

Pin	Connect Systems CS 7xx				MD380		
	Type	Pin Name	Port Name	Function	Type	Port Name	Function
1	O	PE2	FLASH_CS	SPI Flash Chip Select	O	DMR_CS	DMR Chip Select
2	O	PE3	FLASH_SCLK	SPI Flash Serial Clock/ LCD_DB6 (multiplexing)	O	DMR_SCLK	DMR SCLK
3	I	PE4	FLASH_SDO	SPI Flash Serial Data	I	DMR_SDO	DMR SDO
4	O	PE5	FLASH_SDI LCD_DB7	SPI Flash Serial Data Output (MCU)/ LCD_DB7 (multiplexing)	O	DMR_SDI PLL_DAT	DMR SDI PLL DAT
5	O	PE6	DMR_SLEEP	DMR POWERDOWN (High Active)	O	DMR_SLEEP	DMR POWERDOWN (High Active)
6	S	VBAT	VBAT	Connected to VDD		VBAT	Connected to VDD
7	O	PC13	TX_LED	TX_LED (High Active)		BSHIFT	BSHIFT
8	O	PC14	RX_LED	RX_LED (High Active)	LSI_IN	32.768 IN	RTC Crystal
9	O	PC15	LAMP	Keyboard Lamp (High Active)	LSI_OUT	32.768 OUT	RTC Crystal
10	S	VSS_5	VSS_5	Connected to VSSA		VSS_5	Connected to VSSA
11	S	VDD_5	VDD_5	Connected to 3.3V		VDD_5	Connected to 3.3V
12	I	OSC_IN	OSC_IN	8MHz Crystal Input		OSC_IN	8MHz Crystal Input
13	O	OSC_OUT	OSC_OUT	8MHz Crystal Output		OSC_OUT	8MHz Crystal Output
14	I	RESET	RESET	Reset Input (Low Active)		RESET	Reset Input (Low Active)
15	I	PC0 EXTI0	TIME_SLOT_INTER	DMR TIME_SLOT Interrupt		TIME_SLOT_INTER	DMR TIME_SLOT Interrupt
16	I	PC1 EXTI1	SYS_INTER	DMR SYS Interrupt		SYS_INTER	DMR SYS Interrupt
17	I	PC2 EXTI2	RF_TX_INTER	DMR RF_TX Interrupt		RF_TX_INTER	DMR RF_TX Interrupt
18	I	PC3 EXTI3 AD123_IN13	RF_RX_INTER	DMR RF_RX Interrupt		RF_RX_INTER 2T/5T	DMR RF_RX Interrupt
19	S	VDD	VDD	Connected to 3.3V		VDD	Connected to 3.3V
20	S	VSS	VSS	Connected to VSSA		VSS	Connected to VSSA
21	S	VREF+	VREF+	Connected to 3.3V		VREF+	Connected to 3.3V
22	S	VDDA	VDDA	Connected to 3.3V		VDDA	Connected to 3.3V
23	I	PA0 ADC123_IN0	MANDOWN	MANDOWN Input		TX_LED	TX_LED (High Active)
24	I	PA1 ADC123_IN1	BATT	BATTERY Input		BATT	BATTERY Input
25	I	PA2 ADC123_IN2	QT/DQT_IN	CTCSS/DCS Input		QT/DQT_IN	CTCSS/DCS Input
26	I	PA3 ADC123_IN3	VOX	VOX Input		VOX	VOX Input
27	S	VSS_4	VSS_4	Connected to VSSA		VSS_4	Connected to VSSA
28	S	VDD_4	VDD_4	Connected to 3.3V		VDD_4	Connected to 3.3V
29	O	PA4 DAC_OUT1	APC/TV	APC/TV D/A Output		APC/TV	APC/TV D/A Output
30	O	PA5 DAC_OUT2	MOD2_BIAS	TCXO Frequency D/A Adjust		MOD2_BIAS	TCXO Frequency D/A Adjust
31	I	PA6 ADC12_IN6	POWER_DET	Power Detect (High Active)		K1	K1
32	O	PA7	POWER_C	Power Control (High Active)		POWER_C	Power Control (High Active)
