



## PRODUCT SPECIFICATION

KADI Model: **KD156FHD01**

CUSTOMER Model: **-**

Description: **HDMI/DP/VGA to LVDS**

Version: **1.0**

| KADI      | PREPARED BY | CHECKED BY | APPROVED BY |
|-----------|-------------|------------|-------------|
| SIGNATURE |             |            |             |
| DATE      | 2025.02.10  | 2025.02.10 | 2025.02.10  |

| CUSTOMER<br>APPROVAL | SIGNATURE | DATE |
|----------------------|-----------|------|
|                      |           |      |

## Record of Revisions

[illegible]



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## 1. General Specifications

### 1.1 General Information

| Item                  | Description                                            |
|-----------------------|--------------------------------------------------------|
| Input Source          | HDMI 1.4a/DP1.1/VGA                                    |
| Support resolution    | 1024*600、1280*800、1920*1080、1920*1200                  |
| LCD interface         | LVDS (60Hz)                                            |
| Voltage for LCD       | 3.3V, 5V, 12V                                          |
| Power input           | DC 12V                                                 |
| Operation Temperature | -20~70 °C                                              |
| Storage Temperature   | -30~80 °C                                              |
| Users Control         | Power On/Off<br>OSD Menu<br>Adjust+<br>Adjust-<br>Exit |

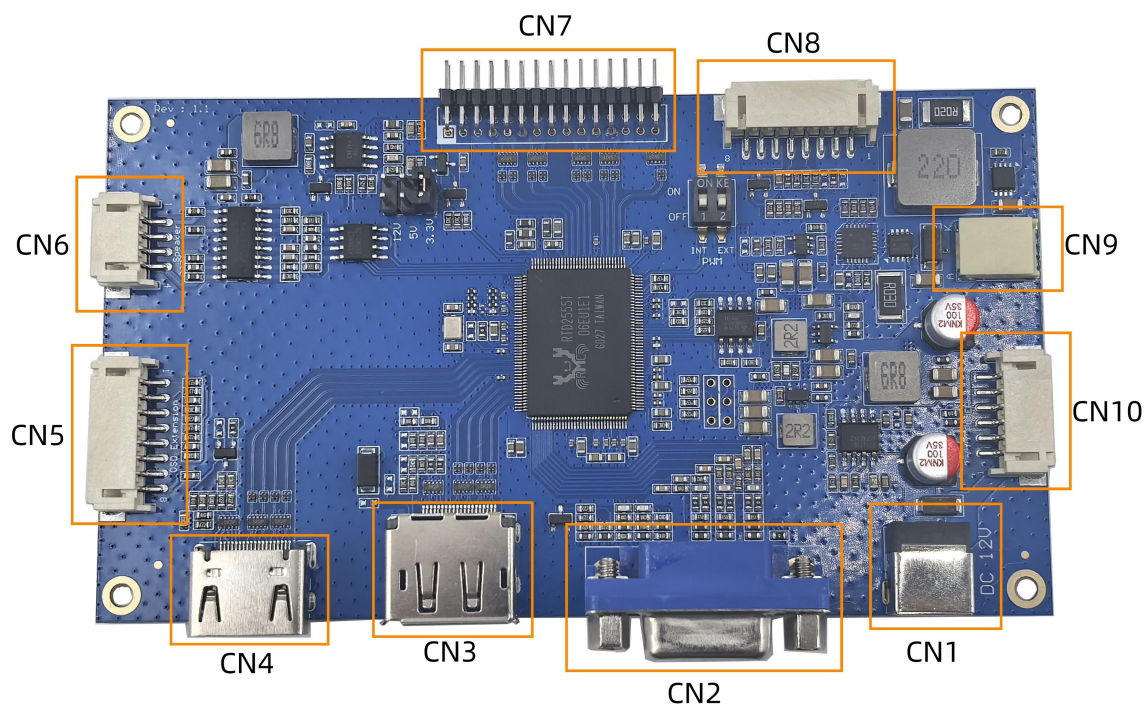
Note1: Requirements on environmental protection RoHS compliant.



## 2. Interface

### 2.1 PCB overview

Picture below shows the connectors exact placement and their descriptions.



### 2.2 Connector Description

| Item | Type                  | Description                          |
|------|-----------------------|--------------------------------------|
| CN1  | Powr Jack             | DC Jack (5.9mm OD/2.1mm ID)          |
| CN2  | VGA                   | VGA                                  |
| CN3  | DP                    | DP 1.1                               |
| CN4  | HDMI                  | HDMI 1.4                             |
| CN5  | External OSD Keyboard | Power/Menu/Exit/Up/Down (8PIN-2.0mm) |
| CN6  | Speaker               | 2.9W (4PIN-2.0mm)                    |
| CN7  | LVDS                  | LVDS Interface (2*15PIN-2.0mm)       |
| CN8  | BL Output             | BL Output (8PIN-2.0mm)               |
| CN9  | AK                    | BH3.5 (2PIN-3.5mm)                   |
| CN10 | Power Input           | Power Input (6PIN-2.0mm)             |



