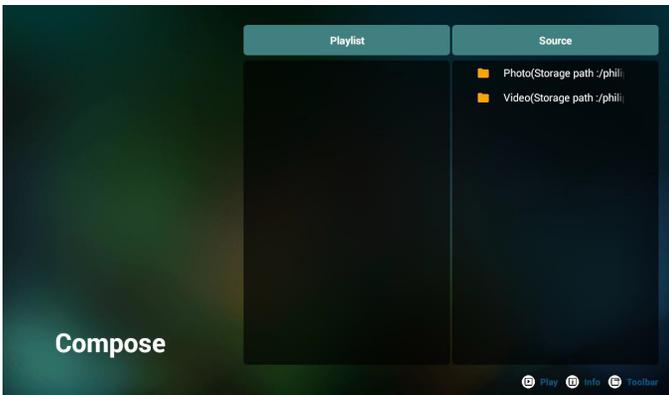
- To edit or delete a non-empty playlist, select the desired playlist that has a pencil icon on right side of the file.



- Once you start to edit a playlist, a menu is displayed as below.
  - Source** - files saved in the memory storage
  - Playlist** - files saved in the playlist
 The following functions can be operated through the corresponding keys on the remote control.
  - Option key** - launch the side menu bar
  - Play key** - play the media file
  - Info key** - show the media info
  - Touch file key** - select/deselect a file

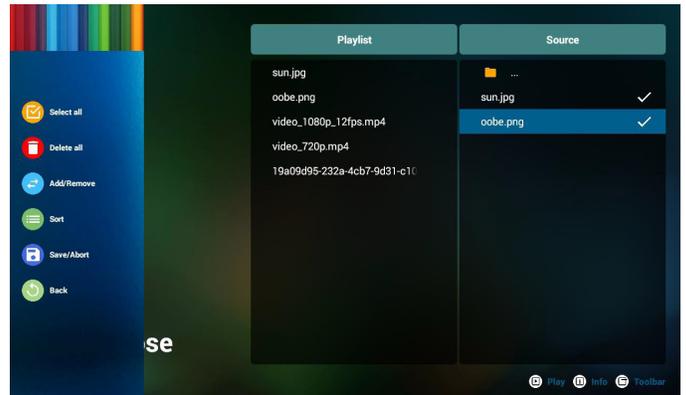
**Note:**

Tap and hold on the directory under "Source", a full path will be displayed.



- From the side menu bar, the following functions are available:

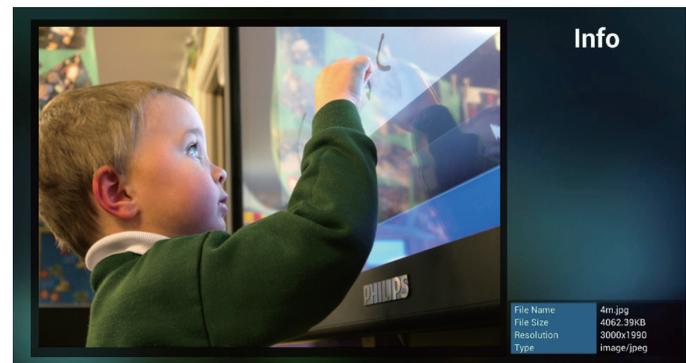
- **Select all:** select all files saved in the storage.
- **Delete all:** delete all playlist files.
- **Add/Remove:** add or remove a playlist from source.
- **Sort:** sort the playlist.
- **Save/abort:** save or abort the playlist.
- **Back:** return to the previous menu.



- If "Sort" is selected, you can customize the file order severally.



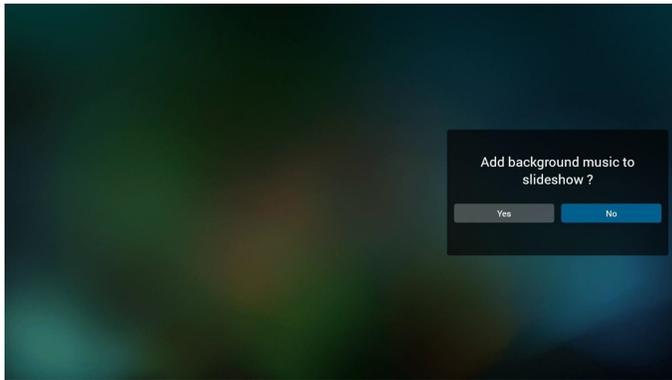
- After selecting the desired file, press "Info" key to obtain the detailed information.



10. After selecting the desired file, press "Play" key to play the media file immediately.



11. If you create a playlist with all image files, you will be asked to add a background music to the slideshow before saving.

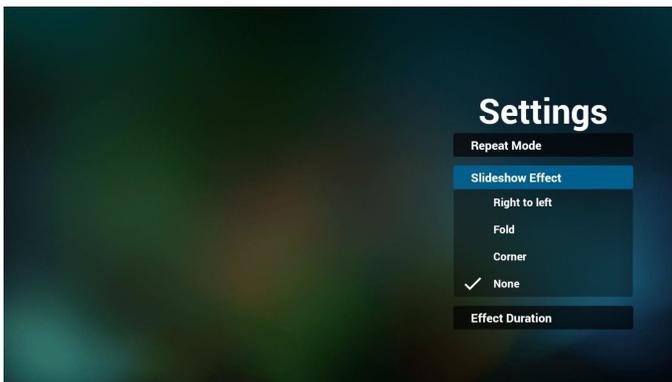


12. Select "Settings" on the main page, there are 3 options available: "Repeat Mode", "Slideshow Effect" and "Effect Duration".

**Repeat Mode:** set the repeat mode.

**Slideshow Effect:** photo slideshow effect.

**Effect Duration:** duration of photo effect.



13. Refer to 5. Supported Media Formats for the complete list of Media format.

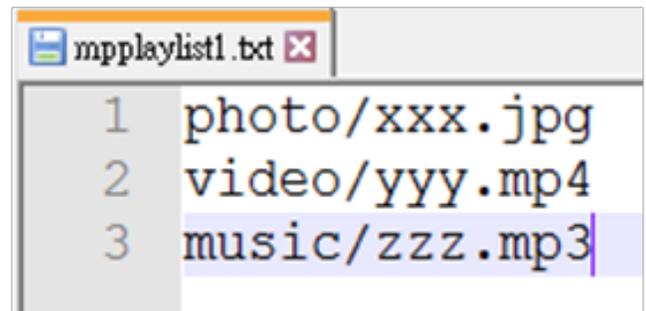
14. How to edit the playlist via FTP.

Step 1. Create a text file of media player:

- File name: mpplaylistX.txt, "X" means playlist number(1,2,3,4,5,6,7).

Ex. mpplaylist1.txt, mpplaylist2.txt

- Content:



Note: If a playlist contains both video and music files, a black screen will display when the system plays the music file.

Step 2. Copy "mpplaylistX.txt" to "philips" folder of the internal storage. You may use FTP to do this.

- File path : /storage/emulated/legacy/philips
- Ex. /storage/emulated/legacy/philips/mpplaylist1.txt

Step 3. Add the media files in "Photo", "Video" and "Music" folders which are under "Philips" folder of your internal storage.

- Ex. /storage/emulated/legacy/philips/photo/xxx.jpg
- /storage/emulated/legacy/philips/video/yyy.mp4
- /storage/emulated/legacy/philips/photo/zzz.mp3

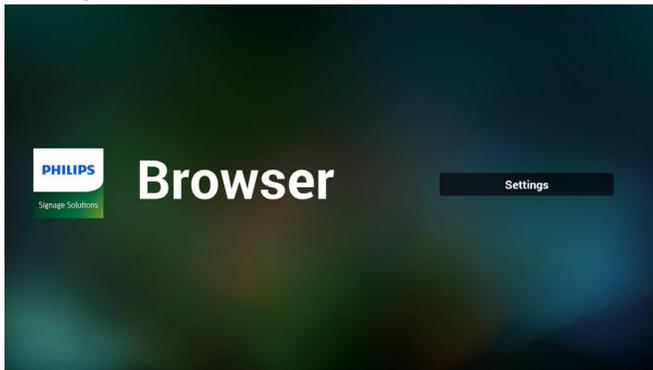
Step 4. Start Media player App, it will import the text file of media player automatically.

Note: Once the playlist file (text) is imported, any changes made through the remote control will not be recorded in the playlist text file.

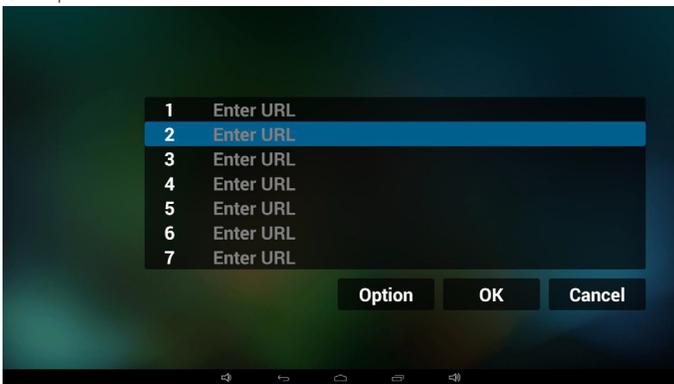
### 3.4. Browser

Before using this feature, ensure that the system is connected successfully to the network. (See 4.1. Wi-Fi & 4.2. Ethernet)

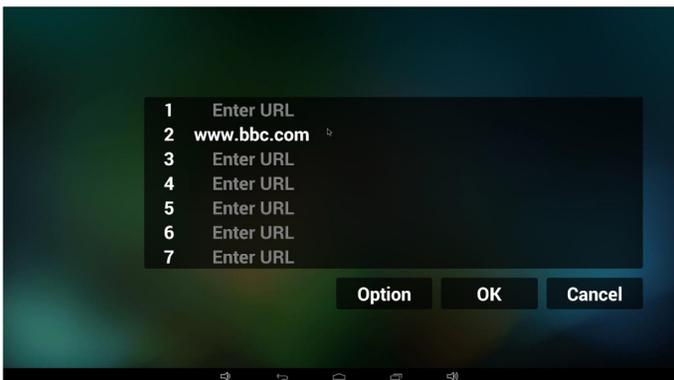
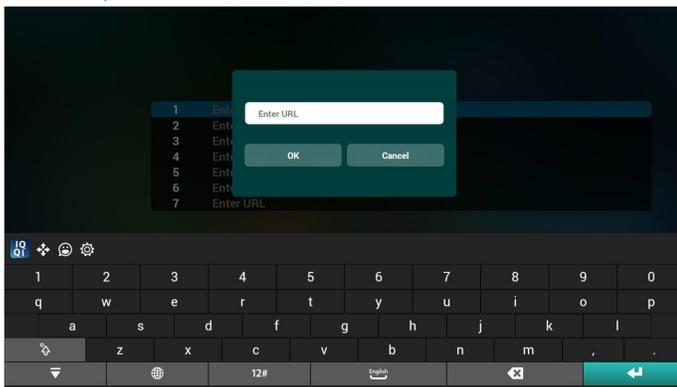
1. Main page of "Browser" App which allows you to make related settings.