33	O	PC4	RF_APC_SW	RF Amplifier Switch (High Active)		RF_APC_SW	RF Amplifier Switch (High Active)
34	O	PC5	5TC	5T Power Control		5TC	5T Power Control
35	I	PB0 ADC12_IN8	RSSI	RSSI Detect Input		RSSI	RSSI Detect Input
36	I	PB1 ADC12_IN9	BUSY	Carrier Detect Input		BUSY	Carrier Detect Input
37	I/O	PB2 BOOT1	FM_SW	FM Receive IF Switch (High - Receive)		FM_SW	FM Receive IF Switch (High - Receive)
38	O	PE7	FM_MUTE	FM RX Mute (High Active)		LCD D4	LCD D4
39	O	PE8	RXVCC_SW	RXVCO/TXVCO Control (High for RX)		LCD D5	LCD D5
40	O	PE9	DMR_SW	DMR Receive IF Switch (High Active)		LCD D6	LCD D6
41	I	PE10	VOL_MAX	Max Volume Control (High Active)		LCD D7	LCD D7
42	I	PE11	EXT_PTT	Ext PTT Input		PTT_KEY	PTT_KEY
43	I	PE12	PTT_KEY	PTT Key Input (Low Active)		EXT_PTT	Ext PTT Input (Low Active)
44	I	PE13	ALARM_KEY	Top Key (ALARM) Input		FM_MUTE	FM_MUTE
45	I	PE14	ENCODE_IN0	Channel Encode IN0		ENCODE_IN0	Channel Encode IN0
46	I	PE15	ENCODE_IN1	Channel Encode IN1		ENCODE_IN1	Channel Encode IN1
47	I	PB10	ENCODE_IN2	Channel Encode IN2		ENCODE_IN2	Channel Encode IN2
48	I	PB11	ENCODE_IN3	Channel Encode IN3		ENCODE_IN3	Channel Encode IN3
49	S	VCAP_1	VCAP_1	Connect a capacitor to Ground		VCAP_1	Connect a capacitor to Ground
50	S	VDD_1	VDD_1	Connected to 3.3V		VDD_1	Connected to 3.3V
51	O	PB12 SPI2_NSS	DMR_CS	C5000 Chip Select		V_CS	DMR V_CS
52	O	PB13 SPI2_SCK	DMR_SCLK	C5000 Serial Clock Output		V_SCLK	DMR V_SCLK
53	I	PB14 SPI2_MISO	DMR_SDO	C5000 Serial Data Input		V_SDO	DMR V_SDO
54	O	PB15 SPI2_MOSI	DMR_SDI	C5000 Serial Data Output		V_SDI	DMR V_SDI
55	I	PD8	PLL_LD	PLL Lock Detect (High Active)		FLASH CS1	FLASH CS1
56	O	PD9	PLL_CS	PLL Chip Select		FLASH CS2	FLASH CS2
57	O	PD10	PLL_DAT	PLL Data Output		PLL LD	PLL LD
58	O	PD11	PLL_CLK	PLL Clock Output		PLL CS	PLL CS
59	O	PD12	LCD_RES	LCD_RES		LCD RS	LCD RS
60	O	PD13	LCD_A0	LCD_A0		LCD RST	LCD RST
61	O	PD14	LCD_CS1	LCD_CS1		LCD D0	LCD D0
62	O	PD15	FL_C	Fast Lock Switch Control (Hi Active)		LCD D1	LCD D1
63		PC6 TIM8_CH1	FAST_LOCK	Fast Lock PWM Output		LAMP	Keyboard, LCD LAMP
64		PC7 TIM8_CH2	CTCSS/DCS_OUT	CTCSS/DCS TCXO Output		CTCSS/DCS_OUT	CTCSS/DCS TCXO Output
65	O	PC8 TIM8_C_H3	BEEP	BEEP/ALARM/DTMF Output		BEEP	BEEP/ALARM/DTMF Output
66	O	PC9	5RC	5R Power Switch Control (High Active)		5RC	5R Power Switch Control (High Active)