## 2.3 CN1 (DC) 5.9mm OD/2.1mm ID

| Pin No. | Symbol | Description         |
|---------|--------|---------------------|
| 1       | VDD    | Power supply DC;12V |
| 2       | GND    | GND                 |

## 2.4 CN2 (VGA) 15P

| Pin No. | Symbol   | Description                |
|---------|----------|----------------------------|
| 1       | RED      | Red component signal       |
| 2       | GREEN    | Green component signal     |
| 3       | BLUE     | Blue component signal      |
| 4       | N/C      | No connection              |
| 5       | GND      | Ground                     |
| 6       | GND R    | Ground                     |
| 7       | GND G    | Ground                     |
| 8       | GND B    | Ground                     |
| 9       | +5V (NC) | No connection              |
| 10      | GND      | Ground                     |
| 11      | N/C      | No connection              |
| 12      | SDA      | Serial data signal         |
| 13      | H SYNC   | Horizontal synchronization |
| 14      | V SYNC   | Vertical Synchronization   |
| 15      | SCL      | Serial clock signal        |

## 2.5 CN3 (DP)

| Pin No. | Symbol    | Description            |
|---------|-----------|------------------------|
| 1       | ML_Lane0+ | Differential signal 0+ |
| 2       | GND       | Ground                 |
| 3       | ML_Lane0- | Differential signal 0- |
| 4       | ML_Lane1+ | Differential signal 1+ |
| 5       | GND       | Ground                 |



|    |           |                                      |
|----|-----------|--------------------------------------|
| 6  | ML_Lane1- | Differential signal 1-               |
| 7  | ML_Lane2+ | Differential signal 2+               |
| 8  | GND       | Ground                               |
| 9  | ML_Lane2- | Differential signal 2-               |
| 10 | ML_Lane3+ | Differential signal 3+               |
| 11 | GND       | Ground                               |
| 12 | ML_Lane3- | Differential signal 3-               |
| 13 | GND       | Ground                               |
| 14 | GND       | Ground/NC                            |
| 15 | AUX CH+   | Auxiliary Channel (positive)         |
| 16 | GND       | DP CABLE                             |
| 17 | AUX CH-   | Auxiliary Channel (negative)         |
| 18 | Hot Plug  | Hot Plug Detect                      |
| 19 | Return    | Power return for the +3.3V power pin |
| 20 | DP_PWR    | Power supply pin                     |

## 2.6 CN4 (HDMI)

| Pin No. | Symbol        | Description                     |
|---------|---------------|---------------------------------|
| 1       | TMDS_Data 2+  | TMDS differential signal 2+     |
| 2       | TMDS_Data 2_S | Data2 shielding ground          |
| 3       | TMDS_Data 2-  | TMDS differential signal 2-     |
| 4       | TMDS_Data 1+  | MDS differential signal 1+      |
| 5       | TMDS_Data 1_S | Datal shielding ground          |
| 6       | TMDS_Data 1-  | TMDS differential signal 1-     |
| 7       | TMDS_Data 0+  | TMDS differential signal 0+     |
| 8       | TMDS_Data 0_S | Data0 shielding ground          |
| 9       | TMDS_Data 0-  | TMDS differential signal 0-     |
| 10      | TMDS_CLK+     | TMDS differential signal Clock+ |
| 11      | TMDS_CLK_S    | Clo6ck shielding ground         |
| 12      | TMDS_CLK-     | TMDS differential signal clock- |
| 13      | CEC           | Electronic protocol CEC         |



|    |              |                      |
|----|--------------|----------------------|
| 14 | NC           | No connection        |
| 15 | SCL          | IIC clock Line       |
| 16 | SDA          | IIC data Line        |
| 17 | DDC/CEC_GND  | Data display channel |
| 18 | +5V          | HDMI 5V              |
| 19 | HOT_PLUG_DET | Hot plug detect      |

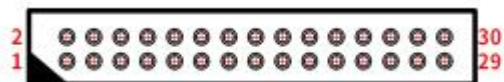
## 2.7 CN5 (External OSD keyboard) 8PIN-2.0mm

| Pin No. | Symbol       | Description                    |
|---------|--------------|--------------------------------|
| 1       | DOWN         | Page down                      |
| 2       | UP           | Page up                        |
| 3       | EXIT         | Exit                           |
| 4       | MENU         | Menu                           |
| 5       | PWR          | Power on/off                   |
| 6       | LED_EN       | LED Enable; Output signal 3.3V |
| 7       | GND          | Ground                         |
| 8       | Keyboard VDD | Keyboard VDD, Output 3.3V      |

## 2.8 CN6 (Speaker) 4PIN-2.0mm

| Pin No. | Symbol | Description    |
|---------|--------|----------------|
| 1       | L+     | Left channel+  |
| 2       | L-     | Left channel-  |
| 3       | R-     | Right channel- |
| 4       | R+     | Right channel+ |

## 2.9 CN7 (LVDS Interface) 2\*15PIN-2.0mm



| Pin No. | Symbol | Description |
|---------|--------|-------------|
|---------|--------|-------------|