2. Up to 7 browsers can be set. Select one and click the "OK" button.



3. Use the on-screen keyboard to enter URL and click the "OK" button, the data will be saved in the List.



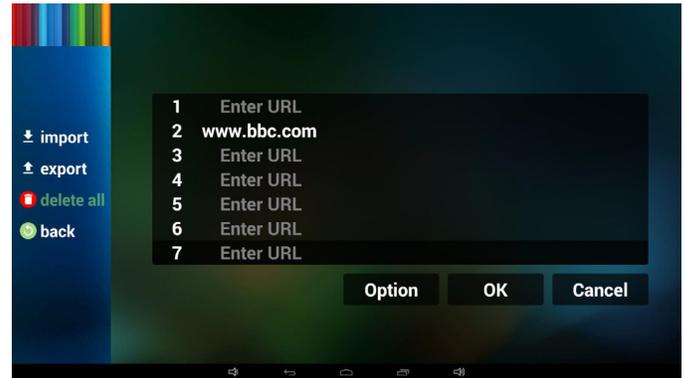
4. From the side menu bar on left side of the screen, the following functions are available:

**Import:** import the file of URL list

**Export:** export the file of URL list

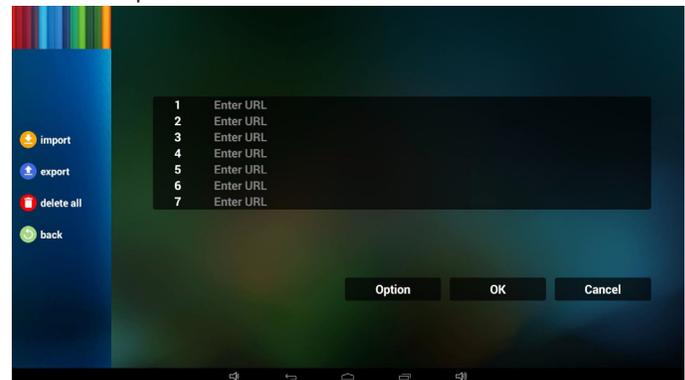
**Delete all:** delete all URL records from the main screen

**Back:** close the side menu bar

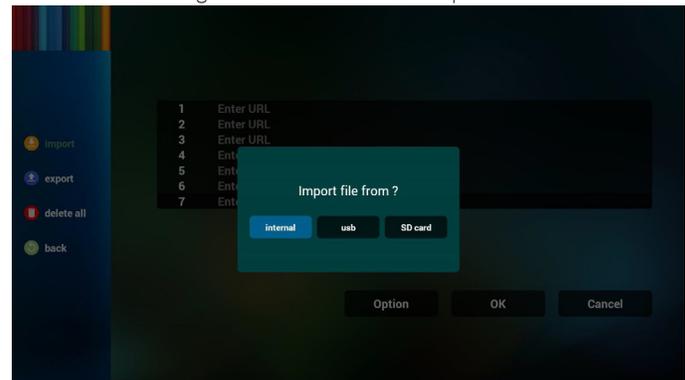


#### 4.1 Import

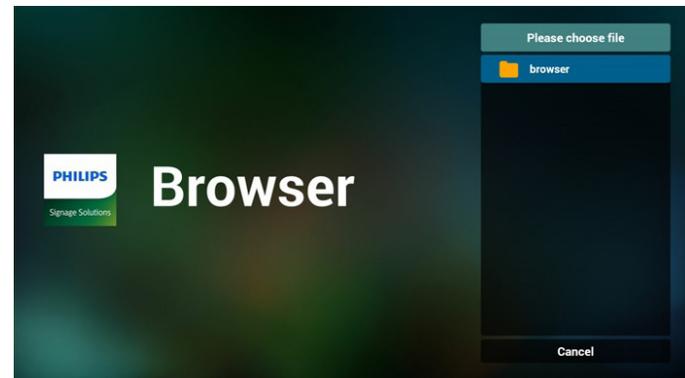
- Select import.



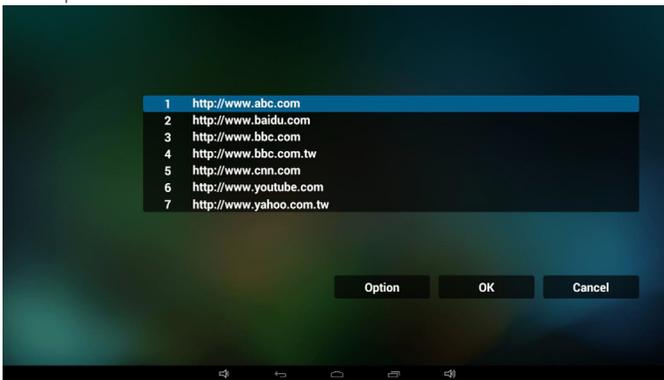
- Select the storage where the file will be imported from.



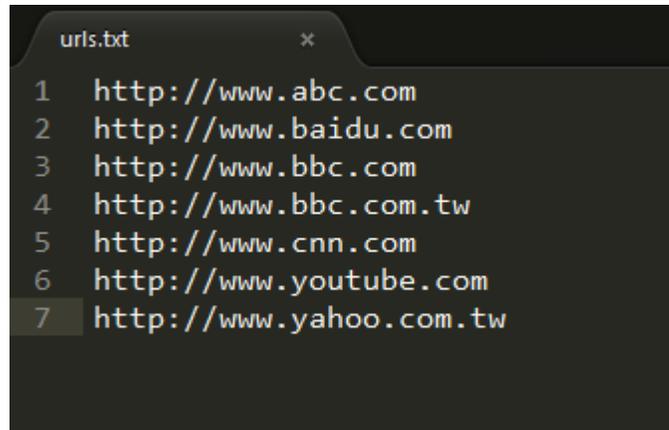
- Select a browser file



- Import the browser file and the URL will be listed on the screen.

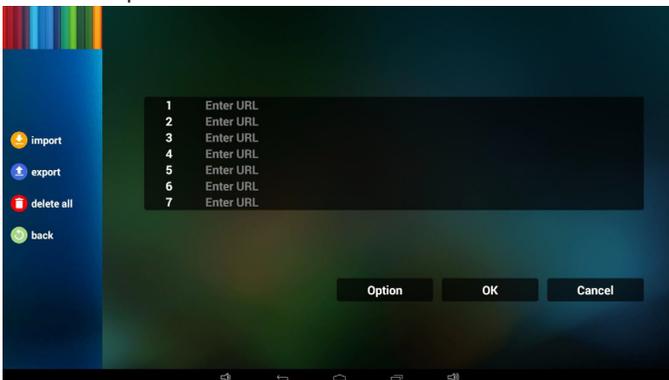


- The file format supported for import is ".txt".

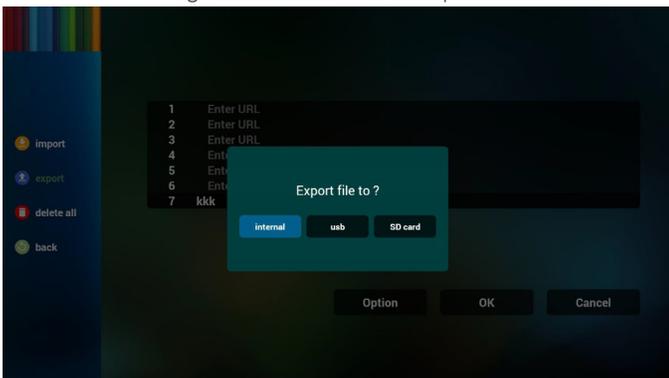


#### 4.2 Export:

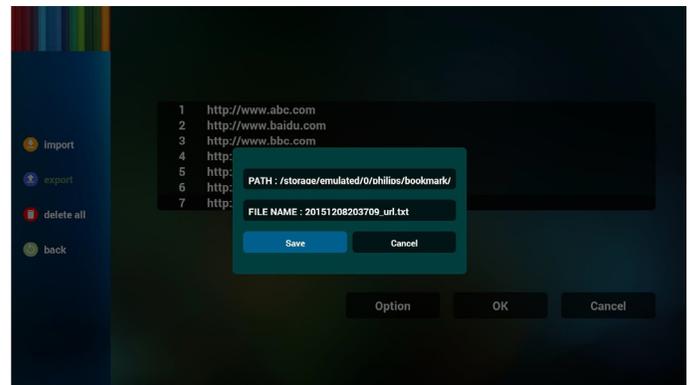
- Select **export**.



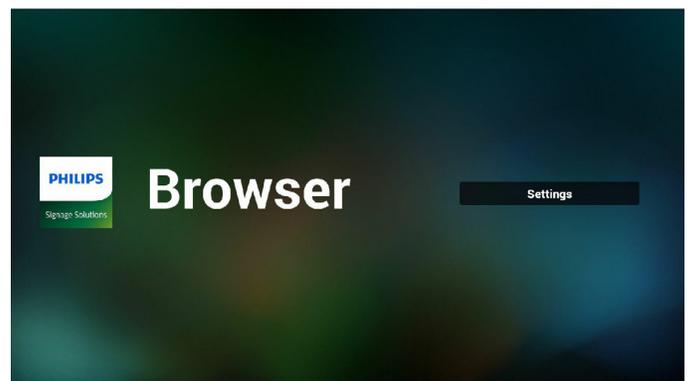
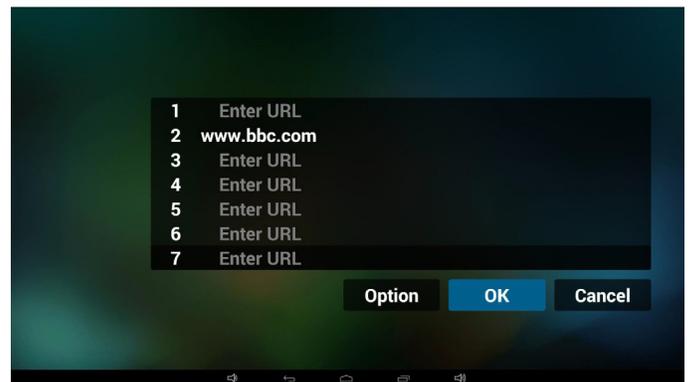
- Select the storage where the file will be exported to.



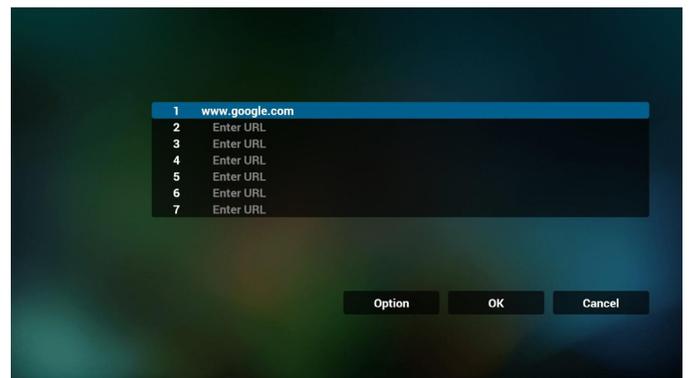
- A dialog box displays the path of the file to be saved as well as the file name. Press the "Save" button to save the URL.

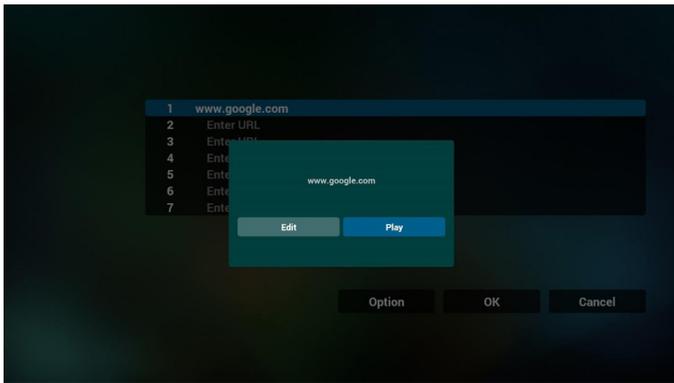


- Press the "OK" button to save the URL record.



- If you select a non-empty item from the URL list, a message will appear asking if you want to edit or play the URL. If you select "Edit", a dialog box allows you to edit the URL. If you select "Play", a web page of the selected URL appears.





