AT91RM9200 Pins

Pin	Active	Direction	Connection	Use
VDDCORE	N/A	IN	1.65-1.95 V	Supply power to core logic
VDDIOM	N/A	IN	3.0-3.6 V	Supply power to Memory I/O Lines
VDDIOP	N/A	IN	3.0-3.6 V	Supply power to peripheral I/O lines
VDDOSC	N/A	IN	1.65-1.95 V	Supply power to oscillator
VDDPLL	N/A	IN	1.65-1.95 V	Supply power to oscillator and PLL
GND	N/A	IN	Ground	Ground
GNDOSC	N/A	IN	Ground	Ground
GNDPLL	N/A	IN	Ground	Ground
RESET				
XIN32	N/A	IN	32 kHz oscillator	Monitoring 32 kHz oscillator
XOUT32	N/A	OUT	32 kHz oscillator circuit	Driving 32 kHz oscillator
XIN	N/A	IN	Main oscillator	Monitoring main oscillator
XOUT	N/A	OUT	Main oscillator	Driving main oscillator
PLLRCA	N/A	IN	2nd order filter for PLL	PLL A Filter
PLLRCB	N/A	IN	2nd order filter for PLL	PLL B Filter
NRST	LOW	IN	Reset circuitry	Power on reset and system reset
NTRST	LOW	IN	Reset circuitry	Power on reset and debugger interface resets (ICE/JTAG)
TST0	N/A	IN	Pull-down GND	Manufacturer tests, don't use
TST1	N/A	IN	Pull-down GND	Manufacturer tests, don't use

Pin	Active	Direction	Connection	Use
A0/NBS0	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
A1/NBS2/ NWR2	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
A2-A15	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
A16/BA0	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
A17/BA1	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
A18-A22	N/A	OUT	Address Bus (through buffer)	Used for sending address to chip selected by chip select
D0-D15	N/A	Bidirectional	Data bus (through buffer)	Sending and receiving data from data bus
NCS0/BFCS	LOW	OUT	None	None
NCS1/SDCS	LOW	OUT	SRAM chip select	Select SRAM Chip when accessing SRAM
NCS2	LOW	OUT	DRAM chip select	Select DRAM Chip when accessing DRAM
NCS3/SMCS	LOW	OUT	LCD Display chip select	Selecting LCD Display.
NRD/NOE/ CFOE	LOW	OUT	Chips on data bus	Enable output to data bus on selected chip
NWR0/NEW/ CFWE	LOW	OUT	Chips on data bus	Enable input from data bus on selected chip
NWR1/NBS1/ CFIOR	LOW	OUT	Chips on data bus	Enable input from data bus on selected chip
NWR3/NBS3/ CFIOW	LOW	OUT	Chips on data bus	Enable input from data bus on selected chip
RAS	LOW	OUT	SDRAM	Row Select Signal
CAS	LOW	OUT	SDRAM	Column Select Signal
SDCK	N/A	OUT	SDRAM clock	SDRAM Clock
SDCKE	HIGH	OUT	SDRAM clock enable	SDRAM Clock enable
SDWE	LOW	OUT	SDRAM	SDRAM Write Enable
SDA10	N/A	OUT	SDRAM	SDRAM address 10 Line

Pin	Active	Direction	Connection	Use
HDMA	N/A	N/A	Not Used	USB (not used)
HDPA	N/A	N/A	Not Used	USB (not used)
DDM	N/A	N/A	Not Used	USB (not used)
DDP	N/A	N/A	Not Used	USB (not used)
PA0/MISO/ PCK3	N/A	IN	Audio DAC/ADC	Audio DAC/ADC SPI
PA1/MOSI/ PCK0	N/A	OUT	Audio DAC/ADC	Audio DAC/ADC SPI
PA2/SPCK/ IRQ4	N/A	OUT	Audio DAC/ADC	Audio DAC/ADC SPI Clock
PA3/NPCS0/ IRQ5	LOW	OUT	Audio DAC	Select audio DAC chip
PA4/NPCS1/ PCK1	LOW	OUT	Audio ADC	Select audio ADC chip
PA5/NPCS2/ TXD3	LOW	OUT	None	None
PA6/NPCS3/ RXD3	LOW	OUT	None	None
PA7/ETXCK/ EREFCK/PCK2	N/A	IN	Ethernet jack	Ethernet clock
PA8/ETXEN/ MCCDB	N/A	OUT	Ethernet jack	Ethernet transmit enable
PA9/ETX0/ MCDB0	N/A	OUT	Ethernet jack	Ethernet transmit data
PA10/ETX1/ MCDB1	N/A	OUT	Ethernet jack	Ethernet transmit data
PA11/ECRS/ ECRSDV/MCDB2	N/A	IN	Ethernet jack	Ethernet carrier sense
PA12/ERX0/ MCDB3	N/A	IN	Ethernet jack	Ethernet receive data
PA13/ERX1/ TCLK0	N/A	IN	Ethernet jack	Ethernet receive data
PA14/ERXER /TCLK1	N/A	IN	Ethernet jack	Ethernet receive data
PA15/EMDC/ TCLK2	N/A	IN	Ethernet jack	Ethernet management data clock
PA16/EMDIO /IRQ6	N/A	IN/OUT	Ethernet jack	Ethernet management data input/output
PA17/TXD0/ TIOA0	N/A	Not used	Not used	Not used
PA18/RXD0/ TIOB0	N/A	Not used	Not used	Not used

