LinkZill

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TruEbox 04MD (64x64) User Guide

V1.0

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TruEbox 04MD (64x64) User Guide

Product Overview

This product supports signal driving of array light-emitting devices with a maximum resolution of 64*64. It can provide 64 channels of Scan signals, 64 channels of Data Read signals, and dual channels of DC bias signals. Through the wireless Bluetooth module, the Android mobile phone terminal transmits the compiled array signal to the array light-emitting device through the compatible APP to realize the custom display on the device. With the supporting thin film transistor array chip, the TruEbox 04MD may power devices such as QLED and perovskite LED for display lighting.

Parameter	Specification
L*W*H	205×110×35 mm
Weight	600 g
Charging interface	DC002-1.3
General	64 channel pulse row signals, voltage range: -15V~+15V 2 channel DC bias: -15V~+15V 64 channel pulse column signals: voltage range: -10V~+10V
Communication	Bluetooth
Terminal	Phone (Android 9.0, 6GB RAM or higher)
Display form	Letters, checkerboard, all bright, all dark, bitmap
Duration	>4 hours
Refresh Rate	60Hz

Product List

Host	X1
Charger	X1
User guide (online)	X1

Pinout Description

160 Pin FPC pin assignment (left to right)：

Pinout	001-0003 008-011 148-151 156-160	004-007 152-155	012-013 078-079 144-147	014-077	080-143
Definition	DUMMY	Vss	Vdd	Scan	Data Read

1. Vdd and Vss are two DC voltages output corresponding to Vdd and Vss in the app, with an adjustable range between -14V to +14V;

2. The Von and Voff in the app correspond to the selected and unselected voltage of the 64 channels of the Scan signal, with an adjustable range between -15V to +15V. Please use 8V and -8V for Von and Voff when driving devices from LinkZill;

3. The Vh and Vl in the app correspond to the open and close voltage of the 64 channels of the Data Read signal, with an adjustable range between -10V to +10V. Please use 8V and -8V for Vh and Vl when driving devices from LinkZill;

4. The Vdd and Vss in the app are two channels of DC bias voltages that correspond to the load voltage and common electrode coltage for the driven device.

Operating Manual

1. App Installation:

Please instal the app with the provided apk file. The file may change its suffix to apk.1., and you may need to delete the ".1" to instal.

⚠ **The app only supports terminal devices of Android 6.0 or higher and 6GB RAM or higher. The app needs permission to access the Bluetooth/location/storage for full functionalities. Such access will not do any harm to the terminal devices.**

2. Device Connection:

(The illustration is based on the compatible device of a 64*64 TFT array with quantum dot luminescent material on top.)

a. Before connecting the TFT array to the system, please make sure the system is switched off.

b. Flip the lid on the system and connect the FPC interface with the system with the golden pin facing down and the black side facing up.

c. Close the lid.

3. App Connection：

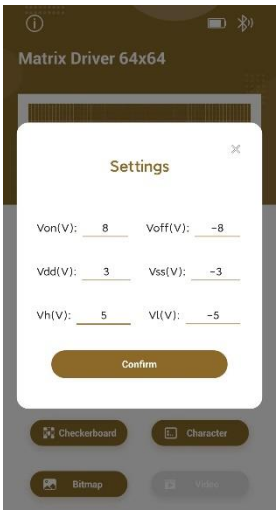
a. Switch on the TruEbox 04MD, and you should see the lighting of the white indicator light and screen on the system. If not, please charge the system for the low battery.

b. Open the APP, click the Bluetooth button, and you will see the window of "Available Devices" pop out. Select the device called "MD64-XX" and then insert the password "1234" if needed to finish the connection.

4. Device Driving:

(The illustration is based on the compatible device of a 64*64 TFT array with quantum dot luminescent material on top.)

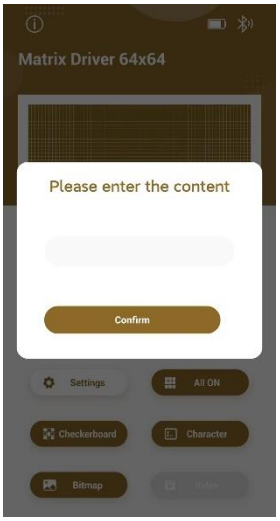
a. Click the "Setting" button to set the voltage for Von, Voff, Vdd, Vss, Vh, and Vl. In the demonstration with the compatible 64*64 device, Von=8V, Voff=-8V, Vdd=3V, Vss=-3V, Vh=5V, and Vl=-5V. Press the "Confirm" button to finish the setting. (shown in the following screenshot)



b. Press the “All ON” button to light up all the pixels on the panel. Press again to turn off the pixels.

c. Press the “Checkerboard” button to realize the checkerboard display by lighting up every other pixel. Press again to switch the lit pixel. Press again to turn off all the pixels.

d. Press the “Character” button and a window would pop out for you to insert characters. Put in the word and press “Confirm” to realize the display of the given characters, with each character occupying 16*8 pixels and 32 characters max to be shown at the same time. If the content exceeds the limit, the system will display characters alternatively (e.g. for 40 characters, the first 32 characters would be displayed, the last 8 characters would be shown later, and the first 32 characters would be shown again as a cycle).



e. Press the “Bitmap” button and a window would pop out for you to choose the file. Select the desired bmp files to show the pictures. When multiple files were selected, the pictures would change in order every second, and you can adjust the refresh rate between 0.5s to 10s by holding on to the “Bitmap” button.

⚠ Please use bmp pictures with a resolution of 64*64 for the best performance.

Warnings:

⚠ Please don’t use the matrix readout system while charging. Avoid using the system in complex electromagnetic environments (strong power, AC magnetic field et. al).

⚠ Please use the original charger to avoid damage.

⚠ The charging indicator is red when the system is charging and change to green when the battery is full. The full charge time is about 8 hours. To avoid damaging the system, please unplug the charger when the system is fully charged.

⚠ Please don’t use the system in hot or humid environments. Don’t throw the system into fire or water to avoid damage or explosion.

⚠ Please don’t bash or drop the system from height to avoid damage.