## 7. OSD menu interaction with Browser

### 7.1 Boot on source

- **Settings > Signage Display > General Settings > Boot on source**  
> Set BROWSER Play List to 0.  
Then PD will show Browser after rebooting.
- **Settings > Signage Display > General Settings > Boot on source**  
> Set BROWSER Play List to 1.  
The web page of the first URL from Browser App will be shown on the screen.

### 7.2 Schedule

**Settings > Signage Display > General Settings > Schedule > On time1, Off time2, Input BROWSER, the desired day of the week, and the Playlist.**

Finally check the right box.

The web page of the URL from Browser App will be shown on the screen at time1 and finished at time2.

## 8. How to edit the url list via FTP

Step 1. Create a text file of media player:

- File name: bookmarklist.txt.
- Content:



Step 2. Copy bookmarklist.txt to "philips" folder of the internal storage. You may use FTP to do this.

- File path: /storage/emulated/legacy/philips (for DL, PL)

Ex. /storage/emulated/legacy/philips/bookmarklist.txt

Step 3. Start Browser App, it will import the text file of Browser automatically.

Note: Once the playlist file (text) is imported, any changes made through the remote control will not be recorded in the playlist text file.

## 3.5. PDF Player

### 3.5.1. OSD menu interaction with PDF player:

1. Boot on source:
  - Input:
    - If you select "PDF Player" as the source, the system will launch PDF Player automatically after the boot process is completed.
  - Playlist:
    - 0: go to the main page of PDF player.
    - 1 - 7: go to PDF player and playback File1 - File7 of the playlist automatically.
2. Schedule:
  - Today :
    - Show date and time.
  - 1 - 7 :
  - Set up to 7 schedules.
  - On/Off :
    - Set start time and end time.
  - Input :
    - Select PDF player as the source, the PD will launch the PDF player automatically at end time.
  - MON,TUE,WED,THU, FRI, SAT, SUN, Every week :
    - Set life cycle.
  - Play list :
    - 0: go to the main page of PDF player.
    - 1 - 7: go to PDF player and playback File1 - File7 of the playlist automatically.
  - Clear all

### 3.5.2. PDF Player introduction:

1. The main page of PDF Player; this page consists of three options: "Play", "Compose" and "Settings".

**Play:** select a playlist to play.

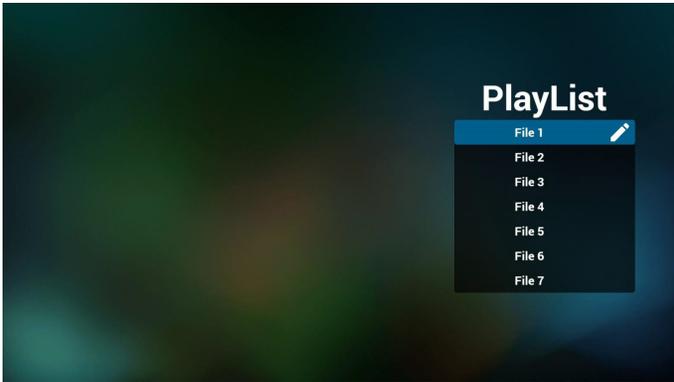
**Compose:** edit the playlist.

**Settings:** configure the properties of PDF Player.



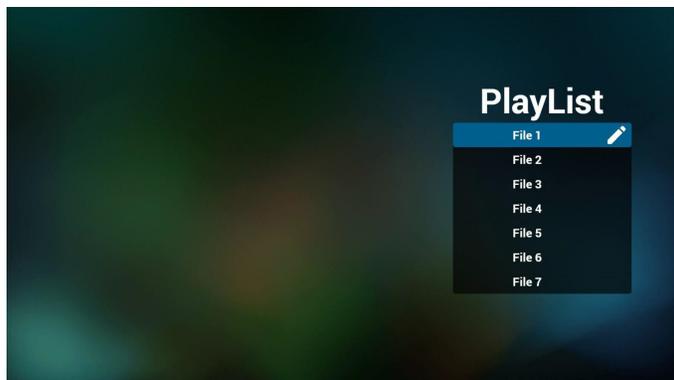
2. Select "**Play**" on the main page, first you should select one playlist to play between FILE 1 and FILE 7.

The pencil icon means that the playlist contains the content.



3. Select "**Compose**" on the main page, first you should select one playlist to edit between FILE 1 and FILE 7.

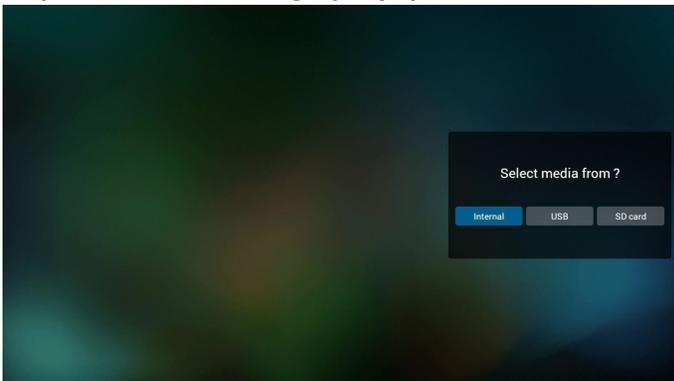
The pencil icon means that the playlist contains the content.



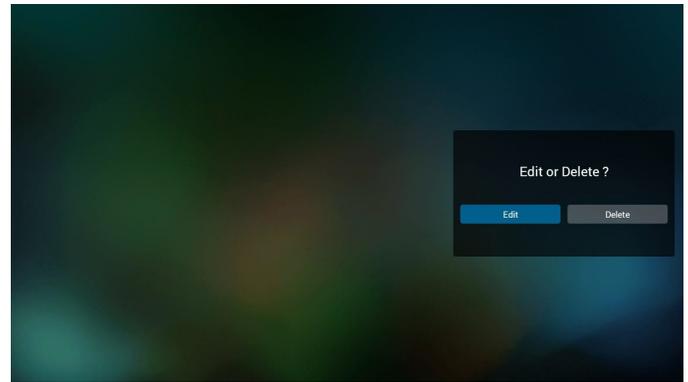
4. If an empty playlist is selected, the App will guide you through selecting the media source.

All media files should be stored in /philips/ of root directory. For example:

**pdfs : {root dir of storage}/philips/pdf/**



5. To edit or delete a non-empty playlist, select the desired playlist that has a pencil icon on right side of the file.



6. Once you start to edit a playlist, a menu is displayed as below.

**Source** - files saved in the memory storage

**Playlist** – files saved in the playlist

The following functions can be operated through the corresponding keys on the remote control.

**Option key** – launch the side menu bar

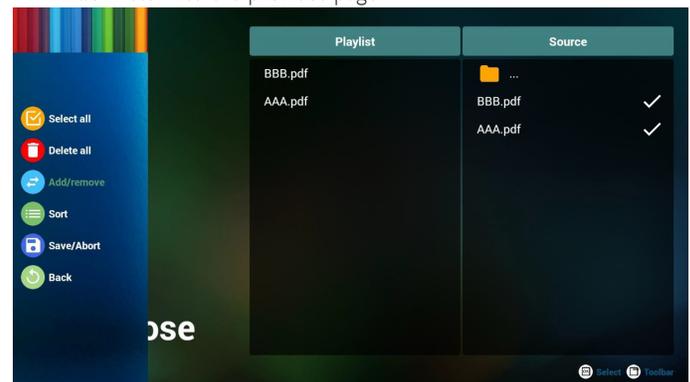
**Play key** – play the media file

**Info key** – show the media info

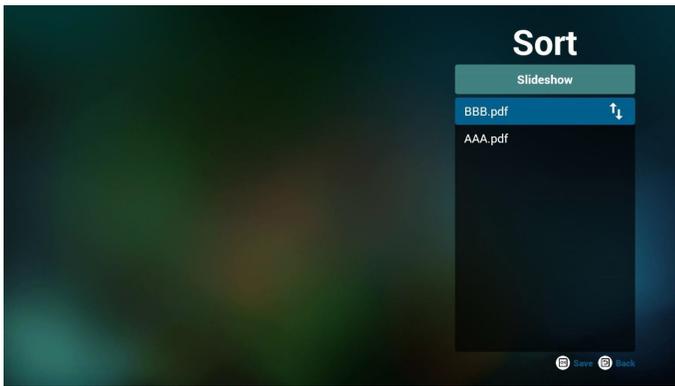
**Ok key** – select/deselect a file

6-1. From the side menu bar, the following functions are available:

- **Select all:** select all files saved in the storage
- **Delete all:** delete all playlist files
- **Add/Remove:** add or remove a playlist from source
- **Sort:** sort the playlist
- **Save/Abort:** save or abort the playlist
- **Back:** return to the previous page



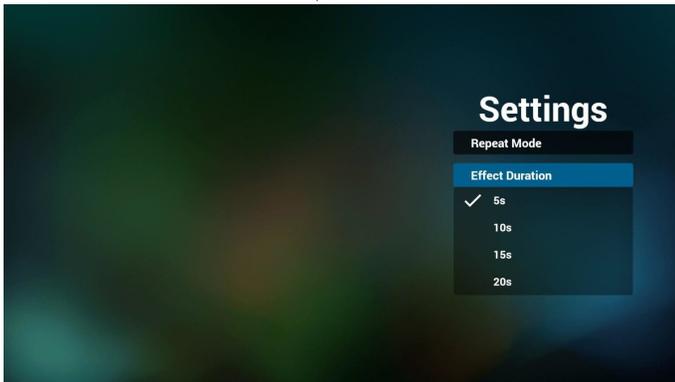
7. If "**Sort**" is selected, you can customize the file order severally.



8. Select "Settings" on the main page, there are 2 options available: "Repeat Mode" and "Effect Duration".

**Repeat Mode:** Set the repeat mode.

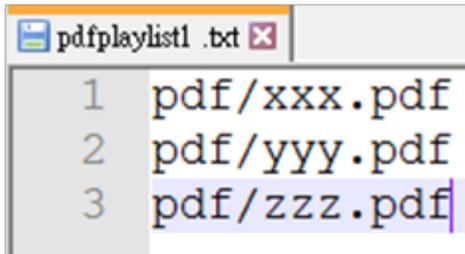
**Effect Duration:** Duration of photo effect.



9. How to edit the pdf list via FTP?

Step 1. Create a text file of PDF player:

- File name : pdfplaylistX.txt, "X" means playlist number(1,2,3,4,5,6,7).  
Ex. pdfplaylist1.txt, pdfplaylist2.txt
- Content:



Step 2. Copy pdfplaylistX.txt to "philips" folder of the internal storage. You may use FTP to do this.

- File path: /storage/emulated/legacy/philips (for DL, PL)  
Ex. /storage/emulated/legacy/philips/pdfplaylist1.txt

Step 3. Add the PDF files in "PDF" folder which is under "Philips" folder of your internal storage.

- Ex. /storage/emulated/legacy/philips/pdf/xxx.pdf  
/storage/emulated/legacy/philips/pdf/yyy.pdf  
/storage/emulated/legacy/philips/pdf/zzz.pdf

Step 4. Start the PDF player App, it will import the text file of PDF player automatically.

PS. Once the playlist file (text) is imported, any changes made through the remote control will not be recorded in the playlist text file.

### 3.6. CMND & Play

- 1) Server

Setup CMND & Play server address

- 2) Account

Setup CMND & Play account

- 3) PIN Code

Setup CMND & Play PIN code

- (4) Version

There are two options, Ver.2 and Ver.3

Ver. 2

use 2.0/2.2 agreement

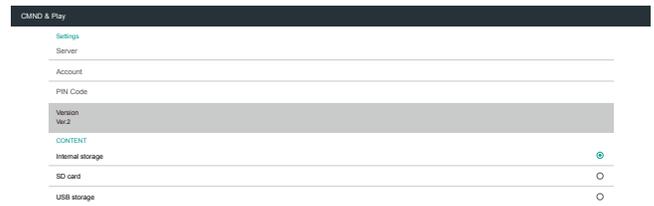
Ver. 3

use 3.0/3.1 agreement

- (5) Content

There are 3 options available: internal storage, SD card and USB storage.