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SHENZHEN KADI DISPLAY

|    |       |                         |
|----|-------|-------------------------|
| 1  | VCC   | Power for panel         |
| 2  | VCC   | Power for panel         |
| 3  | VCC   | Power for panel         |
| 4  | RESET | Reset for LCD           |
| 5  | GND   | Ground                  |
| 6  | NC    | No connection           |
| 7  | O0-   | LVDS ODD 0- Signal      |
| 8  | O0+   | LVDS ODD 0+ Signal      |
| 9  | O1-   | LVDS ODD 1- Signal      |
| 10 | O1+   | LVDS ODD 1+ Signal      |
| 11 | O2-   | LVDS ODD 2- Signal      |
| 12 | O2+   | LVDS ODD 2+ Signal      |
| 13 | GND   | Ground                  |
| 14 | GND   | Ground                  |
| 15 | EC-   | LVDS EVEN Clock- Signal |
| 16 | EC+   | LVDS EVEN Clock+ Signal |
| 17 | O3-   | LVDS ODD 3- Signal      |
| 18 | O3+   | LVDS ODD 3+ Signal      |
| 19 | E0-   | LVDS EVEN 0- Signal     |
| 20 | E0+   | LVDS EVEN 0+ Signal     |
| 21 | E1-   | LVDS EVEN 1- Signal     |
| 22 | E1+   | LVDS EVEN 1+ Signal     |
| 23 | E2-   | LVDS EVEN 2- Signal     |
| 24 | E2+   | LVDS EVEN 2+ Signal     |
| 25 | GND   | Ground                  |
| 26 | GND   | Ground                  |
| 27 | OC-   | LVDS ODD Clock- Signal  |
| 28 | OC+   | LVDS ODD Clock+ Signal  |
| 29 | E3-   | LVDS EVEN 3- Signal     |
| 30 | E3+   | LVDS EVEN 3+ Signal     |



## 2.10 CN8 (BL Output) 8PIN-2.0mm

| Pin No. | Symbol | Description              |
|---------|--------|--------------------------|
| 1       | GND    | Ground                   |
| 2       | GND    | Ground                   |
| 3       | GND    | Ground                   |
| 4       | PWM    | PWM dimming control      |
| 5       | BKL    | Backlight on/off control |
| 6       | +12V   | Power for LED backlight  |
| 7       | +12V   | Power for LED backlight  |
| 8       | +12V   | Power for LED backlight  |

## 2.11 CN9 (AK) 2PIN-3.5mm

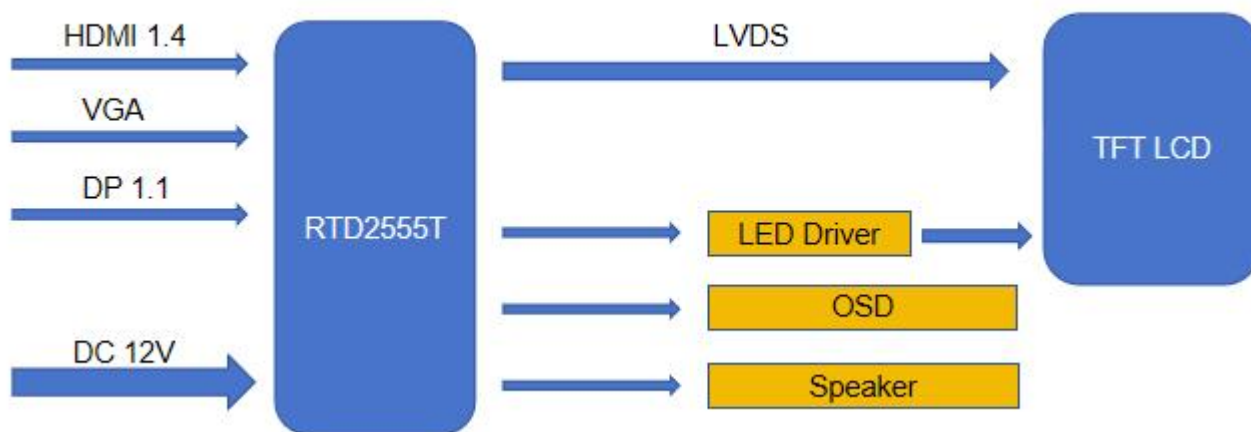
| Pin No. | Symbol | Description        |
|---------|--------|--------------------|
| 1       | LEDA   | Positive backlight |
| 2       | LEDK   | Negative backlight |

## 2.12 CN10 (Power Input) 6PIN-2.0mm

| Pin No. | Symbol | Description              |
|---------|--------|--------------------------|
| 1       | GND    | Ground                   |
| 2       | GND    | Ground                   |
| 3       | PWM    | PWM dimming control      |
| 4       | BKL    | Backlight on/off control |
| 5       | +12V   | Power IN                 |
| 6       | +12V   | Power                    |



### 3. Function Block



## 4. Mechanical Drawing

