XG7100 Pins

ATXMega	Xmega Function	J1	J2	Do not use if installed:	X-Graph	Internal	ZigBee	SDCard	xgBUS	USB	Arduino	XG8400 (Arduino slave)
PA0	ADC0-AC0-AREF	AIN0			AIN0							
PA1	ADC1-AC1	AIN1			AIN1							
PA2	ADC2-AC2-DAC0	AIN2			AIN2							
PA3	ADC3-AC3-DAC1	AIN3			AIN3							
PA4	ADC4-AC4	AIN4			AIN4							
PA5	ADC5-AC5	AIN5			AIN5							
PA6	ADC6-AC6	AIN6			AIN6							
PA7	ADC7-AC7-AC0 OUT	AIN7			AIN7							
PB0	ADC0-AC0-AREF	AIN8			AIN8							
PB1	ADC1-AC1				VREF	VREF						
PB2	ADC2-AC2-DAC0				LEFT	ATS LEFT						
PB3	ADC3-AC3-DAC1				UP	ATS UP						
PB4	ADC4-AC4-TMS	AIN12			AIN12							
PB5	ADC5-AC5-TDI	AIN13			AIN13							
PB6	ADC6-AC6-TCK	AIN14			AIN14							
PB7	ADC7-AC7-TD0	AIN15			AIN15							
PC0	SDA-OC0A		PC0		PC0							
PC1	SCL-XCK0-OC0B		PC1		PC1							
PC2	RXD0-OC0C		PC2	(Arduino not used)	RS RXD						D0-RXD-J20	
PC3	TXD0-OC0D		PC3	(Arduino not used)	RS TXD						D1-TXD-J20	
PC4	SS-OC1A		PC4	(XG8400 only)	LCD CS							D8-LCD CS-J22 (in)
PC5	MOSI-XCK1-OC1B		PC5	(XG8400 only)	LCD MOSI							D11-MOSI-J22 (in)
PC6	MISO-RXD1		PC6	(XG8400 only)	LCD MISO							D12-MISO-J22 (out)
PC7	EV-CLK-SCK-TXD1		PC7	(XG8400 only)	LCD SCK							D13-SCK-LED-J22 (in)
PD0	SDA-OC0A		PD0	xgBUS I2C	XGBUS GP0				GP0			
PD1	SCL-XCK0-OC0B		PD1	xgBUS I2C	XGBUS GP1				GP1			
PD2	RXD0-OC0C		PD2	XG8100 GPRS Shield	GSM RXD						D4-GSM TXD-J20	
PD3	TXD0-OC0D		PD3	XG8100 GPRS Shield	GSM TXD						D6-GSM RXD-J20	
PD4	SS-OC1A		PD4		PD4							
PD5	MOSI-XCK1-OC1B		PD5		PD5							
PD6	MISO-RXD1-USB-		PD6	(USB not used on this rel.)	USB-					USB-		
PD7	EV-CLK-SCK-TXD1-USB+		PD7	(USB not used on this rel.)	USB+					USB+		
PE0	SDA-OC0A		PE0	(Arduino not used)	XG CS						D2-ETH IRQ-J20	
PE1	SCL-XCK0-OC0B		PE1	XG8300 MP3 Shield	MP3 DCS						D9-MP3 DCS-J18	
PE2	RXD0-OC0C		PE2	ZigBee	ZIGBEE RXD		2-DOUT					
PE3	TXD0-OC0D		PE3	ZigBee	ZIGBEE TXD		3-DIN					
PE4	SS-OC1A		PE4	XG8300 MP3 Shield	MP3 CS						D8-D7-MP3 CS-J18-J20	