If Ver.2 is selected, Server/Account/PIN Code will be shown in gray and cannot be set.



### 3.7. Custom App

Settings > Signage Display > Source settings > Custom app

You can set up customer source APK. The selected APK will be launched when switching into customer input source. If customer source APK is not set, the system shows a black screen when switching to customer input source.



If a custom source APK is set, the APK name will be displayed. Otherwise, it means that the custom App has not been set.

Dialog box of "Select app":



Note:

The APKs pre-installed by the system will not be shown on the list. Only the APKs that were installed manually will be listed.

#### Save

Click the "Save" button to select the APS as the custom source application. It will be shown in gray if no available application can be selected.

**Forget**

Clear the custom source application. It will be shown in gray if the customer source application has not been set.

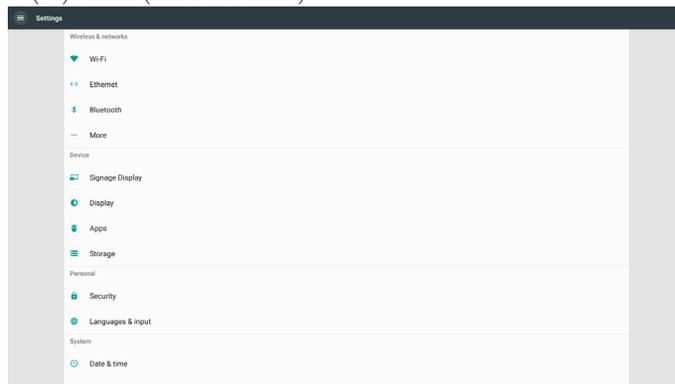
**Cancel**

Cancel and close the dialog box.

**4. OSD (On-Screen Display)**

The OSD menu consists of the following items:

- (1) Wi-Fi (See 4.1. Wi-Fi)
- (2) Ethernet (See 4.2. Ethernet)
- (3) Bluetooth (See 4.3. Bluetooth)
- (4) Signage Display (See 4.4. Signage Display)
- (5) Display (See 4.5. Display)
- (6) Apps (See 4.6. Apps)
- (7) Storage (See 4.7. Storage)
- (8) Security (See 4.8. Security)
- (9) Language & input (See 4.9. Languages & input)
- (10) Date & time (See 4.10. Date & time)
- (11) Developer options (See 4.11. Developer options)
- (12) About (See 4.12. About)

**4.1. Wi-Fi**

Go to the wireless network settings by selecting "Settings" > "Wi-Fi". On the available network list, select an AP (Access Point) on an existing wireless network.

Note:

When Wi-Fi is enabled, Ethernet will be disabled automatically.

**4.2. Ethernet**

Go to the Ethernet network settings by selecting "Settings" > "Ethernet", and make the required settings.

**[Connection Type]****[DHCP]**

DHCP automatically provides the IP address, Netmask, DNS Address and Gateway to access the Internet so you do not have to enter them manually.

If the connection is successful, the current network configuration will be displayed.

**[Static IP]**

Enter the IP address, Netmask, DNS address and gateway manually.

Note:

The restrictions for inputting the IP address, netmask, DNS address and gateway address.

Format: number 0-9, decimal point "."

**[Mac Address]**

Show Ethernet MAC address which is not adjustable.

Note :

Ethernet will be disabled automatically if Wi-Fi is connected to the network correctly.

### 4.3. Bluetooth

1. Go to the Bluetooth settings by selecting "Settings" > "Bluetooth" > "On".
2. The system scans for and displays the IDs of available Bluetooth devices within range.
3. Touch the ID of the Bluetooth device to pair with it.
4. Confirm the passkey that appears and touch Pair. On the other Bluetooth device, accept the identical passkey for pairing.
5. To unpair the Bluetooth device, select "Unpair" on the connected device you want to unpair.



### 4.4. Signage Display

Set up the Signage Display.



#### 4.4.1. General Settings

Configure Signage Display name, ID, logo, boot on source and schedule.

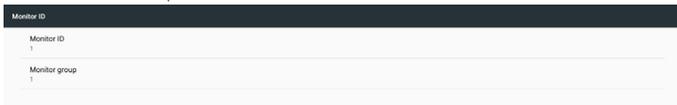
##### [Signage Display Name]

Set the PD name. The default name is the Ethernet MAC address with the prefix "PD\_". For example, "PD\_000b12223398". The maximum length of the PD name is 36 characters in UTF8 format. Click on the PD name to rename it.



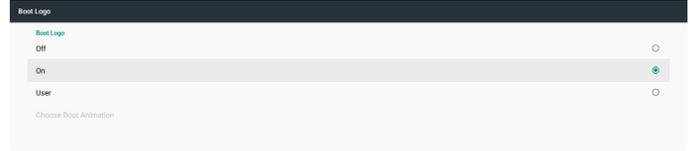
##### [Monitor ID]

Monitor ID ranges from 1 to 255 decimal, whereas Monitor Group ranges from 1 to 254 decimal. The default settings of Monitor ID and Monitor Group are 1.



##### [Boot Logo]

Set up the boot logo (boot animation) mode for the device. The default setting is On.



##### [Off]

Turn off boot animation.

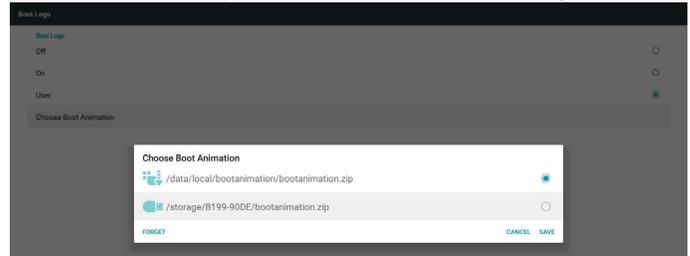
##### [On]

Turn on boot animation and use the default logo of PHILIPS.

##### [User]

Turn on boot animation and use the boot animation file selected by the user. The name for boot animation file is "bootanimation.zip".

Click "Choose Boot Animation" and a dialog box will appear for user to select the boot animation file. The system scans for the files automatically under the SD card and USB storage.



Introduction of functions:

- a. Option description



File under /data/local/bootanimation/:  
Use customized boot animation file which is copied from SD card or USB



File under /storage/{USB\_STORAGE\_ID}/:  
Use boot animations file under SD card



File under /storage/{SD\_STORAGE\_ID}/:  
Use boot animations file under USB

- b. Save

If you select  or , press **Save** key to save bootanimation.

zip from the SD card or USB to /data/local and set it as boot logo.

- c. Forget

Press the **Forget** key to delete /data/local bootanimation.zip and conceal the boot logo.

- d. Cancel

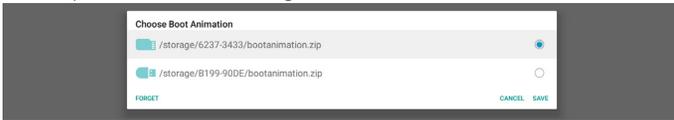
Cancel and close the dialog box.

When the system cannot find any bootanimation.zip file under external storage (USB, SD) and /data, the file list will be empty. The "SAVE" and "FORGET" options become gray and user should check the external storage (USB, SD) to find the correct file. Insert the external storage device and try again.

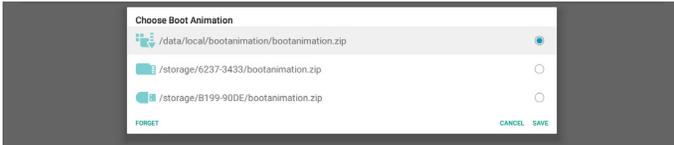


If /data/local/bootanimation/ folder is empty, it means that bootanimation.zip file has not been saved previously. User logo will not be shown during system power up.

The files “bootanimation.zip” found under external storage (USB, SD card) are listed in the dialog box.



If the file “bootanimation.zip” can be found in the folder “/data/local/bootanimation/”, the pop-up dialog box will show that file as the first option. It simply means that user has previously copied (saved) the file “bootanimation.zip” and that the system will boot up with boot animation from “bootanimation.zip”.



The user can replace the boot animation file by using the “SAVE” button.

### [Boot on source]

Boot on source for the user to set up the default source when the device powers on.



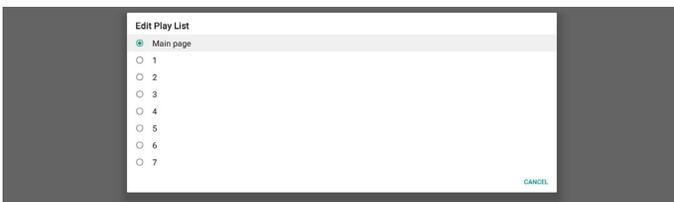
#### [Input]

The system will boot with the selected source automatically after the system has completed the booting process.



#### [Playlist]

If the input source is Media Play, Browser or PDF Player; you can select the playlist for auto playback or boot to source's main page.



Please note that if “Custom App” is selected as boot on source, then the user specified application (APK) must be selected in **Settings > Signage Display > Source Settings > Custom APP**.

### [Schedule]

Set up auto playback schedule.

Notes:

- Schedule priority is higher than Display > Sleep and Display > Screen save. When the schedule is started, the system keeps auto playback until the schedule ends, regardless of sleep time.
- When the schedule is off (end time), the system can only be woken up by the next schedule's start time, hot key or network SICP command. After waking up the system, the system shows a black screen since playback applications are completed. If the touch mode is enabled, you can recall the navigation bar by scrolling it up with your finger; or you can enter the Admin mode and Quick Info by using the hot key.

- The hot key is available when the system enters sleep mode. You can enter the Admin mode or show the Quick Info dialog box by using the hot key.



#### [Schedule list]

Up to 7 schedules can be set. Each schedule can be set independently.

#### [Enable]

Enable/Disable the schedule selected from the schedule list. Each schedule has its own Enable/Disable switch.

#### [Start time]

Set the start time of the selected schedule.

#### [End time]

Set the end time of the selected schedule.

#### [Input]

Set the input source for auto playback the selected schedule when the schedule starts.

#### [Playlist]

Select the playlist from 1 to 7. If the “Input” is one of the followings, Media Player; Browser and PDF Player; then you can set the playlist and schedule of auto playback.

#### [Days of the week]

Set the days you want to playback the content.

#### [Every week]

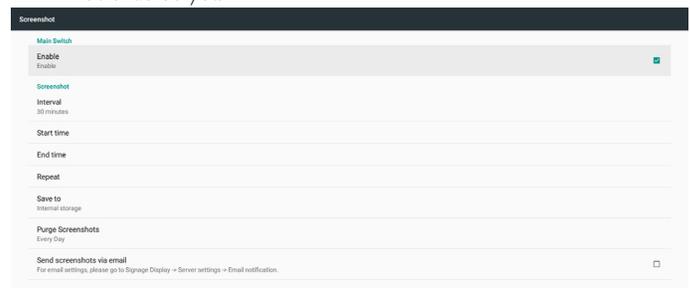
Set weekly schedule of playback.

#### [SAVE]

Store the settings of the selected schedule. Remember to click the “Save” button, or the settings won't be active.

### [Screenshot]

To capture the screenshots from the imported content, click “Enable” to enable the auto screenshot function. If the screenshot options are shown in gray, it means that the screenshot function is not enabled yet.



After enabling this feature, you can set the interval time between each screenshot, as well as the destination folder where the captured screen will be saved. The option “Save to” notifies you that the screenshot images will be saved in the internal storage and they cannot be changed manually.

