

Gottlieb's Circus

Switch Matrix

	RETURN 0 A1J6-10 Blu-Blk-Blk (600)	RETURN 1 A1J6-11 Blu-Brn-Brn (611)	RETURN 2 A1J6-12 Blu-Red-Red (622)	RETURN 3 A1J6-13 Blu-Orn-Orn (633)	RETURN 4 A1J6-14 Blu-Yel-Yel (644)	RETURN 5 A1J6-15 Blu-Grn-Grn (655)	RETURN 6 A1J5-8 / A1J6-16 Blu-Blu-Blu (666)	RETURN 7 A1J5-1 / A1J6-17 Blu-Pur-Pur (677)
STROBE 0 A1J5-2 / A1J6-1 Yel-Blk-Blk (400)	#1 Drop Target Blk-Red-Red (022) SW.00	#1 Rollover Brn-Yel-Yel (144) SW.01	"A" Target Brn-Blk-Blk (100) SW.02	Left Side Rollover Brn-Grn-Grn (255) SW.03	Right Side Rollover Pur-Yel-Yel (744) SW.04	Center Rollover Brn-Slt-Slt (188) SW.05	10 Point Contacts (7) Brn-Orn-Orn (133) SW.06	Test Button Grn-Blk-Blk (500) SW.07
STROBE 1 A1J5-3 / A1J6-2 Yel-Brn-Brn (411)	#2 Drop Target Blk-Orn-Orn (033) SW.10	#2 Rollover Brn-Grn-Grn (155) SW.11	"B" Target Brn-Brn-Brn (111) SW.12	Left Return Rollover Red-Yel-Yel (244) SW.13	Right Return Rollover Pur-Grn-Grn (755) SW.14	Left & Right Outside Rollovers Orn-Yel-Yel (344) SW.15	50 Point Contacts (3) Blk-Pur-Pur (077) SW.16	Left Coin Chute Grn-Brn-Brn (511) SW.17
STROBE 2 A1J5-4 / A1J6-3 Yel-Red-Red (422)	#3 Drop Target Blk-Yel-Yel (044) SW.20	#3 Rollover Grn-Blu-Blu (566) SW.21	"C" Target Brn-Red-Red (122) SW.22	Hole Slt-Pur-Pur (877) SW.23	Ball Back Rollover Red-Blu-Blu (266) SW.24	Spin Target Slt-Blu-Blu (866) SW.25	Pop Bumper (2) Orn-Grn-Grn (355) SW.26	Right Coin Chute Grn-Red-Red (522) SW.27
STROBE 3 A1J5-5 / A1J6-4 Yel-Orn-Orn (433)	Not Used SW.30	Not Used SW.31	Not Used SW.32	Not Used SW.33	Not Used SW.34	Not Used SW.35	Not Used SW.36	Center Coin Chute Grn-Orn-Orn (533) SW.37
STROBE 4 A1J5-6 / A1J6-5 Yel-Yel-Yel (444)	#4 Drop Target Blk-Grn-Grn (055) SW.40	#4 Rollover Grn-Pur-Pur (577) SW.41	Left Roto "1" Target Red-Blk-Blk (200) SW.42	Left Roto "2" Target SW.43	Left Roto "3" Target SW.44	Left Roto "4" Target SW.45	Left Roto "Star" Target SW.46	Replay Button Grn-Yel-Yel (544) SW.47
STROBE 5 A1J5-7 / A1J6-6 Yel-Grn-Grn (455)	Not Used SW.50	Not Used SW.51	Center Roto "1" Target Red-Brn-Brn (211) SW.52	Center Roto "2" Target SW.53	Center Roto "3" Target SW.54	Center Roto "4" Target SW.55	Center Roto "Star" Target SW.56	Tilt Grn-Grn-Grn (555) Blk-Blk-Blk (000) SW.57
STROBE 6 A1J6-7 Yel-Blu-Blu (466)	Not Used SW.60	Not Used SW.61	Right Roto "1" Target Red-Orn-Orn (233) SW.62	Right Roto "2" Target SW.63	Right Roto "3" Target SW.64	Right Roto "4" Target SW.65	Right Roto "Star" Target SW.66	Outhole Blk-Slt-Slt (088) SW.67
STROBE 7 A1J5-9 / A1J6-8 Yel-Pur-Pur (477)	Not Used SW.70	Not Used SW.71	Not Used SW.72	Not Used SW.73	Not Used SW.74	Not Used SW.75	Not Used SW.76	Not Used SW.77

