
4.3" GEMmodule™

MK-480272C

Data Sheet

Introduction:

The MK-480272C is a fully integrated 4.3" WQVGA production color display module to support a variety of embedded control interface applications. Featuring the Amulet GEM Graphical OS Chip™ for color displays, the module supports GIF, JPEG and PNG graphic formats in 24-bit color, plus 8-bit alpha blending (transparency channel) found in high-end consumer electronic products.

Features:

- 480x272 TFT LCD - 16:9 (wide aspect ratio) display
- White LED backlight
- Integrated resistive touch panel
- Amulet Graphical OS Chip
- 24 Pin Interconnector
- Royalty-FREE Graphical Operating System
- On-Board memory - 32megabit Serial Flash for storing GUI pages
- Touch Panel Controller - Built into Graphical OS Chip™
- Color Supported - Up to 24bit + 8bit Alpha
- Graphics Supported - GIF, JPEG, PNG
- Backlight can be controlled via the touch panel or HTML command
- Supports Unicode - Foreign language character sets
- Font Converter - Built-in

General Specification

ITEM	STANDARD VALUE	UNIT
Pixels (Resolution)	480 x 272	dots
Outline dimension	105.5(H) x 67.2 (V) x4.0D	mm
Active area	95.04(H) x 53.856(V)	mm
Dot Pitch	0.198 x 0.198	mm
Luminance	350 Typ.	Cd/m ²
Operation Temp.	70 - 20	C
View Direction	6 o'clock	
Display Mode	TN / Transmissive / Normally White	
Backlight	10 White LED	
Backlight Control	PWM	
Data Flash	32 Megabit	
Interface	USB / RS232 / UART	

Electrical Characteristic

Recommended Operating Conditions

5V	5V Recommended
5V Current	300mA Min

DC Characteristics

V core Supply Current	22mA @1.2V
V input Low Level	-0.3 to 0.8V
V input High Level	2V to (V _{cc} + 0.3V)
Pull Up Resistors	70K to 175KOhms
IO Output Current	8mA
Static Current Excluding Power on Reset V core = 1.2V	600uA
Static Current Logic cells consumption, including Power on Reset and all input drivers V core = 1.2V	30uA

Pin Descriptions

Pin Type

I = Input

O = Output

P = Power Supply

Pin #	Signal	Type	Description
1	5V	P	5V @ 300mA
2	5V	P	5V @ 300mA
3	GND	P	Ground
4	GND	P	Ground
5	SCL	O	Serial Clock
6	SDA	O	Serial Data
7	COMMU RXD	I	CommU RXD UART
8	COMMU TXD	O	CommU TXD UART
9	PWM 1	O	Programmable Clock 1
10	PWM 2	O	Programmable Clock 2
11	Prog M	I	Program Mode - Float = Prog / GND = Run Note:1
12	PWM 0	O	Programmable Clock 0
13	RS232 TXD	O	TXD from RS232 Transceiver
14	T_CAL	I	Touch Panel Cal. - Float = Cal / GND = Normal Note:1
15	PROGU RXD	I	PROGU RXD UART
16	PROGU TXD	O	PROGU TXD UART
17	SPI C3	O	SPI Chip Select 3
18	RS232 RXD	I	RXD from RS232 Transceiver
19	SPI C2	O	SPI Chip Select 2
20			
21	MISO	O	SPI DATA In
22	SCLK	O	SPI Clock
23	RESET	O	System Reset by driving pin low
24	MOSI	O	SPI DATA Out

Note:1 Internally pulled up. Only pull to ground

Table 1. Header J3 24pin, 2mm, Hirose DF-11-24DP-2DSA

Mating Connectors

Hirose DF11-24DS-2R26 Straight
 DF11-24DS-2C Right Angle
 DF11-24DS-2DSA Board

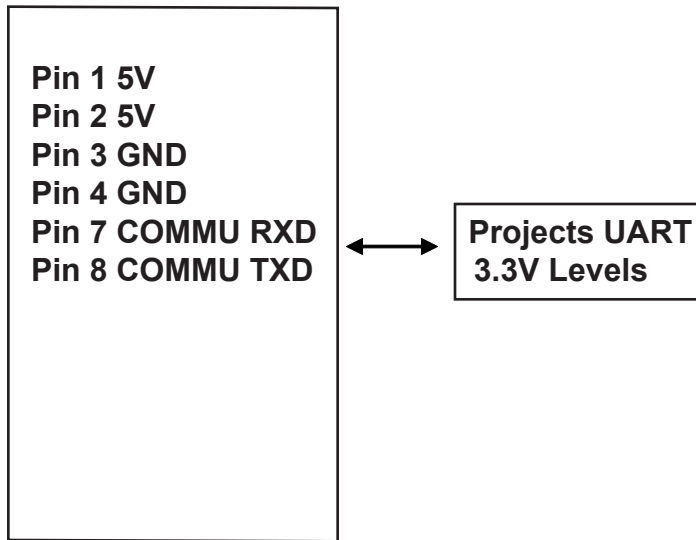
JST PHDR-24VS

MK-480272C

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J3 Wiring

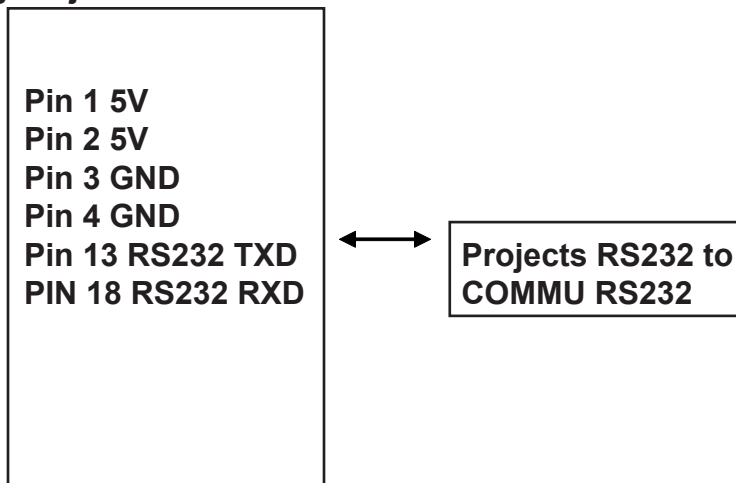
Connecting Project via UART



J3

Note: Cut Trace across SD and Jumper “D” side to C38 “8” side GND to take the RS232 Transceiver out of circuit.

Connecting Project via RS232



J3

Notes:

Commu UART is used for both programming and commu with out side world.
Program UART can only be used for programming at this time.

If you wish program via UART make sure you can get to reset and the Program mode Pins. These will only be needed if there is a serious programing issue occurs.

Pass Through Programming information is on our web site under Field Update utilities.

Momentarily grounding reset with an open collector devie ir momentery switch will cause a reset pulse.

Reset must be applied after the program mode pin is changed for us to see it.



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