Notes:

- A. The screenshot images will be deleted automatically under the following conditions:
1. When the start time of screenshot feature is set to 0 second.
  2. Starting the screenshot at 40 seconds of minute.
  3. If you decide to purge the screenshot photos every week, the data of deleting the photos will be changed to the day that you apply the setting of screenshot feature.  
For example, if you set the purging day to Monday of every week, then changed other settings in screenshot feature on Friday, the purging day will be changed to Friday (the day of system's current time).
- B. Sleep (system suspend) and screenshot feature:  
The screenshot feature is suspended when the system enters sleep mode. The function of mailing out the screenshot is consequently suspended. The screenshot-related features will be restarted when the system enters active mode.

#### [Interval]

Set the interval time between each screenshot. The available options are 30 and 60 minutes.

#### [Start Time]

Set the start time of a day to begin the screenshot function.

- a. Make sure that you click the "Save" button before leaving the dialog box, or your settings will not be saved.
- b. The start time must be lower than the end time. A toast message will appear notifying you if it is an invalid value.

#### [End Time]

Set the end time of a day to end the screenshot function.

- a. Make sure that you click the "Save" button before leaving the dialog box, or your settings will not be saved.
- b. The end time must be greater than the start time. A toast message will appear notifying you if it is an invalid value.

#### [Repeat]

Set the repeat mode for auto screenshot.

#### [Save to]

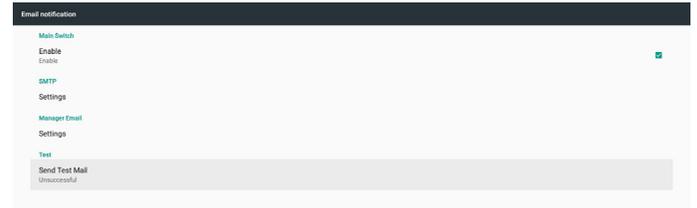
The screen images will be saved under the synthesis folder named "philips/screenshot" of the internal storage.

#### [Purge Screenshots]

Set the interval time for deleting the screenshot images. The available options are "Every day" and "Every week".

#### [Send screenshots via email]

You can send every screenshot image as an e-mail attachment. Go to "Settings > Signage Display > Server Settings > Email notification" for setting the e-mail information. (See [Email Notification]).

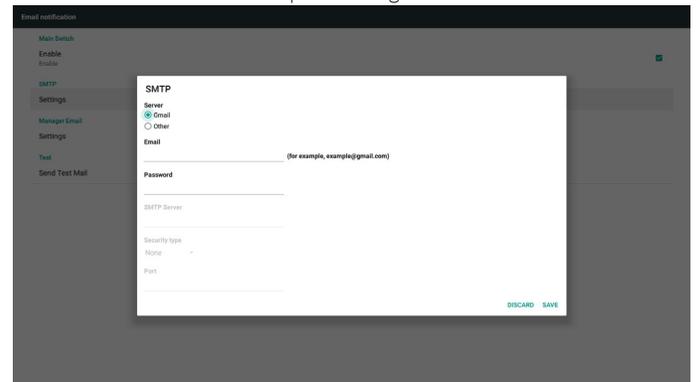


#### [SMTP]

Setup sender's E-mail address and SMTP server information. There are two types of SMTP server for user to set up: "Gmail" and "Other". By using the "Other" option, you can manually setup the SMTP server, security type and server port.

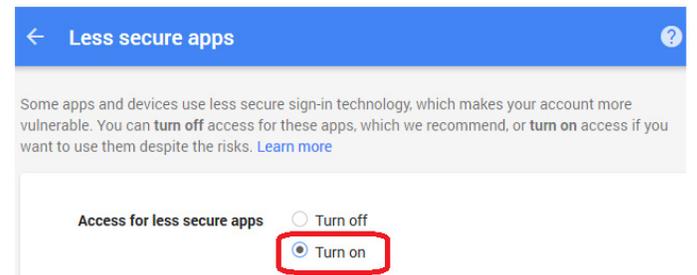
Notes:

- a. The password should be in UTF8 format with 6 to 20 characters.
- b. Port 5000 (SICP default port) and 2121 (FTP server default port) cannot be set.
  - i. Go to "Settings > Signage Display > Network Application > SICP network port" for SICP network port setting.
  - ii. Go to "Settings > Signage Display > Network Application > SICP network port" for SICP network port setting.



#### Gmail safety setting

If a problem occurs when sending the e-mail via Gmail, please visit Google website "https://www.google.com/settings/security/lesssecureapps" for checking the security setting of your Google Account. Then turn on "Access for less secure apps".



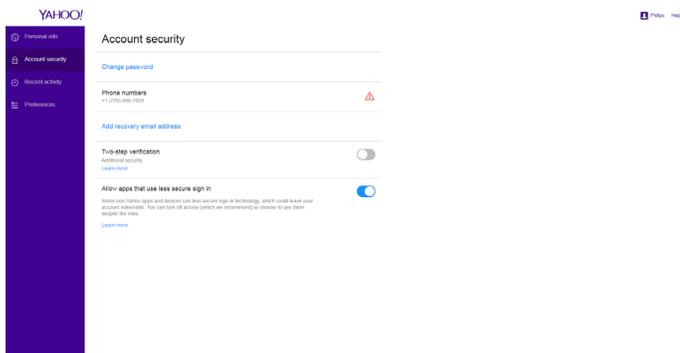
#### Yahoo Account Security Setting

In Yahoo Account Security option, enable the option of "Allow apps that use less secure sign in".

## 4.4.2. Server Settings

### [Email Notification]

Click the checkbox to enable/disable the E-mail notification feature. Set SMTP and manager E-mail after enabling the E-mail notification feature.



**[Manager Email]**

Specify the destination address to receive the e-mail.



**[Test]**

To check if your e-mail settings are correct, select 'Send Test Mail' to send a test e-mail.

**[FTP]**

Click the checkbox to enable/disable the FTP server feature. After enabling this feature, you can setup account, password and port number:

**[Account]**

The user name to log in the FTP server. The length of the account name should be ranged from 4 to 20 characters, only [a-z], [A-Z] and [0-9] are allowed to use.

**[Password]**

The password to log in the FTP server. The length of the password should be ranged from 6 to 20 characters, only [a-z], [A-Z] and [0-9] are allowed to use. The password are hidden under asterisks after setting.

**[Storage path]**

The FTP server has access to the internal storage only. The storage path is unchangeable.

**[Port]**

The port number of the FTP server. The available port number ranges from 1025 to 65535. The default setting is 2121.

Note:

The following port numbers cannot be used:

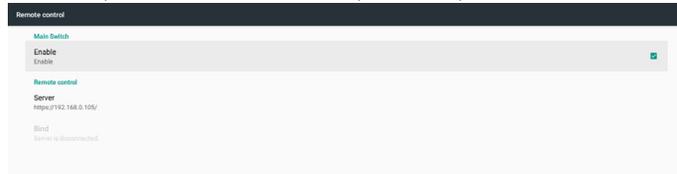
8000 / 9988 / 15220 / 28123 / 28124 and SICP network port (the default setting is 5000).



**[Remote Control]**

Click the checkbox "Enable" to enable or disable the remote control client service. The default setting is "Enabled". To use the remote control feature, the device must be bound with the remote control server.

In the entry field of "Server", input the URL address with the prefix of "https://". If the device is not bound with the remote control server, please enter the PIN code provided by the server.



Bind status:

- (1) If the device does not have appropriate network connection, a message "Network is disconnected" will appear.
- (2) If the device is equipped with network function, but is not connected to the remote control server, a message "Server is disconnected" will appear.
- (3) If the server is connected, but not bound, a message "Server is unbinded" will appear.
- (4) If the device is bound with the server successfully, a message "Server is binded" will appear.
- (5) If the PIN code is not correct, a message "Error PIN code" will appear.

**4.4.3. Source Settings**

**[Media Player]**

See 3.3. Media Player

**[Browser]**

See 3.4. Browser

**[CMND & Play]**

See 3.6. CMND & Play

**PDF Player**

See 3.5. PDF Player

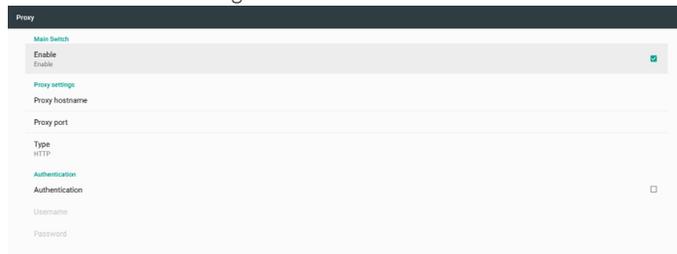
**Custom App**

See 3.7. Custom App

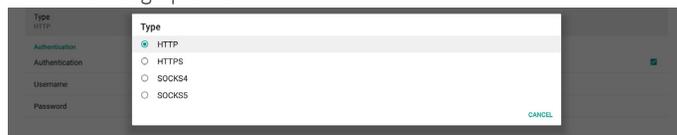
**4.4.4. Network application**

**[Proxy]**

Enable the proxy server by clicking the checkbox of "Enable". The user can set up the host IP and port number of the proxy server. The default setting is "Disabled".



The proxy types supported by the device are HTTP, HTTPS, SOCKS4 and SOCKS5. Select your proxy server from the following options:

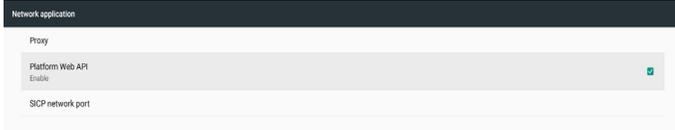


If the proxy server requests a login name and password for authorization, enable "Authorization" first and enter the user name and password.



**[Platform Web API]**

Enable/disable Platform Web API by clicking the checkbox. The default setting is "Disabled".



**[SICP network port]**

Set up the default port of SICP and enable/disable the network SICP. The default SICP is enabled with the port 5000.

Note:

Port number ranges from 1025 ~ 65535.

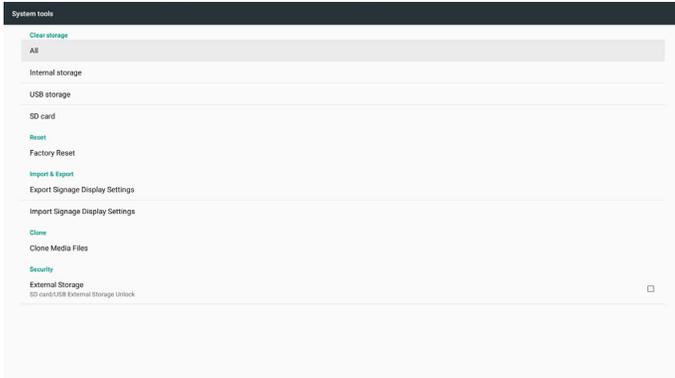
The following ports are already occupied and cannot be assigned: 8000, 9988, 15220, 28123, 28124. The default FTP port is 2121.



**4.4.5. System Tools**

The signage display provides 6 system tools:

- (1) Navigation Bar (See 4.4.5.1. Navigation Bar)
- (2) Clear Storage (See 4.4.5.2. Clear Storage)
- (3) Reset (See 4.4.5.3. Reset)
- (4) Import & Export (See 4.4.5.4. Import & Export)
- (5) Clone (See 4.4.5.5. Clone)
- (6) Security (See 4.4.5.6. Security)



**4.4.5.1. Navigation Bar**

Set up to enable or disable the navigation bar during the touch operation.

**4.4.5.2. Clear Storage**

Clear data under the folder "Philips" of the internal and external storages.

**[All]**

Clear the folder "Philips" from the internal storage, USB and SD card.

**[Internal Storage]**

Clear the folder "Philips" from the internal storage only.