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Driverboard

transistor	connector	code	description	wire code	wire color	transistor type
Q01	A3J3-A	L0	Game Over Relay (Q)	288	Red-Slt-Slt	MPS-U45
Q Relay			Match	011	Blk-Brn-Brn	Q relay n.c.
Q Relay			Ball in Play	033	Blk-Orn-Orn	Q relay n.o.
Q02	A3J3-B	L1	Tilt Relay (T)	277	Red-Pur-Pur	MPS-U45
T Relay			Tilt	022	Brn-Red-Red	T relay n.o.
Q03	A3J5-2	L2	Coin Lockout	877	Slt-Pur-Pur	MPS-U45
Q04	A3J2-1 / A3J3-C	L3	Same Player Shoot Again	588	Gm-Slt-Slt	MPS-U45
Q05	A3J2-2	L4	Player 1	500	Gm-Blk-Blk	MPS-A13
Q06	A3J2-3	L5	Player 2	511	Gm-Brn-Brn	MPS-A13
Q07	A3J2-5	L6	Player 3	522	Gm-Red-Red	MPS-A13
Q08	A3J2-4	L7	Player 4	533	Gm-Orn-Orn	MPS-A13
Q09	A3J2-10	L8	Not Used	544		MPS-A13
Q10	A3J2-9	L9	Not Used	555		MPS-A13
Q11	A3J2-7	L10	High Game To Date	577	Gm-Pur-Pur	MPS-A13
Q12	A3J2-8	L11	Game Over	566	Gm-Blu-Blu	MPS-A13
Q13	A3J3-25	L12	Top Rollover #1	100	Brn-Blk-Blk	MPS-U45
Q14	A3J3-24	L13	Top Rollover #2	111	Brn-Brn-Brn	MPS-U45
Q15	A3J3-22	L14	Top Rollover #3	122	Brn-Red-Red	MPS-U45
Q16	A3J3-23	L15	Top Rollover #4	133	Brn-Orn-Orn	MPS-U45
Q17	A3J3-13	L16	Advance Multiplier #1	144	Brn-Yel-Yel	MPS-U45
Q18	A3J3-14	L17	Advance Multiplier #2	155	Brn-Gm-Gm	MPS-U45
Q19	A3J3-16	L18	Advance Multiplier #3	166	Brn-Blu-Blu	MPS-U45
Q20	A3J3-15	L19	Advance Multiplier #4	177	Brn-Pur-Pur	MPS-U45
Q21	A3J3-21	L20	Left Hit	300	Orn-Blk-Blk	MPS-U45
Q22	A3J3-20	L21	Center Hit	311	Orn-Brn-Brn	MPS-U45
Q23	A3J3-18	L22	Right Hit	322	Orn-Red-Red	MPS-U45
Q24	A3J3-19	L23	Left Side Rollover	333	Orn-Orn-Orn	MPS-U45
Q25	A3J3-9	L24	Right Side Rollover	344	Orn-Yel-Yel	MPS-U45
Q26	A3J3-10	L25	Center Rollover	355	Orn-Gm-Gm	MPS-U45
Q27	A3J3-12	L26	Spin Target	366	Orn-Blu-Blu	MPS-U45
Q28	A3J3-11	L27	Multiplier 2X	377	Orn-Pur-Pur	MPS-U45
Q29	A3J3-Y	L28	Multiplier 3X	500	Gm-Blk-Blk	MPS-U45
Q30	A3J3-X	L29	Multiplier 4X	511	Gm-Brn-Brn	MPS-U45
Q31	A3J3-V	L30	Multiplier 5X	522	Gm-Red-Red	MPS-U45
Q32	A3J3-W	L31	20,000 & Score Bonus	533	Gm-Orn-Orn	MPS-U45
Q33	A3J3-5	L32	Bonus 1000	544	Gm-Yel-Yel	MPS-A13
Q34	A3J3-6	L33	Bonus 2000	555	Gm-Gm-Gm	MPS-A13
Q35	A3J3-K	L34	Bonus 3000	566	Gm-Blu-Blu	MPS-A13
Q36	A3J3-7	L35	Bonus 4000	577	Gm-Pur-Pur	MPS-A13
Q37	A3J4-1	L36	Bonus 5000	700	Pur-Blk-Blk	MPS-A13
Q38	A3J4-2	L37	Bonus 6000	711	Pur-Brn-Brn	MPS-A13
Q39	A3J4-4	L38	Bonus 7000	722	Pur-Red-Red	MPS-A13
Q40	A3J4-3	L39	Bonus 8000	733	Pur-Orn-Orn	MPS-A13
Q41	A3J3-4	L40	Bonus 9000	744	Gm-Yel-Yel	MPS-A13
Q42	A3J3-3	L41	Bonus 10,000	755	Gm-Gm-Gm	MPS-A13
Q43	A3J3-T	L42	Special	766	Gm-Blu-Blu	MPS-A13
Q44	A3J3-2	L43	Extra Ball	777	Gm-Pur-Pur	MPS-A13
Q45	A3J3-D	L44	Drop Target #1 & #4	800	Slt-Blk-Blk	MPS-U45
Q46	A3J3-F	L45	Drop Target #2 & Left Return Rollover	811	Slt-Brn-Brn	MPS-U45
Q47	A3J3-P	L46	Drop Target #3 & Right Return Rollover	822	Slt-Red-Red	MPS-U45
Q48	A3J3-M	L47	Left & Right Outlane	833	Slt-Orn-Orn	MPS-U45
Q49	A3J3-E	L48	Target "A"	844	Slt-Yel-Yel	MPS-U45
Q50	A3J3-H	L49	Target "B"	855	Slt-Gm-Gm	MPS-U45
Q51	A3J3-R	L50	Target "C"	866	Slt-Blu-Blu	MPS-U45
Q52	A3J3-N	L51	Not Used	877	Slt-Pur-Pur	MPS-U45
Q53	A3J5-8	Solenoid 8	Knocker	888	Slt-Slt-Slt	2N6043
Q54	A3J6-3	Solenoid 3	Coin Counter 1	655	Blu-Gm-Gm	MPS-U45
Q55	A3J6-2	Solenoid 4	Coin Counter 2	644	Blu-Yel-Yel	MPS-U45
Q56	A3J6-1	Solenoid 7	Coin Counter 3	633	Blu-Orn-Orn	MPS-U45
Q57-Q58	A3J4-13	Solenoid 2	Roto Unit	200	Red-Blk-Blk	MPS-U45 - 2N3055
Q59	A3J4-8	Solenoid 9	Outhole	244	Red-Yel-Yel	2N6043
Q60	A3J4-7	Solenoid 1	Hole	266	Red-Blu-Blu	2N6043
Q61-Q62	A3J4-6	Solenoid 5	Drop Target Bank Reset	211	Red-Brn-Brn	MPS-U45 - 2N3055
Q63-Q64	A3J4-12	Solenoid 6	Not Used	233	Red-Orn-Orn	MPS-U45 - 2N3055

