

| Gugaplexing TicTacToe Logic Table | | | | | | |
|-----------------------------------|----|----|----|---------|----------|-------------------|
| P1 | P2 | P3 | P4 | LED (L) | USE | Circuit Activated |
| 1 | 0 | Z | Z | 1 | AX | P1 to P2 |
| 0 | 1 | Z | Z | 2 | BX | P1 to P2 |
| 0 | 0 | Z | Z | 12 | CO | PR1 to P2 |
| 1 | 1 | Z | Z | 13 | DO | PR1 to P2 |
| 1 | Z | 0 | Z | 10 | AO | P1 to P3 |
| 0 | Z | 1 | Z | 11 | BO | P1 to P3 |
| 0 | Z | 0 | Z | 5 | EX | PR1 to P3 |
| 1 | Z | 1 | Z | 6 | FX | PR1 to P3 |
| 1 | Z | Z | 0 | 3 | CX | P1 to P4 |
| 0 | Z | Z | 1 | 4 | DX | P1 to P4 |
| 0 | Z | Z | 0 | 14 | EO | PR1 to P4 |
| 1 | Z | Z | 1 | 15 | FO | PR1 to P4 |
| Z | 1 | 0 | Z | 16 | GO | P2 to P3 |
| Z | 0 | 1 | Z | 17 | HO | P2 to P3 |
| Z | 0 | 0 | Z | 18 | IO | PR2 to P3 |
| Z | 1 | 1 | Z | 20 | Player 2 | PR2 to P3 |
| Z | 1 | Z | 0 | 7 | GX | P2 to P4 |
| Z | 0 | Z | 1 | 8 | HX | P2 to P4 |
| Z | 0 | Z | 0 | 9 | IX | PR2 to P4 |
| Z | 1 | Z | 1 | 19 | Player 1 | PR2 to P4 |
| Z | Z | 1 | 0 | 21 | Not Used | P3 to P4 |
| Z | Z | 0 | 1 | 22 | Not Used | P3 to P4 |
| Z | Z | 0 | 0 | 23 | Not Used | PR3 to P4 |
| Z | Z | 1 | 1 | 24 | Not Used | PR3 to P4 |

PR# : LEDs connected to transistors

| Gugaplexing TicTacToe (by LED) | | | | | | |
|--------------------------------|----|----|----|---------|----------|-------------------|
| P1 | P2 | P3 | P4 | LED (L) | USE | Circuit Activated |
| 1 | 0 | Z | Z | 1 | AX | P1 to P2 |
| 0 | 1 | Z | Z | 2 | BX | P1 to P2 |
| 1 | Z | Z | 0 | 3 | CX | P1 to P4 |
| 0 | Z | Z | 1 | 4 | DX | P1 to P4 |
| 0 | Z | 0 | Z | 5 | EX | PR1 to P3 |
| 1 | Z | 1 | Z | 6 | FX | PR1 to P3 |
| Z | 1 | Z | 0 | 7 | GX | P2 to P4 |
| Z | 0 | Z | 1 | 8 | HX | P2 to P4 |
| Z | 0 | Z | 0 | 9 | IX | PR2 to P4 |
| 1 | Z | 0 | Z | 10 | AO | P1 to P3 |
| 0 | Z | 1 | Z | 11 | BO | P1 to P3 |
| 0 | 0 | Z | Z | 12 | CO | PR1 to P2 |
| 1 | 1 | Z | Z | 13 | DO | PR1 to P2 |
| 0 | Z | Z | 0 | 14 | EO | PR1 to P4 |
| 1 | Z | Z | 1 | 15 | FO | PR1 to P4 |
| Z | 1 | 0 | Z | 16 | GO | P2 to P3 |
| Z | 0 | 1 | Z | 17 | HO | P2 to P3 |
| Z | 0 | 0 | Z | 18 | IO | PR2 to P3 |
| Z | 1 | Z | 1 | 19 | Player 1 | PR2 to P4 |
| Z | 1 | 1 | Z | 20 | Player 2 | PR2 to P3 |
| Z | Z | 1 | 0 | 21 | Not Used | P3 to P4 |
| Z | Z | 0 | 1 | 22 | Not Used | P3 to P4 |
| Z | Z | 0 | 0 | 23 | Not Used | PR3 to P4 |
| Z | Z | 1 | 1 | 24 | Not Used | PR3 to P4 |

PR# : LEDs connected to transistors