PE5	MOSI-XCK1-OC1B		PE5	XG8100 GPRS Shield	GSM PON						D3-GSM PON-J20	
PE6	MISO-RXD1		PE6		BUZZER							
PE7	EV-CLK-SCK-TXD1				CLKOUT	LCD CLK						
PF0	SDA-OC0A		PF0	LCD (do NOT use)	PWM	LCD BL						
PF1	SCL-XCK0-OC0B		PF1	xgBUS SPI	XGBUS CLK				CLK			
PF2	RXD0-OC0C		PF2	xgBUS SPI	XGBUS RXD				RXD			
PF3	TXD0-OC0D		PF3	xgBUS SPI	XGBUS TXD				TXD			
PF4	SS-OC1A		PF4	Arduino Ethernet Shield	ETH CS						D10-ETH CS-J18	
PF5	MOSI-XCK1-OC1B		PF5	SPI Bus (SD/XBee/Ard)	SD MOSI		11-DIO4	MOSI			D11-MOSI-J18	
PF6	MISO-RXD1		PF6	SPI Bus (SD/XBee/Ard)	SD MISO		4-DIO12	MISO			D12-MISO-J18	
PF7	SCK-TXD1		PF7	SPI Bus (SD/XBee/Ard)	SD CLK		18-DIO2	SCK			D13-SCK-LED-J18	
PH0	WE				WE	LCD WE						
PH1	RE-CAS				(reserved)							
PH2	ALE1-RAS				ALE	LCD ALE						
PH3	ALE2-DQM				(reserved)							
PH4	A16-CS0-BA0				LCD RESET	LCD RESET						
PH5	A17-CS1-BA1				READY (in)	LCD READY						
PH6	A18-CS2-CKE				CS1	LCD CS1						
PH7	A19-CS3-CLK				CS0	LCD CS1						
PJ0	A8-A0-D0				A0	LCD AD0						
PJ1	A9-A1-D1				A1	LCD AD1						
PJ2	A10-A2-D2				A2	LCD AD2						
PJ3	A11-A3-D3				A3	LCD AD3						
PJ4	A12-A4-D4-A8				A4	LCD AD4						
PJ5	A13-A5-D5-A9				A5	LCD AD5						
PJ6	A14-A6-D6-A10				A6	LCD AD6						
PJ7	A15-A7-D7-A11				A7	LCD AD7						
PK0	A16-A8-A0	PK0		xgBUS	XGBUS OE				OE			
PK1	A17-A9-A1	PK1		xgBUS	XGBUS LD				LD			
PK2	A18-A10-A2	PK2		xgBUS	XGBUS STR				STR			
PK3	A19-A11-A3	PK3		ZigBee WiFi only	ZIGBEE ATTN		19-DIO1					
PK4	A20-A12-A4	PK4		ZigBee	ZIGBEE RESET		5-RESET					
PK5	A21-A13-A5	PK5		SDCard	SD CS			CS				
PK6	A22-A14-A6	PK6		ZigBee Handshaking	ZIGBEE RTS		16-DIO6					
PK7	A23-A15-A7	PK7		ZigBee Handshaking	ZIGBEE CTS		12-DIO7					
PQ0		RTC_CLK			RTC_CLK							
PQ1					SD_CD			CD				
PQ2					RIGHT	ATS RIGHT						
PQ3					DOWN	ATS DOWN						
PR0	XTAL2				ZIGBEE_CS		17-DIO3					
PR1	XTAL1				SD_WP			WP				
PDI_DATA		PDI_DATA			PDI_DATA							
RESET	PDI_CLK	RESET			RESET							

