Super NES Programming/SNES Hardware Registers

Address	Register name	Comment
0x2100	Screen Display Register	a000bbbb a: 0=screen on 1=screen off, b = brightness
0x2101	OAM Size and Data Area Designation	aaabbccc a = Size, b = Name Selection, c = Base Selection
0x2102	Address for Accessing OAM	
0x2104	OAM Data Write	
0x2105	BG Mode and Tile Size Setting	abcdefff abcd = BG tile size (4321): 0 = 8x8 1 = 16x16, e = BG 3 High Priority, f = BG Mode
0x2106	Mosaic Size and BG Enable	aaaabbbb a = Mosaic Size b = Mosaic BG Enable
0x2107	BG 1 Address and Size	aaaaaabb a = Screen Base Address (Upper 6-bit), b = Screen Size
0x2108	BG 2 Address and Size	aaaaaabb a = Screen Base Address (Upper 6-bit), b = Screen Size
0x2109	BG 3 Address and Size	aaaaaabb a = Screen Base Address (Upper 6-bit), b = Screen Size
0x210A	BG 4 Address and Size	aaaaaabb a = Screen Base Address (Upper 6-bit), b = Screen Size
0x210b	BG 1 & 2 Tile Data Designation	aaaabbbb a = BG 2 Tile Base Address, b = BG 1 Tile Base Address
0x210c	BG 3 & 4 Tile Data Designation	aaaabbbb a = BG 4 Tile Base Address, b = BG 3 Tile Base Address
0x210d	BG 1 Horizontal Scroll Offset	Scroll offset registers are all 16 bits wide.
0x210e	BG 1 Vertical Scroll Offset	
0x210f	BG 2 Horizontal Scroll Offset	
0x2110	BG 2 Vertical Scroll Offset	
0x2111	BG 3 Horizontal Scroll Offset	
0x2112	BG 3 Vertical Scroll Offset	
0x2113	BG 4 Horizontal Scroll Offset	

0x2114	BG 4 Vertical Scroll Offset	
0x2115	VRAM Address Increment Value	
0x2116	Address for VRAM Read/Write (Low Byte)	
0x2117	Address for VRAM Read/Write (High Byte)	
0x2118	Data for VRAM Write (Low Byte)	
0x2119	Data for VRAM Write (High Byte)	
0x211a	Initial Setting for Mode 7	aa0000bc a = Screen Over b = Vertical Flip c = Horizontal Flip
0x211b	Mode 7 Matrix Parameter A	Registers 211b through 2120 are 16 bits wide. 0x211B is also used as the 16-bit multiplicand for registers 0x2134-6 (write twice) 0x211C is also used as the 8-bit multiplier for registers 0x2134-6
0x211c	Mode 7 Matrix Parameter B	
0x211d	Mode 7 Matrix Parameter C	
0x211e	Mode 7 Matrix Parameter D	
0x211f	Mode 7 Center Position X	
0x2120	Mode 7 Center Position Y	
0x2121	Address for CG-RAM Write	
0x2122	Data for CG-RAM Write	
0x2123	BG 1 and 2 Window Mask Settings	aaaabbbb a = BG 2 Window Settings b = BG 1 Window Settings
0x2124	BG 3 and 4 Window Mask Settings	aaaabbbb a = BG 4 Window Settings b = BG 3 Window Settings
0x2125	OBJ and Color Window Settings	aaaabbbb a = Color Window Settings b = OBJ Window Settings
0x2126	Window 1 Left Position Designation	
0x2127	Window 1 Right Position Designation	

