

# WeAct MiniSTM32H7xx default pin assignments & GRBL map

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The WeAct MiniSTM32H7 board is configured for;

SDMMC

LCD display

SPI flash IC

QSPI flash IC

DCMI camera interface

Schematic retrieved from <https://github.com/WeActTC/MiniSTM32H7xx/tree/master/HDK>

Re-using DCMI pins where available...

Minimal grblHAL mappings for testing

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Pin	GRBL function	Notes	Board default
PA0		ok	
PA1		ok	
PA2		ok	
PA3		ok	
PA4		ok	DCMI_HSYNC
PA5	Trinamic SCK	ok	
PA6	Trinamic MISO	ok	DCMI_PCLK
PA7	Trinamic MOSI	ok (SB1 open to pull-down)	DCMI_PWRDN
PA8		ok	DCMI_XCLK
PA9	USART1_TX	ok	
PA10	USART1_RX	ok	
PA11		<b>in-use</b>	USB1_DN
PA12		<b>in-use</b>	USB1_DP
PA13		<b>in-use</b>	SWDIO
PA14		<b>in-use</b>	SWDCLK
PA15	Z probe	ok	

Pin	GRBL function	Notes	Board default
PB0	Spindle PWM	ok	
PB1		ok	
PB2		<b>in-use</b>	QSPI_CLK
PB3		<b>in-use</b>	SPIx_CLK
PB4		<b>in-use</b>	SPIx_MISO
PB5	Spindle direction	ok	
PB6		<b>in-use</b>	QSPI_BK1_NCS
PB7	Spindle enable	ok	DCMI_VSYNC
PB8		<b>in-use</b> (pull-up)	DCMI_SCL
PB9		<b>in-use</b> (pull-up)	DCMI_SDA
PB10	X step	ok	
PB11	Y step	ok	
PB12	Z step	ok	
PB13	X dir	ok	
PB14	Y dir	ok	
PB15	Z dir	ok	

Pin	GRBL function	Notes	Board default
PC0	X enable	ok	
PC1	Y enable	ok	
PC2	Z enable	ok	
PC3	X limit	ok	
PC4	Y limit	ok	
PC5	Z limit	ok	
PC6		ok	DCMI_D0
PC7		ok	DCMI_D1
PC8		<b>in-use</b>	SDMMC1_D0
PC9		<b>in-use</b>	SDMMC1_D1
PC10		<b>in-use</b>	SDMMC1_D2
PC11		<b>in-use</b>	SDMMC1_D3
PC12		<b>in-use</b>	SDMMC1_CK

Pin	GRBL function	Notes	Board default
PC13		in-use	USER_PUSHBUTTON
PC14		in-use	OSC_32
PC15		in-use	OSC_32

Pin	GRBL function	Notes	Board default
PD0		ok	
PD1		ok	
PD2		in-use	SDMMC1_CMD
PD3		ok	DCMI_D5
PD4		ok (SB2 open)	SDMMC1_SW
PD5		ok	
PD6		in-use	SPIx_CS
PD7		in-use	SPIx_MOSI
PD8	Reset	ok	
PD9	Feed hold	ok	
PD10	Cycle start	ok	
PD11		in-use	QSPI_BK1_IO0
PD12		in-use	QSPI_BK1_IO1
PD13		in-use	QSPI_BK1_IO3
PD14	Coolant flood	ok	
PD15	Coolant mist	ok	

Pin	GRBL function	Notes	Board default
PE0		ok	DCMI_D2
PE1		ok	DCMI_D3
PE2		in-use	QSPI_BK1_IO2
PE3		in-use	USER_LED
PE4	Trinamic X uart/cs	ok	DCMI_D4
PE5	Trinamic Y uart/cs	ok	DCMI_D6
PE6	Trinamic Z uart/cs	ok	DCMI_D7
PE7	M3 step	ok	
PE8	M3 direction	ok	

<b>Pin</b>	<b>GRBL function</b>	<b>Notes</b>	<b>Board default</b>
PE9	M3 enable	ok	
PE10		<b>in-use</b>	LCD_LED
PE11		<b>in-use</b>	LCD_CS
PE12		<b>in-use</b>	LCD_SCL
PE13		<b>in-use</b>	LCD_WR_RS
PE14		<b>in-use</b>	LCD_SDA
PE15	M3 limit	ok	