NES - Famicom Cartridge Pinout Sheet

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I don't care!

TOP / PARTS SIDE

NES	NES PIN #	Famicom PIN #	Famicom
GROUND	1	1	GROUND
PRG A11	2	2	PRG A11
PRG A10	3	3	PRG A10
PRG A09	4	4	PRG A09
PRG A08	5	5	PRG A08
PRG A07	6	6	PRG A07
PRG A06	7	7	PRG A06
PRG A05	8	8	PRG A05
PRG A04	9	9	PRG A04
PRG A03	10	10	PRG A03
PRG A02	11	11	PRG A02
PRG A01	12	12	PRG A01
PRG A00	13	13	PRG A00
PRG R / $\overline{W}$	14	14	PRG R / $\overline{W}$
$\overline{IRQ}$	15	15	$\overline{IRQ}$
EXP 0	16	16	GROUND
EXP 1	17	NC	NC
EXP 2	18	NC	NC
EXP 3	19	NC	NC
EXP 4	20	NC	NC
CHR RAM $\overline{RD}$	21	17	CHR RAM $\overline{RD}$
VRAM / CHR A10	22	18	VRAM / CHR A10
CHR A06	23	19	CHR A06
CHR A05	24	20	CHR A05
CHR A04	25	21	CHR A04
CHR A03	26	22	CHR A03
CHR A02	27	23	CHR A02
CHR A01	28	24	CHR A01
CHR A00	29	25	CHR A00
CHR D0	30	26	CHR D0
CHR D1	31	27	CHR D1
CHR D2	32	28	CHR D2
CHR D3	33	29	CHR D3
LOCKOUT CHIP	34	NC	NC
LOCKOUT CHIP	35	NC	NC
+5 VOLTS	36	30	+5 VOLTS

BOTTOM / SOLDER SIDE

Famicom	Famicom PIN #	NES PIN #	NES
+5 VOLTS	31	37	CLOCK
Ø 2	32	38	Ø 2
PRG A12	33	39	PRG A12
PRG A13	34	40	PRG A13
PRG A14	35	41	PRG A14
PRG D7	36	42	PRG D7
PRG D6	37	43	PRG D6
PRG D5	38	44	PRG D5
PRG D4	39	45	PRG D4
PRG D3	40	46	PRG D3
PRG D2	41	47	PRG D2
PRG D1	42	48	PRG D1
PRG D0	43	49	PRG D0
PRG ROM $\overline{CE}$	44	50	PRG ROM $\overline{CE}$
SOUND I	45	51	EXP 9
SOUND O	46	52	EXP 8
NC	NC	53	EXP 7
NC	NC	54	EXP 6
NC	NC	55	EXP 5
CHR RAM $\overline{WR}$	47	56	CHR RAM $\overline{WR}$
VRAM $\overline{CE}$	48	57	VRAM $\overline{CE}$
CHR $\overline{A13}$	49	58	CHR $\overline{A13}$
CHR A07	50	59	CHR A07
CHR A08	51	60	CHR A08
CHR A09	52	61	CHR A09
CHR A10	53	62	CHR A11
CHR A11	54	63	CHR A10
CHR A12	55	64	CHR A12
CHR A13	56	65	CHR A13
CHR D7	57	66	CHR D7
CHR D6	58	67	CHR D6
CHR D5	59	68	CHR D5
CHR D4	60	69	CHR D4
NC		70	LOCKOUT CHIP
NC		71	LOCKOUT CHIP
NC		72	GROUND

- On a Super Joy pirate Famicom, connect pin 30 to 31 to disable ROMS and enable cartridges
- VRAM / CHR A10 connects CHR A10 to A10 of the NES's Video RAM (VRAM) to allow the cartridge to select the type of name table mirroring the PPU uses
- EXP (n) go to the expansion slot on the bottom of the NES and are therefore worthless
- A "$\overline{}$" above a signal indicates ACTIVE LOW (0 volts / ground)
- Signal Ø2 goes to the CPU
- Sound I and O on the Famicom allow the cartridge to add on additional sound to the standard NES circuit (Example: Japanese version of Castlevania 3)
- CHR $\overline{A13}$ and VRAM $\overline{CE}$ are typically connected together on the cartridge and are used for memory addressing, switching between the top 8k (Name tables, etc) and bottom 8k (Pattern Tables) of the PPU's address space.
- Note how CHR A10/A11 is flipped on the NES side. Please note this when wiring adapters.