Pin	Active	Direction	Connection	Use
PA19/SCK0/ TIOA1	N/A	Not used	Not used	Not used
PA20/CTS0/ TIOB1	N/A	Not used	Not used	Not used
PA21/RTS0/ TIOA2	N/A	Not used	Not used	Not used
PA22/RXD2/ TIOB2	N/A	Not used	Not used	Not used
PA23/TXD2/ IRQ3	N/A	Not used	Not used	Not used
PA24/SCK2/ PCK1	N/A	Not used	Not used	Not used
PA25/TWD/ IRQ2	N/A	I/O	Bootloader	I2C data line to bootloader
PA26/TWCK/ IRQ1	N/A	I/O	Bootloader	I2C clock line to bootloader
PA27/MCCK/ TCLK3	N/A	Not used	Not used	Not used
PA28/MCCDA /TCLK4	N/A	Not used	Not used	Not used
PA29/MCDA0/ TCLK5	N/A	Not used	Not used	Not used
PA30/DRXD/ CTS2	N/A	IN	Debugger	Debug receive data
PA31/DTXD/ RTS2/BMS	N/A	OUT	Debugger	Debug transmit data
PB0/TF0/ RTS3	N/A	Not used	Not used	Not used
PB1/TK0/ CTS3	N/A	Not used	Not used	Not used
PB2/TD0/ SCK3	N/A	Not used	Not used	Not used
PB3/RD0/ MCDA1	N/A	Not used	Not used	Not used
PB4/RK0/ MCDA2	N/A	Not used	Not used	Not used
PB5/RF0/ MCDA3	N/A	Not used	Not used	Not used
PB6/TF1/ TIOA3	N/A	Not used	Not used	Not used
PB7/TK1/ TIOB3	N/A	Not used	Not used	Not used
PB8/TD1/ TIOA4	N/A	Not used	Not used	Not used
PB9/RD1/ TIOB4	N/A	Not used	Not used	Not used

Pin	Active	Direction	Connection	Use
PB10/RK1/ TIOA5	N/A	Not used	Not used	Not used
PB11/RF1/ TIOB5	N/A	Not used	Not used	Not used
PB12/TF2/ ETX2	N/A	Not used	Not used	Not used
PB13/TK2/ ETX3	N/A	Not used	Not used	Not used
PB14/TD2/ ETXER	N/A	Not used	Not used	Not used
PB15/RD2/ ERX2	N/A	Not used	Not used	Not used
PB16/RK2/ ERX3	N/A	Not used	Not used	Not used
PB17/RF2/ ERXDV	N/A	IN	Ethernet jack	Ethernet receive data valid
PB18/RI1/ ECOL	N/A	Not used	Not used	Not used
PB19/DTR1/ ERXCK	N/A	IN	Ethernet jack	Ethernet receive clock
PB20/TXD1	N/A	Not used	Not used	Not used
PB21/RXD1	N/A	Not used	Not used	Not used
PB22/SCK1	N/A	Not used	Not used	Not used
PB23/DCD1	N/A	Not used	Not used	Not used
PB24/CTS1	N/A	Not used	Not used	Not used
PB25/DSR1/ EF100	N/A	Not used	Not used	Not used
PB26/RTS1	N/A	Not used	Not used	Not used
PB27/PCK0	N/A	Not used	Not used	Not used
PB28/FIQ	N/A	Not used	Not used	Not used
PB29/IRQ0	N/A	Not used	Not used	Not used
PC0/BFCK	N/A	IN	Buttons	PC0 Button input (1,1)
PC1/BFRDY/ SMOE	N/A	IN	Buttons	PC1 Button input (1,2)
PC2/BFAVD	N/A	IN	Buttons	PC2 Button input (1,3)

Pin	Active	Direction	Connection	Use
PC3/BFBAA/ SMWE	N/A	IN	Buttons	PC3 Button input (1,4)
PC4/BFOE	N/A	IN	Buttons	PC4 Button input (2,1)
PC5/BFWE	N/A	IN	Buttons	PC5 Button input (2,2)
PC6/NWAIT	N/A	IN	Buttons	PC6 Button input (2,3)
PC7/A23	N/A	IN	Buttons	PC7 Button input (2,4)
PC8/A24	N/A	IN	Buttons	PC8 Button input (3,1)
PC9/A25/ CFRNW	N/A	IN	Buttons	PC9 Button input (3,2)
PC10/NCS4/ CFCS	N/A	IN	Buttons	PC10 Button input (3,3)
PC11/NCS5/ CFCE1	N/A	IN	Buttons	PC11 Button input (3,4)
PC12/NCS6/ CFCE2	N/A	IN	Buttons	PC12 Button input (4,1)
PC13/NCS7	N/A	IN	Buttons	PC13 Button input (4,2)
PC14	N/A	IN	Buttons	PC14 Button input (4,3)
PC15	N/A	IN	Buttons	PC15 Button input (4,4)
PC16/D16	N/A	IN	Buttons	PC16 Button input (Hangup button)
PC17/D17	N/A	Not used	Not used	Not used
PC18/D18	N/A	Not used	Not used	Not used
PC19/D19	N/A	Not used	Not used	Not used
PC20/D20	N/A	Not used	Not used	Not used
PC21/D21	N/A	Not used	Not used	Not used
PC22/D22	N/A	Not used	Not used	Not used
PC23/D23	N/A	Not used	Not used	Not used
PC24/D24	N/A	Not used	Not used	Not used
PC25/D25	N/A	Not used	Not used	Not used