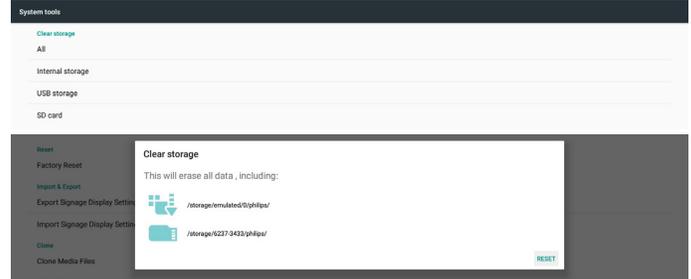
**[USB Storage]**

Clear the folder "Philips" from the USB storage only.

**[SD Card]**

Clear the folder "Philips" from the SD card only.

A dialog box lists all folders that the system is going to clear. Press "RESET" to clear all data under the listed folder.



**4.4.5.3. Reset**

This function allows you to clear all user data and settings. The system will auto reboot and jump to OOB after rebooting.

Important notes:

1. Only the data stored in the internal storage will be cleared and cannot be recovered, the data includes the device settings, installed APPs, APPs' data, downloaded files, music, photos and all data under "/data". However, the data stored in the USB and SD card will not be cleared.
2. Make sure that the AC adapter and power are always present during the factory reset process.



Click "Factory Reset" during the factory reset process and a confirmation dialog box is displayed. Press "OK" to perform the reset action. Please note this action clears all data in the internal storage which is not recoverable.



**4.4.5.4. Import & Export**

This function allows you to import/export the settings and 3rd party APK from/to other device.

Notes:

- (1) The names of export database are:
  - A. Settings\_global.xml
  - B. Settings\_secure.xml
  - C. Settings\_system.xml
  - D. Signage\_settings.db
  - E. AndroidPDMediaPlayerData.db
  - F. AndroidPDPdfData.db

- G. AndroidPDUrlListData.db
- H. Smartcms.db

(2) The files will be exported to the folder "Philips" of the selected storage.

(3) "Signage Display Name" will not be imported/exported.

### Export Signage Display Settings

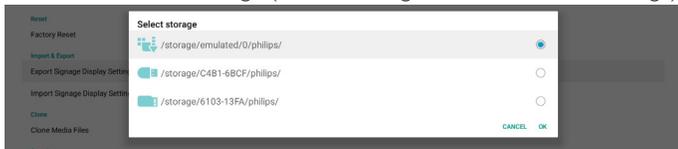
The data and 3rd party APKs will be exported to the folder "Philips" of the selected storage (Internal storage, SD card or USB).

- (1) Export Database (.xml files and .db files)
- (2) Export 3rd party APK to Philips/app/ folder

Note:

If the selected storage (internal storage, USB or SD card) does not contain the folder "Philips", then the system will create it automatically.

A list of all available storage (internal storage, SD card and USB storage):

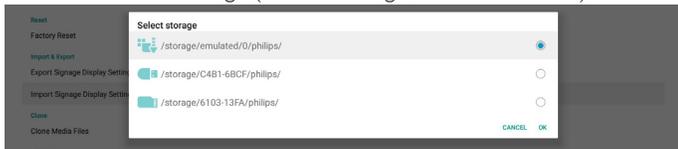


### Import Signage Display Settings

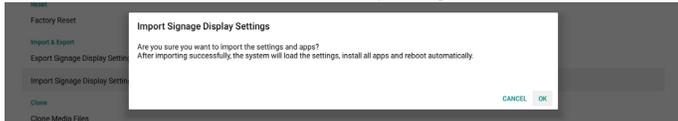
The data and 3rd party APKs will be imported from the folder "Philips" of the selected storage (Internal storage, SD card or USB).

- (1) Import Database (.xml files and .db files)
- (2) Import 3rd party APK under Philips/app/ folder

List of all available storage (internal storage, USB and SD card)



A confirmation dialog box is displayed before importing the settings and APKs. Click the "OK" button to start importing the data.



#### 4.4.5.5. Clone

##### Clone Media Files

This function allows you to copy the media files from the selected source storage to the destination storage.

1. The following list of folder will be copied (under the folder Philips/)

- (1) philips/photo
- (2) philips/music
- (3) philips/video
- (4) philips/cms
- (5) philips/pdf
- (6) philips/browser

2. Clone the CMS files (file extension is ".cms")

- a. Source storage
  - i. Source is the internal storage
    1. Check if there is a CMS file on the FTP server.
    2. If no CMS file is found on the FTP server, check the folder "Philips/" from your source storage.

ii. Source is the external storage (SD card or USB storage)

Check the CMS file from the root directory of your storage.

b. Target storage

i. Target is the internal storage

CMS file will be saved to Philips/ folder

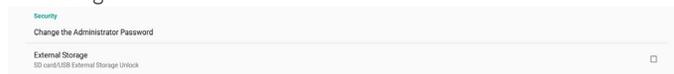
ii. Target is the external storage (SD card or USB storage)

CMS file will be saved to the root directory of storage



#### 4.4.5.6. Security

Set the password for Admin mode and lock/unlock the external storage.



##### Change the Administrator Password

Change the password to log in to the Admin mode. Before changing the administrator's password, follow the steps below:

- (1) Enter your current password. The default password is "1234".
- (2) Enter a new password.



If the password is changed successfully, an Android toast message "Successfully" appears.

##### External Storage

Click the checkbox to lock/unlock the external storage (SD card and USB storage). The default setting is "Unlock".



- (1) Unchecked (Disable): The SD card/USB External Storage is unlocked.
- (2) Checked (Enable): the SD card/USB External Storage is locked.

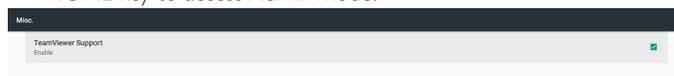
Note:

When you change the external storage from unlocked to locked state, please remove the external storage (both SD card and USB storage), then insert it back to the device. After this process, the system can detect your external storage again.

#### 4.4.6. Misc.

##### TeamViewer Support

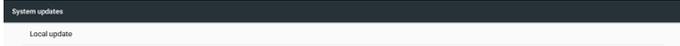
Click the checkbox to enable or disable the TeamViewer support. The default setting is "Enabled". The Team Viewer will send a virtual HOME key to access Admin mode.



## 4.4.7. System update

### Local update

The system will auto search "update.zip" from the root folder of the USB disk and SD card. If "update.zip" is found on the external storage, a list will be shown for user to select the file to update.

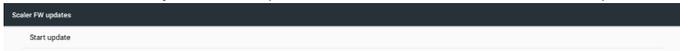


Once the file is selected from the list, the system starts rebooting and updating.

1. Do not turn off the power or remove the power adapter until the update is complete.
2. Currently, the system only supports full Android update.
3. The update file should be named as "update.zip" only.
4. The "update.zip" file should only be stored in the root folder of your external storage.

### Scaler FW updates

Select "Start update" to update scaler firmware for Android system.



If the file "scaler.bin" cannot be found on the internal storage, a dialog box will be shown as below:



Please note that:

1. The update file should be named as "scaler.bin" only.
2. The "scaler.bin" file should only be stored in the folder "Philips/scaler/" of your internal storage.
3. After selecting "OK" to start updating scaler firmware, do not turn off the power or remove the power adapter until the update is complete.
4. Wait for about 3 minutes, Android will start rebooting.
5. After rebooting, it is recommended that you remove the AC power cable and plug it in again.
6. To check Scaler FW version via Quick Info, go to Monitor Information and press "Menu + Volume up".



## 4.5. Display

The Display function has the following features:

### [Brightness level]

To adjust the brightness of the display, drag the adjustment bar on the top side of the screen.

### [Sleep]

Set the sleep mode of the system. The option "Off" means that the system will not enter sleep mode, the screen will always be on. The default setting is "Off".

### [Screen saver]

The following screen saver modes are available: **Colors**, **Photo Frame** and **Photo Table**.

### [Font size]

Adjust the font size of the display by dragging the adjustment bar. The default setting is "Largest".

When device is rotated, the following options are available:

- a. Rotate the contents of the screen
- b. Stay in current orientation

### [HDMI]

HDMI is used as the default output when an external monitor is connected to the HDMI output port.



## 4.6. Apps

Display information about the installed APKs.



## 4.7. Storage

Display the storage status of the device.

If an external storage devices (SD card or USB) is inserted, the storage status of the external storage will be listed under “Portable storage”.

## 4.8. Security

### [Device administrators]

The available device administrators for enterprises and the related settings are listed.

### [Credential storage]

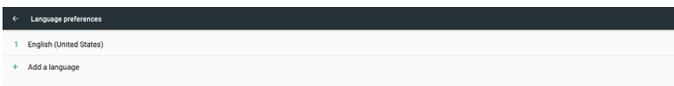
The CA certificates pre-installed in the system are listed. Installation of user CA certificates is not allowed.

## 4.9. Languages & input

Set the system language and change the IME settings.

### [Languages]

Set the system language. The first language listed on the “Language Preferences” from the first page of OOB is the language selected by the user. The first language will be the system language by default and the order is changeable by rearranging the language preference list.



### [On-screen keyboard enable]

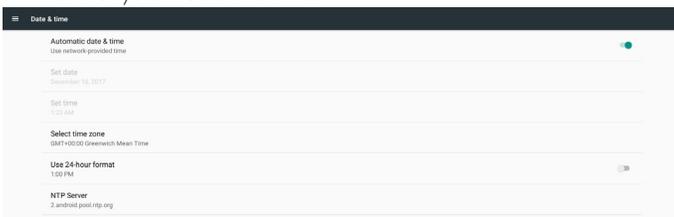
Enable/disable the pre-installed software keyboard. When the on-screen software keyboard is disabled, press the “Menu” button 6 times to enable it. The default setting is “Enabled”.

### [Email auto-complete]

The E-mail auto-complete feature gives you suggestions for e-mail addresses. These suggestions refer to the text you previously typed into the e-mail address field.

## 4.10. Date & time

Set the system date and time.



If “Automatic date & time” is turned on, the system synchronizes the date and time with the NTP server. However, if this setting is disabled, you can change the date and time manually by setting “Set date” and “Set time”.

Change the time zone and time format if necessary.

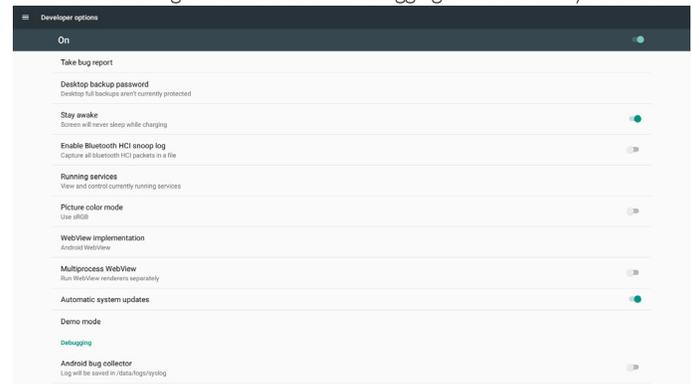
### [Change NTP Server]

The current NTP server is displayed. The default NTP server is “2.android.pool.ntp.org”. You can change the NTP server by clicking on “NTP Server”, then enter the IP address or URL in the text field.



## 4.11. Developer options

Android developer options are available for developers who want to make changes that may impact the system’s performance. The default setting is “On” and USB debugging is also “On” by default.



## 4.12. About

Go to “Settings” > “About” to view the following information of the system.

### [Status]

### [Legal information, Open source licenses will be listed]

### [Model name]

### [Android version]

### [Kernel version]

### [Build number]



## 4.13. Supplementary

### 4.13.1. Quick Info

Press “Menu + Volume+” to display the Quick Info.