ZigBee Modules

ZigBee modules	2-DOUT	3-DIN	11-DIO4	4-DIO12	18-DIO2	19-DIO1	5-RESET	16-DIO6	12-DIO7	17-DIO3
ZIGBEE	RXD	TXD	MOSI	MISO	SCK	ATTN	RESET	RTS	CTS	CS
Default state for										
Digi Xbee / Xbee-PRO ZB RF Modules	Output	Input	Disabled	Disabled	Disabled	Disabled	OC Pull-Up	Input	Output	Disabled
Digi Xbee / Xbee-PRO DigiMesh 2.4 RF Modules	Output	Input	Input	Input	Input	Input	OD (only low)	Input	Output	Input
Digi Xbee DigiMesh 900 Mesh RF Modules	Output	Input	Input	Input	Input	Input	OC (only low)	Input	Input	Input
Digi Xbee Wi-Fi	Output	Input	Disabled	Disabled	Disabled	Disabled	Input	Input	Output	Disabled
Digi Xbee-Pro 802.15.4	Output	Input	Disabled	Output	Disabled	Disabled	Input	Disabled	Output	Disabled
Digi Xbee-Pro 868	Output	Input	Input	Input	Input	Input	OD (only low)	Input	Input	Input
Digi Xbee-Pro 900	Output	Input	Input	Input	Input	Input	OD (only low)	Input	Input	Input
Digi Xbee-Pro XSC	Output	Input	Output (NC)	Output	Fixed Low	Fixed Low	OD (only low)	Input	Output	Fixed Low
Roving Networks RN-XV	Output	Input	Input	Input	Input	Sens Input	Input	Input	Output	Input
XG4100	PD5-ARXB	PD4-ATXB	nc	nc	nc	nc	nc	SLAVE-PD0	SLAVE-PB6	nc
XG4200-R4	PC1-RXD	PC0-TXD	SPI MOSI	SPI MISO	SPI CLK	6-U35-Input	3-U34-Output	2-U34-Output	2-U35-Input	PD0-SPI CS
XG5000-R8	PG7	PG6	nc	nc	nc	nc	nc	CPLD-D2	CPLD-D1	nc
XG7100-R3	PE2-RXD	PE3-TXD	SPI MOSI	SPI MISO	SPI CLK	PK3	PK4	PK6	PK7	PR0
XG8500-R1	D9-MP3 DCS	D10-ETH CS	ARD MOSI	ARD MISO	ARD SCK	exp header	ARD RESET	exp header	exp header	D10-ETH CS
	(R16 installed)	(R17 installed)	(input)	(input)						
Solution: remove SPI from headers (XG4200 / XG7100))										
Solution: XG8500-R2 uses two lines for soft-serialbus (RN-XV support anyhow)										
Solution: where possible add 3 resistors for user upgrade to SPI bus -> only for Xbee Wi-Fi anyhow										
Solution on above R version: remove pins from headers so contacts with all SPI pins are removed.										

Arduino Modules

	Arduino Uno	Eth V06	XG8000	XG8100	XG8200	XG8300	XG8400	XG8500	XG8500-R3	XG7100	XG7100-R4		
		(3V3)	LCD V1	GPRS	SMPS	MP3	LCD V2	ZIGBEE	ZIGBEE			XGBUS	DC/RS/USB
D0	PD0-RXD									RS RXD	RS RXD		RXD2
D1	PD1-TXD									RS TXD	RS TXD		TXD2
D2	PD2-INT0	(IRQ optie)							RXD	CS XG	CS XG		RXD
D3	PD3-INT1			GSM PON						GSM PON	GSM PON		
D4	PD4-T0	SD_CS		GSM RXD (out)		CS SD				GSM RXD	ASD CS		
D5	PD5-T1										GSM RXD		
D6	PD6-AIN0			GSM TXD						GSM TXD	GSM TXD		
D7	PD7-AIN1								TXD	CS MP3	AD7		TXD
D8	PB0-ICP		CS LCD			CS MP3	CS LCD			CS MP3	CS MP3		
D9	PB1-OC1					DCS MP3		ZB TXD (out)		DCS MP3	DCS MP3		
D10	PB2-SS	ETH CS						ZB CS/RXD		CS ETH	CS ETH		
D11	PB3-MOSI	MOSI	MOSI			MOSI	MOSI	MOSI		MOSI	MOSI	MOSI	
D12	PB4-MISO	MISO	MISO			MISO	MISO	MISO		MISO	MISO	MISO	
D13	PB5-SCK	SCK	SCK			SCK	SCK	SCK		CLK	CLK	CLK	
GND	GND		GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND
VREF	VREF									(AVCC)	(AVCC)		
A0	PC0-ADC0										AIN1	OE	
A1	PC1-ADC1										AIN2	LD	
A2	PC2-ADC2										AIN3	STR	
A3	PC5-ADC3										AIN4		
A4	PC6-ADC4-SDA										AIN5	GP0	
A5	PC7-ADC5-SCL										AIN6	GP1	
RESET	RESET	RESET					(RESET ??)	RESET ZB	RESET ZB	(RESET ??)	ARESET		
+3V3	+3V3									(+3V3)	(+3V3)	+3V3	
+5V	+5V	+5V	+5V		+5V OUT	+5V	+5V	+5V	+5V	+5V	+5V		DC (5V)
GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND
GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND
VIN	VIN	VIN (PoE)		VIN	VIN			VIN					
			Reset ??										