

FAQ list for MB87P2020-A Jasmine and MB87J2120 Lavender

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History

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Graphic Controller frequently asked questions

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MB87P2020-A Jasmine and MB87J2120 Lavender QUESTIONS:

Q1: [back to top](#)
How does attach an oscillator instead of quartz to Jasmine?

If you don't use the quartz you can connect an oscillator at pin 31 – RCLK pin.
The OSC_OUT pin is open and the OSC_IN pin is connect with a pull-down to GND.
They must set the RCLK pin as frequency pin by software.

CLKCR [31:30] = 11 - reserved clock (pin RCLK)

Q2: [back to top](#)
Can ULB_CLK be produced by Jasmine?

No, Jasmine cannot produce ULB_CLK, but ULB_CLK can be asynchronous to CoreClock on the condition that $ULB_CLK \leq CoreClock$.
Thus a data security is ensured. An increase of ULB_CLK over this condition cannot guarantee a data security (this was examined by a simulation). Clock flanks can get lost and it transmits wrong data.

Q3: [back to top](#)
What is the reference voltage of Jasmine DAC's of the analog outputs?

Reference voltage of the DAC of the Jasmine

Output Current = $V_{ref}/R_{ref} * 12.79$
 $V_{ref} = 1.2V \pm 0.03V$
 $R_{ref} = 2.7k\Omega$ (Typ)

Note:

Pin 11, A_VRO, Rref to GND:

Adjustment of the DAC power sources (full scale)

Pin 17, VREF, n.c. :

Reference voltage output to test purposes. VREF is not adjustable

Q4:
How do you attach some interface/pins, which aren't used?

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SPB interface: SPB_BUS, SPB_TST

Connect it with 10k pull-up to 5V0 or 3V3.

(You can also use pull-down, but the pin must be always an input. You must guarantee that the pin becomes never output. Also the pin must be input always after the RESET)

Video interface: BUS_VSC_D0 to BUS_VSC_D15, VSC_IDENT, VSC_ALPHA, VSC_CLKV, VSC_VACT, VSC_VREF

Connect to GND.

CCFL interface: CCFL_OFF, CCFL_IGNT, CCFL_FET1, CCFL_FET2

Connect it with 10k pull-up to 5V0 or 3V3.

Analog RGB output: A_VRO, A_BLUE, A_GREEN, A_RED

Connect it with pull-down to GND.

Additionally, you can disable the analog output through register to save power if output is set to RGB digital.

Digital RGB output: DIS_D0 to DIS_D23

It can leave open.

ULB interface: ULB_D0 to ULB_D15

If using a CPU that has a 16-bit data-bus.

ULB_D [15:0] are set to tri-state in 16-bit mode. Connect it to GND.

Display control pins: DIS_CKEY, DIS_VREF, DIS_PIXCLK

Some displays need HSYNC/VSYNC only.

Connect it with 10k to 3V3, because you can set DIS_PIXCLK to input by software.

Generally it is not a good idea that input pins are open.

Q5:
What is Jasmine video port A and B?

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VIC include byte swap functions to exchange ports A and B.

VICCTRL [7]: BSWAP

- 0: A[15:8], B[7:0]

- 1: B[15:8], A[7:0]