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Fuse List

designation	Wire in	Value	Wire out	description	location
F1	Blk-Slt-Slt (088)	15 Amp	Blk-Pur-Pur (077)	6.3VAC Lightbox Illumination	Bottom Board
F2		10 Amp	Blk-Blu-Blu (066)	6.3VAC Playboard Illumination	Bottom Board
F3	Orn-Blk-Blk (300)	5 Amp Slo-Blo	Orn-Brn-Brn (311)	8VAC Controlled Lamps	Bottom Board
F4	Orn-Red-Red (322)	¼ Amp Slo-Blo	Orn-Orn-Orn (333)	12VAC Sound Board	Bottom Board
F5	Red-Brn-Brn (211)	5 Amp Slo-Blo	Red-Orn-Orn (233)	10VAC Power Supply	Bottom Board
F6	Red-Blu-Blu (266)	5 Amp Slo-Blo	Red-Pur-Pur (277)	25VAC Solenoids	Bottom Board
F7	Brn-Slt-Slt (188)	¼ Amp Slo-Blo	Brn-Blk-Blk (100)	60VAC Score Displays	Bottom Board
F8	--	5 Amp Slo-Blo	Grn-Slt-Slt (588)	115VAC Primary Fuse	Bottom Board
		2½ Amp Slo-Blo		230VAC Primary Fuse	Bottom Board
F9	Red-Red-Red (222)	1 Amp Slo-Blo	Yel-Slt-Slt (488)	Outhole	Playfield
				Hole Kicker	
F10	Red-Red-Red (222)	2 Amp Slo-Blo	Yel-Pur-Pur (477)	Drop Target Bank Reset	Playfield
				Roto Unit	
F11	Orn-Slt-Slt (388)	2 Amp Slo-Blo	Grn-Slt-Slt (588)	Left Pop Bumper	Playfield
F12		2 Amp Slo-Blo	Slt-Slt-Slt (888)	Right Pop Bumper	Playfield

