

DCO - Digitally Controlled Oscillator

PULSE WAVEFORM DIN PIN10 BTN OFF (LED DOUT 0) WAVE 1 (LED DOUT 1) WAVE 2 (LED DOUT 2) WAVE 3 (LED DOUT 3)	SAW WAVEFORM DIN PIN11 BTN OFF (LED DOUT 4) WAVE 1 (LED DOUT 5) WAVE 2 (LED DOUT 6) WAVE 3 (LED DOUT 7) WAVE 4 (LED DOUT 8) WAVE 5 (LED DOUT 9)	PULSE WITH WAVE 3 DIN 28+29 ENC PWM RATE WAVE 3 DIN 30+31 ENC	SUB OSCILLATOR DIN PIN12 BTN WAVE FORM SUB WAVE 0 (LED DOUT 10) SUB WAVE 1 (LED DOUT 11) SUB WAVE 2 (LED DOUT 12) SUB WAVE 3 (LED DOUT 13) SUB WAVE 4 (LED DOUT 14) SUB WAVE 5 (LED DOUT 15) DIN PIN13 BTN LEVEL SUB OSC. OFF LEVEL 0 (LED DOUT 16) SUB OSC. LEVEL 1 (LED DOUT 17) SUB OSC. LEVEL 2 (LED DOUT 18) SUB OSC. LEVEL 3 (LED DOUT 19)		NOISE DIN PIN14 BTN LEVEL NOISE OFF (LED DOUT 20) NOISE LEVEL 1 (LED DOUT 21) NOISE LEVEL 2 (LED DOUT 22) NOISE LEVEL 3 (LED DOUT 23)	PITCH DIN PIN15 BTN RANGE 4' (LED DOUT 24) 8' (LED DOUT 25) 16' (LED DOUT 26) 32' (LED DOUT 27)	PITCH ENVELOPE MODULATION (MODE) DIN PIN16 BTN DCO PITCH ENV NORMAL (LED DOUT 28) ENV INVERT (LED DOUT 29) NORM. WITH DYN. (LED DOUT 30) INV. WITH DYN. (LED DOUT 31)		PITCH LFO DEPTH DIN 34+35 ENC MODULATION	PORTAMENTO DIN PIN 17 BTN PORTA ON (LED DOUT 32) PORTA TIME DIN 40+41 ENC TIME	
Circuit diagram showing DCO core components: CPU, 8-bit Serial, Parallel, 8-bit Data Bus, I/O, OSC, GATE ARRAY, ICF, A/D CONVERTER, FOOT CONTROL, SENDER, SIN, SOUT, ICH-Select.		Circuit diagram showing Pitch Envelope Modulation (Depth) with Key ON and Key OFF signals, and L1, L2, L3 levels.		Circuit diagram showing VCF and HPF blocks.		Circuit diagram showing LFO and CHORUS blocks.		Circuit diagram showing JU CONTROL ALPHA JUNO CONTROL PANEL with DCO, HPF, VCF, VCA, and Chorus blocks.		Circuit diagram showing ENV and VCA blocks.	

VCF - Voltage Controlled Filter

VCF CUTOFF CUTOFF FREQ. 8Hz to 33kHz -24dB/oct. DIN 44+45 ENC Level vs Frequency graph	VCF - ENV MODULATION (MODE) DIN PIN18 BTN NORMAL (LED DOUT 37) INVERT (LED DOUT 38) NORM. + DYN. (LED DOUT 39) DYNAMICS (LED DOUT 40)		VCF - LFO DEPTH DIN 50+51 ENC MODULATION
VCF RESONANCE DIN 46+47 ENC Level vs Frequency graph	VCF ENVELOPE MODULATION (DEPTH) DIN 48+49 ENC Key ON graph		VCF KEYB. FOLLOWER DIN 52+53 ENC Keyboard icon
	VCF AFTERTCH. DPTH DIN 54+55 ENC Keyboard icon		

HPF

HIGH PASS FILTER Level vs Frequency graph DIN PIN19 BTN Cutoff Point graph	LOW FRQ. EMPHASIZED Level vs Frequency graph LED DOUT 33	HPF FILTER OFF LED DOUT 34	HPF CUTOFF LOW. FREQ. Level vs Frequency graph LED DOUT 35	HPF CUTOFF HIGH. FREQ. Level vs Frequency graph LED DOUT 36
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LFO

LFO RATE RATE 0.03 - 60Hz DIN 56+57 ENC LOW FREQUENCY OSCILLATOR	LFO DELAY DELAY TIME 0 - 30s DIN 58+59 ENC LOW FREQUENCY OSCILLATOR
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CHORUS

DIN PIN 21 BTN ON (LED DOUT 41) CHORUS RATE	DIN 60+61 ENC
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STANDARD MIDI IO <=> SEQ, DAW, ETC. MBHP IIC MIDI IO <=> ROLAND JUNO

PATCH

GROUP	NUMBER	1	2	3	4	5	6	7	8
BANK	1	1	2	3	4	5	6	7	8
	2	9	10	11	12	13	14	15	16
	3	17	18	19	20	21	22	23	24
	4	25	26	27	28	29	30	31	32
	5	33	34	35	36	37	38	39	40
	6	41	42	43	44	45	46	47	48
	7	49	50	51	52	53	54	55	56
	8	57	58	59	60	61	62	63	64
MEMORY	1	65	66	67	68	69	70	71	72
	2	73	74	75	76	77	78	79	80
	3	81	82	83	84	85	86	87	88
	4	89	90	91	92	93	94	95	96
	5	97	98	99	100	101	102	103	104
	6	105	106	107	108	109	110	111	112
	7	113	114	115	116	117	118	119	120
	8	121	122	123	124	125	126	127	128

SOUND BANK 0-127
JUNO 64 x MEMORY
JUNO 64 x PRESET
DIN PIN 4+5
ENC

PATCH MODE

LED DOUT 46 JUNO SOUND BANK JUNO >> CS
LED DOUT 47 BANKSTICK PATCH CS >> JUNO
DIN PIN 9
BTN

ENV - Envelope

ENV L1 ATTACK LEVEL DIN 62+63 ENC	ENV L2 BREAK LEVEL DIN 64+65 ENC	ENV L3 SUSTAIN LEVEL DIN 66+67 ENC	KEYBOARD FOLLOWER DIN 68+69 ENC
ENV T1 ATTACK TIME DIN 70+71 ENC	ENV T2 BREAK TIME DIN 72+73 ENC	ENV T3 DECAY TIME DIN 74+75 ENC	ENV T4 RELEASE TIME DIN 76+77 ENC

VCA

VCA MODE DIN PIN 20 BTN	VCA LEVEL DIN 78+79 ENC Level vs Frequency graph
VCA ENV MODE LED DOUT 42	VCA GATE MODE LED DOUT 43
VCA MODE ENV + DYNAMICS LED DOUT 44	VCA AFTERTOUCH DIN 80+81 ENC
VCA MODE GATE + DYNAMICS LED DOUT 45	

JU CONTROL ALPHA JUNO CONTROL PANEL

2x 20 LCD

MENU
ESC SELECT CHANGE

DIN PIN 7 (BTN) DIN PIN 6 (BTN) DIN PIN 0+1 (ENC)

EXEC | DO CHANGE ITEM | VALUE

DIN PIN 8 (BTN) DIN PIN 2+3 (ENC)

F1 F2 F3 F4 F5

DIN PIN 22 (BTN) DIN PIN 23 (BTN) DIN PIN 24 (BTN) DIN PIN 25 (BTN) DIN PIN 26 (BTN)