0x2128	Window 2 Left Postion Designation	
0x2129	Window 2 Right Postion Designation	
0x212a	BG 1, 2, 3 and 4 Window Logic Settings	aabbccdd a = BG 4 b = BG 3 c = BG 2 d = BG 1
0x212b	Color and OBJ Window Logic Settings	0000aabb a = Color Window b = OBJ Window
0x212c	Background and Object Enable (Main Screen)	000abcde a = Object b = BG 4 c = BG 3 d = BG 2 e = BG 1
0x212d	Background and Object Enable (Sub Screen)	000abcde a = Object b = BG 4 c = BG 3 d = BG 2 e = BG 1
0x212e	Window Mask Designation for Main Screen	000abcde a = Object b = BG 4 c = BG 3 d = BG 2 e = BG 1
0x212f	Window Mask Designation for Sub Screen	000abcde a = Object b = BG 4 c = BG 3 d = BG 2 e = BG 1
0x2130	Initial Settings for Color Addition	aabb00cd a = Main Color Window On/Off, b = Sub Color Window On/Off, c = Fixed Color Add/Subtract Enable, d = Direct Select
0x2131	Add/Subtract Select and Enable	abcdefgh a = 0 for Addition, 1 for Subtraction, b = 1/2 Enable c = Back Enable, d = Object Enable, efgh = Enable BG 4, 3, 2, 1
0x2132	Fixed Color Data	abcddddd a = Blue b = Green c = Red ddddd = Color Data
0x2133	Screen Initial Settings	ab00cdef a = External Sync, b = ExtBG Mode, c = Pseudo 512 Mode, d = Vertical Size, e = Object-V Select, f = Interlace
0x2134	Multiplication Result (Low Byte)	
0x2135	Multiplication Result (Mid Byte)	
0x2136	Multiplication Result (High Byte)	
0x2137	Software Latch for H/V Counter	
0x2138	Read Data from OAM (Low-High)	
0x2139	Read Data from VRAM (Low)	

0x213a	Read Data from VRAM (High)	
0x213b	Read Data from CG-RAM (Low-High)	
0x213c	H-Counter Data	
0x213d	V-Counter Data	
0x213e	PPU Status Flag	
0x213f		
0x2140	APU I/O Port	
0x2141		
0x2142		
0x2143		
0x4200	NMI, V/H Count, and Joypad Enable	a0bc000d a = NMI b = V-Count c = H-Count d = Joypad
0x4201	Programmable I/O Port Output	
0x4202	Multiplicand A	
0x4203	Multplier B	
0x4204	Dividend (Low Byte)	
0x4205	Dividend (High-Byte)	
0x4206	Divisor B	
0x4207	H-Count Timer (Upper 8 Bits)	
0x4208	H-Count Timer MSB (Bit 0)	
0x4209	V-Count Timer (Upper 8 Bits)	
0x420a	V-Count Timer MSB (Bit 0)	
0x420b	Regular DMA Channel Enable	abcdefgh a = Channel 7...h = Channel 0: 1 = Enable 0 = Disable
0x420c	H-DMA Channel Enable	abcdefgh a = Channel 7 .. h = Channel 0: 1 = Enable 0 = Disable
0x420d	Cycle Speed Designation	0000000a a: 0 = 2.68 MHz, 1 = 3.58 MHz
0x4210	NMI Enable	
0x4211	IRQ Flag By H/V Count Timer	
0x4212	H/V Blank Flags and Joypad Status	

0x4213	Programmable I/O Port Input	
0x4214	Quotient of Divide Result (Low Byte)	
0x4215	Quotient of Divide Result (High Byte)	
0x4216	Product/Remainder Result (Low Byte)	
0x4217	Product/Remainder Result (High Byte)	
0x4218	Joypad 1 Data (Low Byte)	abcd0000 a = Button A b = X c = L d = R
0x421a	Joypad 2 Data (Low Byte)	
0x421c	Joypad 3 Data (Low Byte)	
0x421e	Joypad 4 Data (Low Byte)	
0x4219	Joypad 1 Data (High Byte)	abcdefgh a = B b = Y c = Select d = Start efgh = Up/Dn/Lt/Rt
0x421b	Joypad 2 Data (High Byte)	
0x421d	Joypad 3 Data (High Byte)	
0x421f	Joypad 4 Data (High Byte)	

DMA Registers

'X' being from 0 to 7:

Address	Register name	Comment
0x43X0	Parameters for DMA Transfer	*ab0cdeee a = Direction b = Type c = Inc/Dec d = Auto/Fixed e = Word Size Select*
0x43X1	B Address	
0x43X2	A Address (Low Byte)	
0x43X3	A Address (High Byte)	
0x43X4	A Address Bank	
0x43X5	Number Bytes to Transfer (Low Byte) (DMA)	
0x43X6	Number Bytes to Transfer (High Byte) (DMA)	
0x43X7	Data Bank (H-DMA)	
0x43X8	A2 Table Address (Low Byte)	
0x43X9	A2 Table Address (High Byte)	
0x43Xa	Number of Lines to Transfer (H-DMA)	