Quick Info will display “Network” and “Monitor” information as shown below:

Notes:

Operation hours: updated every minute.

Heat status: updated every 5 seconds.



### 4.13.2. How to customize an Android boot animation?

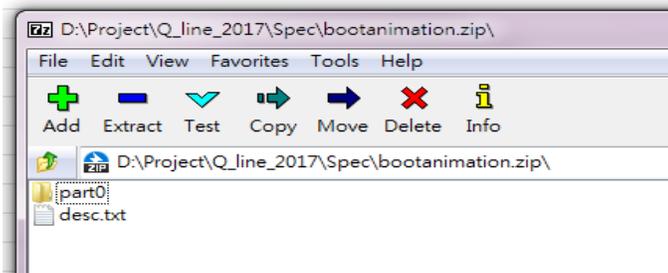
#### 1. Overview

The Android boot animation is a script used to load PNG files when the device boots. It is included in an **uncompressed** zip file called **bootanimation.zip**.

#### 2. In the bootanimation.zip file

The bootanimation.zip as follow:

- The image folder (contains PNG images named in incremental numbers)
- The desc.txt file



#### (1) The image folder

This folder contains PNG images which are named by numbers, starting from something like 0000.png or 0001.png and proceeding with increments of 1. The minimum number of folder is 1 and the maximum number of folder is unlimited.

#### (2) The desc.txt file

This file defines how the images in the folder(s) are displayed during the boot animation, in the following format:

- Width Height Frame-rate
- mode Loop delay-time Folder1
- mode Loop delay-time Folder2

An example of a desc.txt file is:

- 1920 1080 30
- p 1 0 part0
- p 0 0 part1

#### a. The first line

1920 and 1080 define the width and height of the screen resolution.

30 is the frame rate in fps (frames per second) i.e. number of images to display per second.

#### b. The second and third lines have the same format.

The first "p" means that the play mode stops immediately when the boot process is complete.

The number next to "p" defines the repeat mode.

- Set to 0 to make the part loop indefinitely until the device boot is complete.
- Set to 1 to make the part playback for once.

The next number defines the delay time(ms). For example, if it is set to 10, the system will be delayed for 10ms when all image files finished playing.

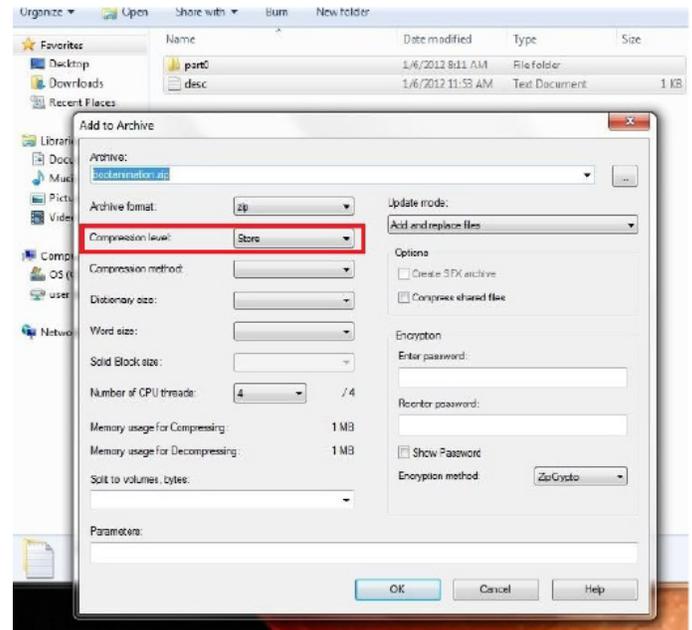
Part 0 and part 1 refer to image folder names.

As to the above example, the boot animation will play at a resolution of 1920 by 1080 pixels, at a frame rate of 30 fps, starting with the contents of part0 folder. After playing them in one loop, switch to the contents of part1 folder and play them continuously until the device boot process is complete.

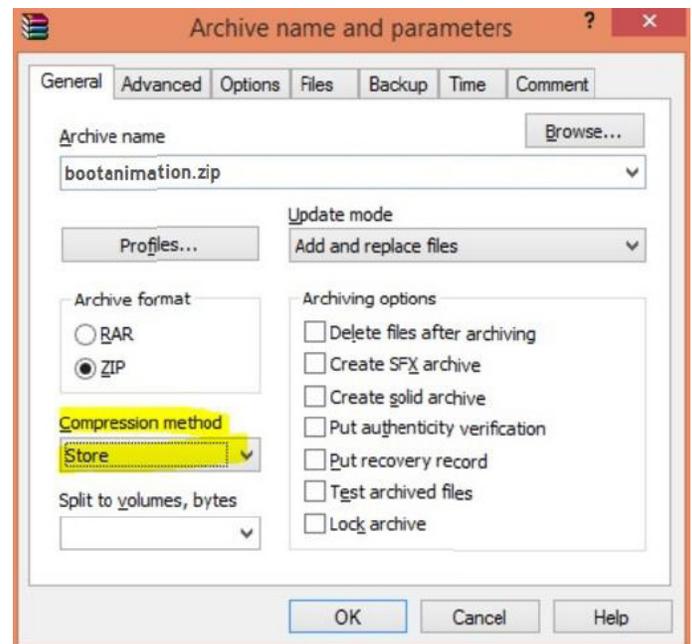
#### 3. Zip file:

Select everything (image folders and desc.txt) inside the Bootanimation folder and zip them into a new **uncompressed zip archive** using your favorite compression utility such as 7zip or WinRAR and so on.

If using 7zip, set compression level to "Store".



If using WinRAR, set Compression method to "Store".



or bootanimation WON'T work.

#### 4. Apply the custom bootanimation

Procedure:

- (1) Place your custom bootanimztion.zip file into the external SD card or USB and plug the storage device into Phillips PD platform.
- (2) Make sure that the Logo option is enabled.  
Press the Home key on RCU: **OSD menu > Configuration 2 > Logo > set "User"**
- (3) Press the combination key "Menu + Volume-" on RCU to go to Admin mode:  
**Settings > Signage Display > GENERAL SETTINGS > Boot Logo**
- (4) The system will search the bootanimation.zip on the external SD card or USB automatically and copy it to /data/local
- (5) Once the steps 1~4 are complete, restart the system. The new customized boot animation should be displayed during boot time.

### 4.13.3. How to Install Android app?

There are 3 ways to install your own Android app.

#### (a) Via File Manager in Admin Mode

1. If you have apk already
  - 1.1 Copy your apk to the USB disk or SD card, and plug the storage device into Philips Android Signage Display.
  - 1.2 Go to **Admin Mode > Apps > File Manager**
  - 1.3 Use File Manager to find your APK to be installed. Simply press **"OK"** on the selected APK.
2. Download an APK using the Chromium browser.
  - 2.1 The next steps are the same as described above. Please note, each model may have different <internal storage path>.

#### (b) Via Adb Shell

1. Make sure that your PC can connect to Philips Android Signage Display using adb.
2. Prepare your apk in a folder (for example, C:\apkfolder) on your PC.
3. Execute the following instruction using command line tool.  
C:\apkfolder> adb install -r apk\_name.apk

#### (c) Via Customized Intent

1. If you develop an apk which can download any Android app, then your apk can issue a customized intent.
2. Given that the apk name and the path have been stored, the system will help you to install by program.

Description	Intent	Parameters	
Sw Update	php.intent.action.UPDATE_APK	filePath	The absolute file path includes the file name.
		Keep	Indicates whether the file will be kept or not after updating. The default setting is false.
		packageName	The target package that you want to launch automatically after updating.
		activityName	The target activity you want to launch automatically after updating. If current top activity is not activityName, nothing happens.

For example,

```
Intent intent = new Intent();
intent.setAction("php.intent.action.UPDATE_APK");
intent.putExtra("filePath", "/sdcard/Download/apk_name.apk");
intent.putExtra("keep", true);
intent.putExtra("packageName", "com.example.apk_name");
intent.putExtra("activityName", "com.example.apk_name.MainActivity");
sendBroadcast(intent)
```

## 5. Supported Media Formats

### USB Multimedia Codec Formats

Video Decode				
Type	Video Codec	Container	Decode	Remark
MPEG1/2	MPEG1/2	MPEG program stream (.DAT, .VOB, .MPG, .MPEG) MPEG transport stream (.ts) MP4 (.mp4) AVI (.avi) MKV (.mkv)	√	Max Resolution: 1080P@60fps Max Bit Rats : 40Mbps
MPEG-4	MPEG4	MP4 (.mp4) AVI (.avi) MKV (.mkv)	√	Max Resolution: 1080P@60fps Max Bit Rats : 40Mbps
H.263	H.263	FLV (.flv) AVI (.avi)	√	Max Resolution: 1080P@60fps Max Bit Rats : 40Mbps
H.264	H.264	FLV (.flv) MP4 (.mp4) MPEG transport stream (.ts) ASF (.asf) WMV (.wmv) AVI (.avi) MKV (.mkv)	√	Max Resolution: 1080P@60fps Max Bit Rats : 135Mbps 4K2K@30fps
H.265	H.265	MP4 (.mp4) MPEG transport stream (.ts) MKV (.mkv)	√	Max Resolution: 4K2K@60fps Max Bit Rats : 100Mbps
GOOGLEVP8	VP8	MKV (.mkv) WebM (.webm)	√	Max Resolution: 1080P@30fps Max Bit Rats : 20Mbps
Motion JPEG	MJPEG	AVI (.avi) MP4 (.mp4) MKV (.mkv)	√	Max Resolution: 1920*1080 @30fps Max Bit Rats : 40Mbps

### Audio Decode

Type	Audio Codec	Container	Decode	Channel	Remark
MPEG Audio	MPEG1/2/2.5 Audio Layer1/2/3	MP3	√	2	Bit Rate: 8Kbps~320Kbps Sampling Rate: 16KHz~48KHz
Windows Media Audio	WMA Version 7, 8, 9,10 pro M0, 10Pro M1,M10 Pro M2	Decode:WMA	√	2	Bit Rate: 8Kbps~768Kbps Sampling Rate: 8KHz~96(M10)KHz Non-support LBR
AAC Audio	MAIN,ADIF ,ATDS Header AAC-LC and AAC-HE	File Format: AAC, M4A	√	5.1	Bit Rate: N/A Sampling Rate: 8KHz~48KHz

## Image Decode

Type	Image Codec	Photo	Decode	Remark
JPEG	JFIF file format 1.02	File Format: JPG, JPEG	√	Max Resolution: 7000 × 7000 The limitation of max resolution depends on DRAM
BMP	BMP	File Format: BMP	√	Max Resolution: 15360 × 8640 The limitation of max resolution depends on DRAM
PNG	PNG	File Format: PNG	√	Max Resolution: 15360 × 8640 The limitation of max resolution depends on DRAM

Notes:

- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table above.
- Video content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy video during playback.

