

# FireBeetle OSD Character Overlay Module

DFR0515

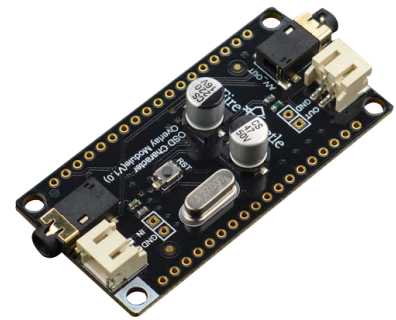
## Product Overview

07/01/2022

For the most up-to-date information, visit [www.mouser.com](http://www.mouser.com) or the supplier's website.

## Description

DFRobot FireBeetle On-screen Display (OSD) Character Overlay Module is a single channel module with screen menu adjustment display technology. The OSD overlay module is based on the AT7456E OSD chip and is compatible with FireBeetle series interfaces and mainboards. This display module incorporates 512 bytes of Electrically Erasable Programmable Read-Only Memory (EEPROM) user-defined storage space. The OSD overlay module offers a 540 x 192 pixels display that shows 16 x 30 characters on the screen when connected to AV sources. This module is suitable for device character display and time display of monitor devices such as road cameras and home automation.



## Features

- 512 bytes EEPROM user-defined storage space
- Supports blink, inverse color, and background control characters
- Equipped with functions like:
  - Video drive
  - Sync separator
  - Video separate switch
- 16 x 30 character display
- Supports attenuation compensation of video drive output
- Built-in sync generator and supports external compound sync signal input
- Compatible with:
  - National Television System Committee (NTSC)
  - Phase Alternation Line (PAL)
- Built-in characters stock

## Specifications

- 3.3V to 5V operating voltage range
- 75mA operating current range
- 16 x 30 character display
- 18 x 12 character pixel
- 540 x 192 resolution
- 2.54 black pin-4P x 1
- Single color (white) to show
- AV I/O signal source
- Serial Peripheral Interface (SPI)
- -10°C to 85°C operating temperature range
- 58mm x 29mm dimensions

## Kit Contents

- FireBeetle OSD Character Overlay Module x 1
- AV to JST-2P wires x 2
- 2.54 black female header-18P x 2
- 2.54 black pin-18P x 2
- 2.54 black pin-4P x 1

## Additional Resources

- [FireBeetle OSD Character Overlay Module Schematic](#)
- [Zhongkewei AT7456E Datasheet \(Chinese\)](#)

## Learn More About

- [DFRobot FireBeetle ESP32 IOT Microcontroller](#)

## Board Overview and Functional Diagram

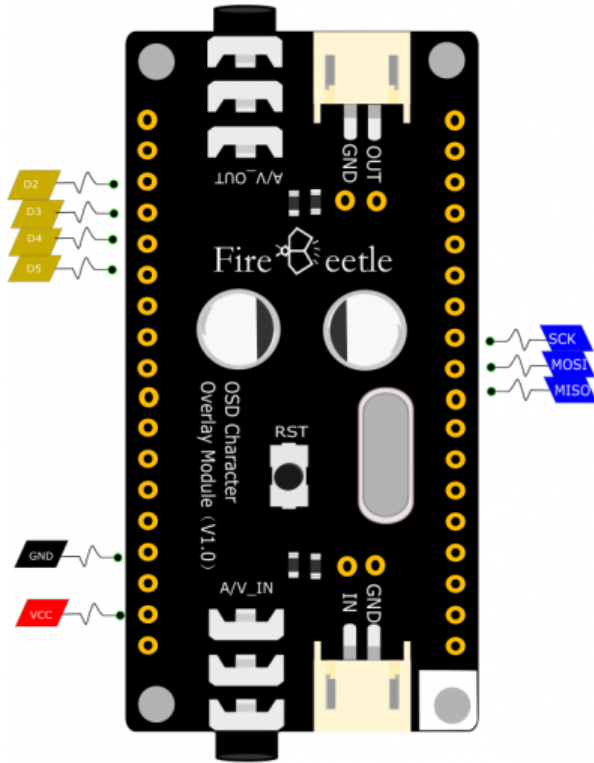
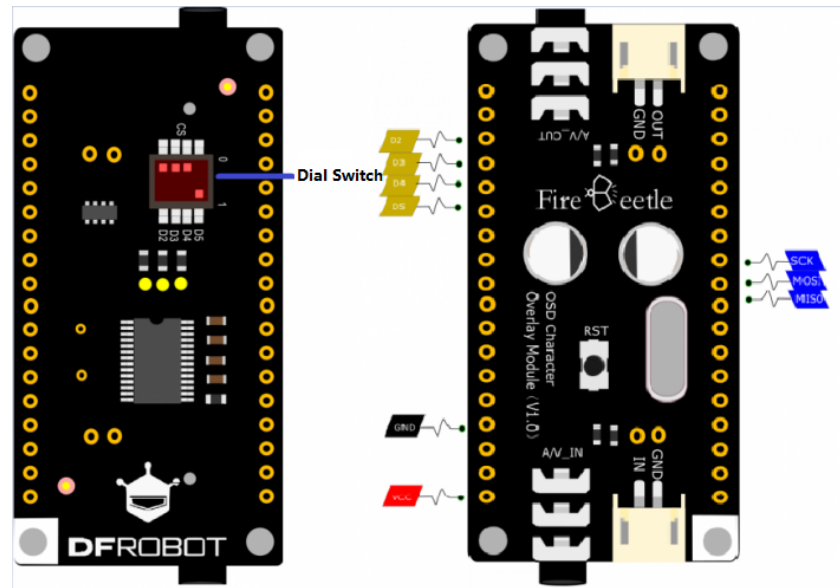