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Solenoids

	Solenoid description	Solenoid Type	Power Wire	Fuse	Transfer Wire	Coil Wire Color	Connector	Driver Tr.	Transistor Type	Coil Type
L0	Game Over Relay	controlled	Red-Red-Red (222)			Red-Slt-Slt (288)	A3J3-A	Q1	MPS-U45	A-16890
L1	Tilt Relay	controlled	Red-Red-Red (222)			Red-Pur-Pur (277)	A3J3-B	Q2	MPS-U45	A-16890
L2	Lockout	controlled	Red-Red-Red (222)			Slt-Pur-Pur (877)	A3J5-2	Q3	MPS-U45	A-16890
Sol. 1	Hole Kicker	controlled	Red-Red-Red (222)	F9	Yel-Slt-Slt (488)	Red-Blu-Blu (266)	A3J4-7	Q60	2N6043	A-16570
Sol. 2	Roto Unit	controlled	Red-Red-Red (222)	F10	Yel-Pur-Pur (477)	Red-Blk-Blk (200)	A3J4-13	Q57 + Q58	MPS-U45 + 2N3055	A-17891
Sol. 3	Coin Counter #1	controlled	Red-Red-Red (222)			Blu-Grn-Grn (655)	A3J6-3	Q54	MPS-U45	
Sol. 4	Coin Counter #2	controlled	Red-Red-Red (222)			Blu-Yel-Yel (644)	A3J6-2	Q55	MPS-U45	
Sol. 5	Drop Target Bank Reset	controlled	Red-Red-Red (222)	F10	Yel-Pur-Pur (477)	Red-Brn-Brn (211)	A3J4-6	Q61 + Q62	MPS-U45 + 2N3055	A-18318
Sol. 6	Not Used	controlled	Red-Red-Red (222)			Red-Orn-Orn (233)	A3J4-12	Q63 + Q64	MPS-U45 + 2N3055	A-17891
Sol. 7	Coin Counter #3	controlled	Red-Red-Red (222)			Blu-Orn-Orn (633)	A3J6-1	Q56	MPS-U45	
Sol. 8	Knocker	controlled	Red-Red-Red (222)			Slt-Slt-Slt (888)	A3J5-8	Q53	2N6043	A-5195
Sol. 9	Outhole	controlled	Red-Red-Red (222)	F9	Yel-Slt-Slt (488)	Red-Yel-Yel (244)	A3J4-8	Q59	2N6043	A-16570
	Left Pop Bumper	Pop Bumper Board	Orn-Slt-Slt (388)	F11	Yel-Blu-Blu (466)	Brn-Slt-Slt (188)	1A8J1-1	board 1 - Q1	2N6057	A-1496
	Right Pop Bumper	Pop Bumper Board	Orn-Slt-Slt (388)	F12	Brn-Brn-Brn (111)	Yel-Slt-Slt (488)	2A8J1-1	board 2 - Q1	2N6057	A-1496
	Kicking Rubber	directly	Orn-Slt-Slt (388)					switch		A-1496
	Top Left Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Grn-Grn (055)	to coil	A7J5-9	button		A-17875
	Bottom Left Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Grn-Grn (055)	to coil	A7J5-9	button		A-17875
	Top Right Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Yel-Yel (044)	to coil	A7J5-10	button		A-17875
	Bottom Right Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Yel-Yel (044)	to coil	A7J5-10	button		A-17875
	Bottom Right Flipper	directly	Orn-Slt-Slt (388)	to button,	Blk-Yel-Yel (044)	to coil	A7J5-10	button		A-17875

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