Stereo Multiplex — Dual 4-to-1 Multiplex — MAX309+CD4510

Components shown in schematic:
- U1, U39: MAX309ESE+T
- U26: CD4510BPWR
- U42, U40, U17: 1MS1T3B1M1QES-5
- Q1, Q2: 2N3904S-RTK/PS
- Various resistors (1M, 10k, 1k) and capacitors (100n)

Preset Buttons

Clock

SW8, SW6, One, Eight — D60 (S16-4148E3/TR7): pins 9, 10, 11, 12, 13, 14, 15, 16 → 8 PREEN, 7 PREEN, 6 P1, 5 P2, 4 P3, 3 PREEN, 2 P1, 1 PREEN

SW7, Two — D61 (S16-4148E3/TR7): pins 9, 10, 11, 12, 13, 14, 15, 16 → 8 P2, 7 PREEN, 6 P1, 5 P2, 4 PREEN, 3 P3, 2 PREEN, 1 P3

SW1, Three; SW2, Four — (D61)

SW3, Five; SW4, Six; SW5, Seven — D62 (S16-4148E3/TR7): pins 9, 10, 11, 12, 13, 14, 15, 16 → 8 P1, 7 PREEN, 6 P3, 5 P2, 4 DIR, 3 CLK, 2 CLK, 1 CLK

UPSW 13, DNSW 15, SAFETY 16

Clock circuit:

VCC

R81 1k, R67 10k, U44 NE555DR, U45, Pause, VCC

D68, D67, B500k, B100k, CW, CCW

U44 NE555DR: 8 VCC, 4 RST, 7 DISCH, OUT 3 555_P3, 2 TRIG, 6 THRES, CONT 5, GND 1

C24 22uF, C53 10uF, C52 10nF

Dont use both(or do)
Timing

GND

R65 1k, MGC, D66, CLKIN, R71 1k, SAFETY, U47, VCC, BAT54SW

555_P3, R98 10k, VCCQ7, 2N3904S-RTK/PS

R100 10k, R99 1k, CLKOUT, GND

CLK, R68 10k, GND

VCC, SW9, Up, C55 100n, UPSW

VCC, SW10, Down, C54 100n, DNSW, R69 10k

VCC, R70 1k, DIR, Q4, 2N3904S-RTK/PS, GND

VCC 10, 100n 100n 100n 100n 100n 100n 10uF 100n

GND

100n 100n 10uF

VEE 10

Schematic		Stereo Multiplex	Create at	2026-02-21
			Update at	2026-02-23
Board		Dual 4-to-1 Multiplex	Page	CLK+Preset
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Stereo Multiplex

Sequence Length

- R92 10k VCC, R84 10k 9.3V, R85 10k 8V, R86 10k 6.6V, R87 10k 5.3V, R88 10k 4V, R89 10k 2.6V, R90 10k 1.3V, R91 10k, GND
- 10.6V, 9.3V, 8V, 6.6V, 5.3V, 2.6V, 1.3V
- B10k, CCW, CW
- U66 LM339DR: CP5, CP6, VCC+, 8V IN2-, IN2+, 6.6V IN1-, IN1+, OUT1, OUT2, OUT3 CP7, OUT4 CP8, VCC-, 10.6V IN4-, IN4+, IN3+, 9.3V IN3-
- U65 LM339DR: CP1, CP2, VCC+, 2.6V IN2-, IN2+, 1.3V IN1-, IN1+, OUT1, OUT2, OUT3 CP3, OUT4 CP4, VCC-, 5.3V IN4-, IN4+, IN3+, 4V IN3-

- VCC R106 10k
- D70: 1–16 CP5, 2–15 CP3, 3–14 CP1, 4–13 CP8, 5–12 CP6, 6–11 CP7, 7–10 CP2, 8–9 CP4
- D69: 1–16 DG5, 2–15 DG3, 3–14 DG1, 4–13 DG8, 5–12 DG6, 6–11 DG7, 7–10 DG2, 8–9 DG4
- RESET
- SW11, Reset, VCC, 1k, EOS (LED)
- R93 10k, C60 22uF, C61 22uF, Q5 2N3904S-RTK/PS, Extend EOS Dont use them all! (or do), GND
- R95 10k, Extend EOS Dont use them all! (or do), C62 22uF, C63 22uF, Q6 2N3904S-RTK/PS, 1k, 10k, EOS, GND, VCC
- Q3 2N3904S-RTK/PS, GND
- R38 10k, MUTEOFF

- D63: G5–1–16 DG5, G3–2–15 DG3, G1–3–14 DG1, G8–4–13 DG8, G6–5–12 DG6, G7–6–11 DG7, G2–7–10 DG2, G4–8–9 DG4

- **Display / Gates**

- D65: MD1 9–8 MGC, MD2 10–7, MD3 11–6, MD4 12–5, MD5 13–4, MD6 14–3, MD7 15–2, MD8 16–1
- **Master Gate**
- R83, R82 470, 1k, Declick Dont use them all!, C56 10nF, C57 100nF, 10k, MG, GND

- G1 MD1, G2 MD2, G3 MD3, G4 MD4, G5 MD5, G6 MD6, G7 MD7, G8 MD8
- G1 10k, G2 10k, G3 10k, G4 10k, G5 10k, G6 10k, G7 10k, G8 10k
- D64: 1–16, 2–15, 3–14, 4–13, 5–12, 6–11, 7–10, 8–9, CLK
- GND

- DG5 1k, DG3 1k, DG1 1k, DG8 1k, DG6 1k, DG7 1k, DG2 1k, DG4 1k (LEDs: 5, 3, 1, 8, 6, 7, 2, 4)
- U43 CD4028BM/TR: VDD, 3, 14, 1 B, C, D A, VSS, Q2, Q3, Q1, GND, VCC

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