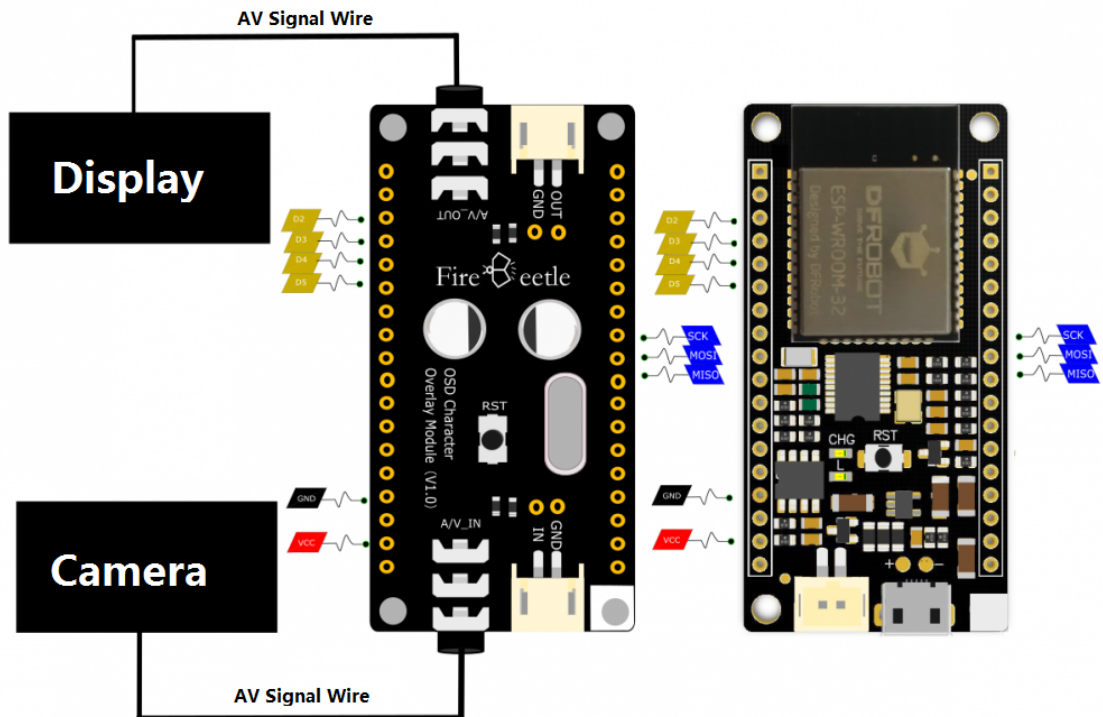
Fig. 1 Board Overview



- Video Signal Input: RCA A/V\_IN or PH2.0 IN
- Video Signal Input: RCA A/V\_OUT or PH2.0 OUT
- OSD (On-screen Display) Control: SPI Interface
- RST: Reset button of OSD chip
- D2-D5: chip selection is available with dial switch

Fig. 2 Functional Diagram

## Connection Diagram



## Mouser Part Number

[View Part](#)

To learn more, visit <https://www.mouser.com/new/dfrobot/dfrobot-freebeetle-osd-module/>