67	O	PA8	SAVE	5C Power Switch Control (High Active)		SAVE	PLL Power
68		PA9 USART1_TX	SD1_KEY	Side Key 1 Input		DMR_SW	DMR_SW
69		PA10 USART1_RX	SD2_KEY	Side Key 2 Output		VCOVCC_SW	RXVCO/TXVCO Control (High for RX)
70	I/O	PA11 USB_DM	USB_D-	USB DM		USB D-	USB DM

71	I/O	<b>PA12</b> USB_DP	USB D+	USB DP		USB D+	USB DP
72	I/O	<b>PA13</b> SWDIO	W/N_SWITCH	Wide/Narrow Band Control	TP304	W/N_SWITCH	Wide/Narrow Band Control
73		VCAP_2	VCAP_2	Connect a Capacitor to Ground		VCAP_2	Connect a Capacitor to Ground
74		VSS_2	VSS_2	Connect to Ground		VSS_2	Connect to Ground
75		VDD_2	VDD_2	Connect to 3.3V		VDD_2	Connect to 3.3V
76		<b>PA14</b> SWCLK	MANDOWN_SW	MANDOWN Power Switch (High Active)		MICPWR_SW	MIC Power Switch
77		<b>PA15</b> I2S3_WS	I2S_FS	DMR I2S_FS		I2S_FS	DMR I2S_FS
78		<b>PC10</b> I2S3_CK	I2S_CK	DMR I2S_CK		I2S_CK	DMR I2S_CK
79		<b>PC11</b> I2S3ext_SD	I2S_RX	DMR I2S_RX		I2S_RX	DMR I2S_RX
80	I	<b>PC12</b> I2S3_SD	I2S_TX	DMR I2S_TX		I2S_TX	DMR I2S_TX
81	I/O	<b>PD0</b>	K2	Key Board K2 Input		LCD_D2	LCD_D2
82	I/O	<b>PD1</b>	K3	Key Board K3 Input		LCD_D3	LCD_D3
83	I/O	<b>PD2</b>	K4	Key Board K4 Input		K2	K2
84	I/O	<b>PD3</b>	K5	Key Board K5 Input		K3	K3
85	I/O	<b>PD4</b>	K6	Key Board K6 Input		LCD_RD	LCD_RD
86	I/O	<b>PD5</b>	K7	Key Board K7 Input		LCD_WR	LCD_WR
87	I/O	<b>PD6</b>	K8	Key Board K8 Input		LCD_CS	LCD_CS
88	O	<b>PD7</b>	V_CS	DMR V_CS		FLASH_CS	SPI Flash Chip Select
89	O	<b>PB3</b> SPI3_SCLK	V_SCLK	DMR V_SCLK		FLASH_CLK	SPI Flash CLK
90	I	<b>PB4</b>	V_SDO	DMR V_SDO		FLASH_SDO	SPI Flash SDO
91	O	<b>PB5</b>	V_SDI	DMR V_SDI		FLASH_SDI	SPI Flash SDI
92	O	<b>PB6</b>	SPK_C	Speaker Output Control (High Active)		SCL	Software Control Watch Dog Serial Clock
93	O	<b>PB7</b>	AFCO	Audio Amplifier Control (High Active)		SDA	Software Control Watch Dog Serial Data
94	I	BOOT0	BOOT0	Connect a 10k resistor to Ground		BOOT0	Connect a 10k resistor to Ground
95	O	<b>PB8</b> I2C1_SCL	SCL	Software Control Watch Dog Serial Clock		SPK_C	SPK_C
96	O	<b>PB9</b> I2C2_SDA	SDA	Software Control Watch Dog Serial Data		AFCO	AFCO
97	O	<b>PE0</b>	MICPWR_C	MIC Power Switch (High Active)		RX_LED	RX_LED (High Active)
98	O	<b>PE1</b>	K1	Keyboard K2 Input		Not Used	Not Used
99	S	VSS_3	VSS_3	Ground		VSS_3	Ground
100	S	VDD_3	VDD_3	Connect 3.3V		VDD_3	Connect 3.3V