## 6. Input Mode

### Timing support:

Item	Mode	Resolution	H.Freq. (KHz)	V.Freq. (Hz)
1	IBM VGA 12H	640×480	31.469	59.94
2	VESA	640×480	37.861	72.809
3	VESA	800×600	35.156	56.25
4	VESA	800×600	37.879	60.317
5	VESA	800×600	48.077	72.188
6	VESA	1024×768	48.363	60.004
7	VESA	1024×768	56.476	70.069
8	CVT 2.3MA	1280 ×768	47.776	59.870
9	VESA	1280×1024	63.981	60.020
10	SUN WS	1280×1024	71.691	67.189
11	CVT 2.3MA-R	1920×1080	66.587	59.934
12	VESA Standard VDMTREV	1920×1080	67.5	60.000

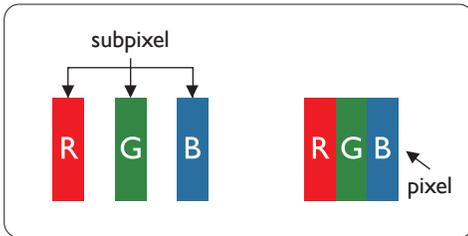
- The PC text quality is optimum in HD 1080 mode (1920 × 1080, 60Hz).
- Your PC display screen might appear different depending on the manufacturer (and your particular version of Windows).
- Check your PC instruction book for information about connecting your PC to a display.
- If a vertical and horizontal frequency-select mode exists, select 60Hz (vertical) and 31.5KHz (horizontal). In some cases, abnormal signals (such as stripes) might appear on the screen when the PC power is turned off (or if the PC is disconnected). If so, press the **[INPUT]** button to enter the video mode. Also, make sure that the PC is connected.
- When horizontal synchronous signals seem irregular in RGB mode, check PC power saving mode or cable connections.
- The display settings table complies to the IBM/VESA standards, and based on the analog input.
- The DVI support mode is regarded as same to the PC support mode.
- The best timing for the vertical frequency to each mode is 60Hz.

## 7. Pixel Defect Policy

We strive to deliver the highest quality products and use some of the industry's most advanced manufacturing processes whilst practicing stringent quality control. However, pixel or sub-pixel defects on the PDP / TFT panels used in Plasma- & LCD- displays are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any Plasma- & LCD- displays with an unacceptable number of defects will be repaired during the warranty period in line with your local guarantee conditions.

This notice explains the different types of pixel defects and defines the acceptable defect level for the LCD screen. In order to qualify for repair under warranty, the number of pixel defects must exceed a certain level as shown in the reference table. If the LCD screen is within specification a warranty exchange / claim back will be refused. Additionally, because some types or combinations of pixel defects are more noticeable than others, Philips sets even higher quality standards for those.

### 7.1. Pixels and Sub-Pixels



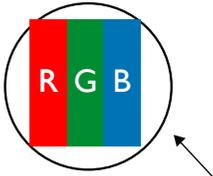
A pixel, or picture element, is composed of three sub-pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub-pixels of a pixel are lit, the three colored sub-pixels together appear as a single white pixel. When all are dark, the three colored sub-pixels together appear as a single black pixel. Other combinations of lit and dark sub-pixels appear as single pixels of other colors.

### 7.2. Types of Pixel Defects + Dot Definition

Pixel and sub-pixel defects appear on the screen in different ways. There are three categories of pixel defects and several types of sub-pixel defects within each category.

#### Dot definition = What is a defective "Dot"?

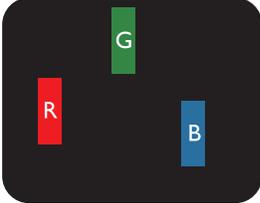
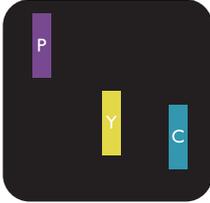
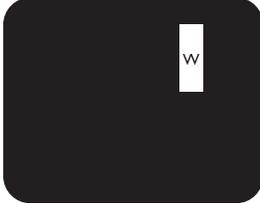
One or more defective, adjacent sub-pixel are defined as one "dot". The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.



One dot = One Pixel; consists of three sub-pixels of Red, Green, and Blue.

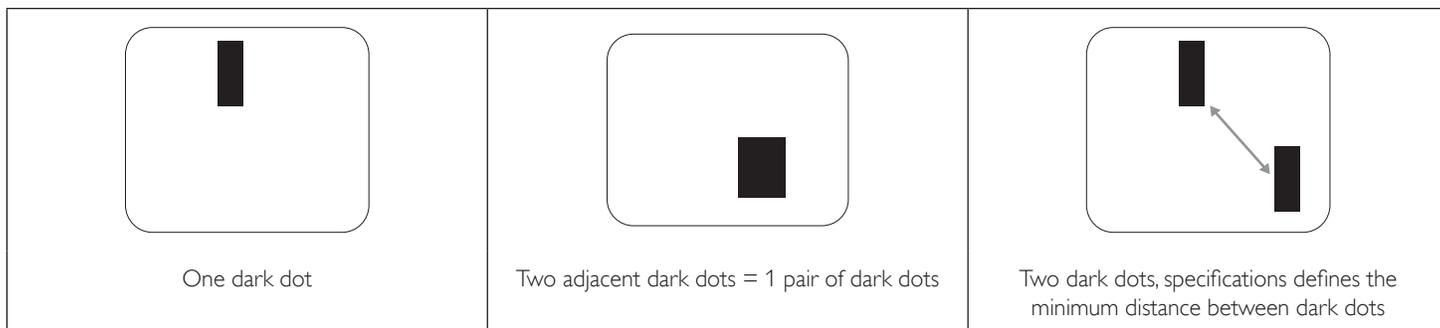
### 7.3. Bright Dot Defects

Bright dot defects appear as pixels or sub-pixels that are always lit or "on". These are the examples of bright dot defects:

 <p>One lit red, green or blue sub pixel</p>	 <p>Two adjacent lit sub pixels:            Red + Blue = Purple            Red + Green = Yellow            Green + Blue = Cyan (Light Blue)</p>	 <p>Three adjacent lit sub pixels (one white pixel)</p>
---	--	--

## 7.4. Dark Dot Defects

Black dot defects appear as pixels or sub-pixels that are always dark or "off". These are the examples of black dot defects:



## 7.5. Proximity of Pixel Defects

Because pixel and sub-pixels defects of the same type that are nearby one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects. In the table below you can find specifications about:

- Allowed amount of adjacent dark dots = (adjacent dark dots = 1 pair of dark dots)
- Minimum distance between dark dots
- Total no. of all defective dots

## 7.6. Pixel Defect Tolerances

In order to qualify for repair due to pixel defects during the warranty period, a PDP / TFT panel in a Philips Plasma / LCD- display must have pixel or sub-pixel defects exceeding the tolerances listed in the following table.

BRIGHT DOT EFFECT	ACCEPTABLE LEVEL
1 lit sub pixel	2
BLACK DOT EFFECT	ACCEPTABLE LEVEL
1 dark sub pixel	10
TOTAL DOT DEFECTS OF ALL TYPES	12

NOTE: \* 1 or 2 adjacent sub pixel defects = 1 dot defect

## 7.7. MURA

Dark spots or patches may occasionally appear on some liquid crystal display (LCD) panels. This is known within the industry as Mura, which is a Japanese term for "unevenness." It is used to describe an irregular pattern or area in which uneven screen uniformity appears under certain conditions. Mura is a result of the deterioration of the liquid crystal alignment layer and is most commonly caused by long-term operation under high ambient temperatures. It is an industry- wide phenomenon and Mura is not repairable. It is also not covered by our warranty terms.

Mura has been around since the introduction of LCD technology and with screens getting bigger and in operation 24/7, many displays are running in low light conditions. This all adds to the possibility of Mura affecting displays.

### HOW TO SPOT MURA

There are many symptoms of Mura and also multiple causes. Several of these are listed below:

- Impurities or foreign particles in the crystal matrix
- Uneven distribution of LCD matrix during manufacturing
- Non-uniform luminance distribution of the backlight
- Panel assembly induced stress
- Flaws within the LCD cells
- Thermal induced stress - high temperature operation over long periods of time

### HOW TO AVOID MURA

Although we can not guarantee the complete eradication of Mura every time, in general the appearance of Mura can be minimized by these methods:

- Lower the backlight brightness
- Use a screen saver
- Reduce the ambient temperature around the unit

## 8. Cleaning and Troubleshooting

### 8.1. Cleaning

#### Caution When Using the Display

- Be sure to disconnect all cables before moving the monitor. Moving the monitor with its cables attached may damage the cables and thus cause fire or electric shock.
- Disconnect the power plug from the wall outlet as a safety precaution before carrying out any type of cleaning or maintenance procedure.

#### Front Panel Cleaning Instructions

- The front of the display has been specially treated. Wipe the surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface becomes dirty, soak a soft, lint-free cloth in a mild detergent solution. Wring the cloth to remove excess liquid. Wipe the surface of the display to remove dirt. Then use a dry cloth of the same type to dry.
- Do not scratch or hit the surface of the panel with fingers or hard objects of any kind.
- Do not use volatile substances such as insect sprays, solvents and thinners.

### 8.2. Troubleshooting

Symptom	Possible Cause	Remedy
No picture is displayed	1. The adapter is disconnected. 2. The monitor is in the standby mode.	1. Make sure that the power LED is green. Or plug in the adapter. 2. Press Menu + Menu + Volume- + Volume- to turn on the screen.
HDMI output is abnormal	1. HDMI cable is not connected properly. 2. The external device is abnormal.	1. Make sure that the HDMI cables are attached firmly. 2. Make sure that the external device is in good condition.
Micro USB HOST & Type A USB HOST & LAN interface is abnormal	1. USB cable or output device is abnormal. 2. The cable is not connected properly.	1. Make sure that the USB cable and output device are in good condition. 2. Make sure that the cable is connected properly, and that the RJ45 interface LED is green.
Can't detect the USB device and SD card	The settings for USB device and SD card are disabled.	Press the "MENU" button, choose "setting" to enable the function.
The display looks normal but the touch function doesn't work	The touch function is disabled.	Press "Menu + Menu + Volume+ + Volume- + Volume- + Volume+" to enable the touch function.

## 9. Technical Data

### 9.1. Specifications

#### Display:

Item	Specifications
Screen Size (Active Area)	521.28 (H) x 293.22 (V) mm
Aspect Ratio	16:9
Number of pixels	1920 (H) x 1080 (V)
Displayable colors	16.7M colors (6-bit +Hi-FRC)
Brightness (typical)	210 cd/m <sup>2</sup>
Contrast ratio (typical)	1000:1
Viewing angle	Up 80 / Down 80 / Left 85 / Right 85 ( typ ) @ CR ≥10

#### In/Out Terminals:

Item	Specifications	
Input Signal	VIDEO	HDMI x1 (with HDCP)
	LAN	RJ-45 (10/100/1000 Base-T) (With PoE)
Output Signal	VIDEO	HDMI x1 (Android system output)
	AUDIO	Earphone out
Internal Speaker	2W + 2W	
Touch panel	Yes (Capacitive 10 points)	
USB Multi Media Function	Yes	

#### General:

Item	Specifications
Power Input	100 - 240V~, 50 - 60Hz, 1.5A
Power Input PoE	44 - 57V DC, 1.2A (POE)
Power Consumption (Max)	45 W
Power Consumption (typ.)	25 W
Dimensions (Without Stand) [W x H x D]	566.5mm x 361.1mm x 49.2mm
Weight (Without Stand)	4.7 Kg
Gross Weight (Without Stand)	7.2 Kg

#### Product Fiche:

Item	Specifications
Energy Efficiency Class	A
Visible Screen Size	521.28 (H) x 293.22 (V) mm
On Mode Power Consumption (W)	24 W
Annual Energy Consumption (kWh)	35 kWh
Display Resolution (Pixels)	1920 x 1080

**Environmental Condition:**

Item		Specifications
Temperature	Operational	0 ~ 40°C
	Storage	-20 ~ 60°C
Humidity	Operational	20 ~ 80% RH (No condensation)
	Storage	10 ~ 90% RH (No condensation)
Altitude	Operational	0 ~ 3,000 m
	Storage / Shipment	0 ~ 9,000 m

**9.2. Disclaimer****Image Retention Disclaimer**

When an image is monitored on-screen for prolonged periods of time, you may see a faint image after it is replaced. This is an expected normal behavior for monitors.

Image retention may be reduced by:

- \* Avoiding still images shown on-screen for more than a few minutes
- \* Using non-contrasting colors and brightness
- \* Using background colors other than gray



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