

# Bally/MIDWAY

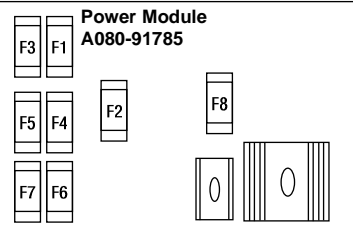
# BLACK BELT

## Fuse List

Power Module A080-91785		
F1	43V Solenoids (4 flippers)	7A, 250V
F2	230V Display Power input	0.75A, 250V
F3	5V & 12V Logic Power Input	6A, 250V
F4	20V Controlled lamps	8A, 250V
F5	20V Controlled lamps	8A, 250V
F6	6.3V General Illumination	15A, 250V
F7	6.3V General Illumination	15A, 250V
F8	190V Display Power output	0.25A, 250V
Under the Playfield fuses		
F1	Playfield Solenoids	1.5A, 250V, SB
Transformer Module		
F1	Main fuse	3A, 250V, SB

Sound Module  
Turbo  
Cheap  
Squeak  
(T.C.S.)  
A084-91855

6803 Controller Module  
A-084-91786



## Controlled Lamps Chart


SCR	connector	lamp description	code	wire color	phase	tr type	SCR	connector	lamp description	code	wire color	phase	tr type
Q35	J13-2	2X	83	Blk-Yel	B	MCR-106	Q33	J11-15/J12-11	Left Side	75	Orn-Wht	A	2N5060
Q52	J13-13	3X	97	Gry-Orn	B	MCR-106	Q56	J10-17	Left Thigh	41	Gm-Red	B	2N5060
Q67	J13-5	4X	86	Blk-Brn	B	MCR-106	Q70	J10-7	Meter 4,000	24	Blu-Gm	A	2N5060
Q36	J13-3	5X	84	Blk-Gm	B	MCR-106	Q55	J10-16	Meter 6,000	38	Yel-Blk	A	2N5060
Q66	J12-16/J13-6	Black Belt	87	Blk-Orn	B	MCR-106	Q41	J10-8	Meter 10,000	25	Blu-Wht	A	2N5060
Q51	J12-15/J13-8	Blue Belt	93	Gry-Yel	B	MCR-106	Q56	J10-17	Meter 25,000	41	Gm-Red	A	2N5060
Q46	J11-16	Body Shot	78	Orn-Blk	A	2N5060	Q25	J10-3	Meter 50,000	14	Red-Gm	A	2N5060
Q45	J10-10	Bonus 1,000	28	Blu-Blk	B	2N5060	Q23	J10-1	Meter 200,000	12	Red-Blu	A	2N5060
Q60	J10-13	Bonus 2,000	36	Yel-Brn	B	2N5060	Q24	J10-2	Meter 800,000	13	Red-Yel	A	2N5060
Q29	J11-8	Bonus 3,000	64	Brn-Gm	B	2N5060	Q42	J10-9	Meter Special	26	Blu-Brn	A	2N5060
Q46	J11-16	Bonus 4,000	78	Orn-Blk	B	2N5060	Q68	J13-10	Ready	94	Gry-Gm	B	MCR-106
Q61	J11-6/J12-10	Bonus 5,000	62	Brn-Blu	B	2N5060	Q53	J13-12	Ready Arrow	96	Gry-Brn	B	MCR-106
Q30	J11-12/J12-14	Bonus 6,000	72	Orn-Blu	B	2N5060	Q37	J13-4	Regular Body	85	Blk-Wht	A	2N5060
Q47	J11-11/J12-6	Bonus 7,000	71	Orn-Red	B	2N5060	Q53	J13-12	Regular Left Leg	96	Gry-Brn	A	MCR-106
Q62	J11-4/J12-1	Bonus 8,000	61	Brn-Red	B	2N5060	Q68	J13-10	Regular Left Side	94	Gry-Gm	A	MCR-106
Q31	J11-13/J12-13	Bonus 9,000	73	Orn-Yel	B	2N5060	Q69	J13-7	Regular Right Leg	91	Gry-Red	A	2N5060
Q48	J11-10/J12-7	Bonus 10,000	68	Brn-Blk	B	2N5060	Q54	J13-11	Regular Right Side	95	Gry-Wht	A	2N5060
Q63	J11-3/J12-2	Bonus 20,000	59	Wht-Gry	B	2N5060	Q48	J11-10/J12-7	Right 10,000	68	Brn-Blk	A	2N5060
Q32	J11-14/J12-12	Bonus 30,000	74	Orn-Gm	B	2N5060	Q31	J11-13/J12-13	Right Arrow	73	Orn-Yel	A	2N5060
Q49	J11-9/J12-8	Bonus 40,000	67	Brn-Orn	B	2N5060	Q55	J10-16	Right Calf	38	Yel-Blk	B	2N5060
Q64	J11-2/J12-3	Bonus 50,000	58	Wht-Blk	B	2N5060	Q32	J11-14/J12-12	Right Extra Ball	74	Orn-Gm	A	2N5060
Q59	J10-14	Center Extra Ball	37	Yel-Orn	B	2N5060	Q24	J10-2	Right Knee	13	Red-Yel	B	2N5060
Q54	J13-11	Collect Bonus	95	Gry-Wht	B	2N5060	Q33	J11-15/J12-11	Right Open Gate	75	Orn-Wht	B	2N5060
Q57	J10-18	Flash 1	43	Gm-Yel	B	2N5060	Q23	J10-1	Right Outlane	12	Red-Blu	B	2N5060
Q26	J10-4	Flash 2	15	Red-Wht	B	2N5060	Q67	J13-5	Right Return Lane	86	Blk-Brn	A	MCR-106
Q43	J10-11	Flash 3	31	Yel-Red	B	2N5060	Q69	J13-7	Right Saucer Arrow	91	Gry-Red	B	2N5060
Q58	J10-19	Flash 4	45	Gm-Wht	B	2N5060	Q63	J11-3/J12-2	Right Side	59	Wht-Gry	A	2N5060
Q27	J10-5	Flash 5	18	Red-Blk	B	2N5060	Q41	J10-8	Right Thigh	25	Blu-Wht	B	2N5060
Q44	J10-12	Flash 6	32	Yel-Blu	B	2N5060	Q45	J10-10	Same Player Shoots Again	28	Blu-Blk	A	2N5060
Q34	J12-17/J13-1	Green Belt	81	Blk-Red	B	MCR-106	Q28	J10-6	Solenoid Expander	21	Blu-Red	A	2N5060
Q37	J13-4	Hold Bonus (lower)	85	Blk-Wht	B	2N5060	Q28	J10-6	Solenoid Expander	21	Blu-Red	B	2N5060
Q50	J11-7/J12-9	Hold Bonus (upper)	63	Brn-Yel	A	2N5060	Q57	J10-18	Top "A"	43	Gm-Yel	A	2N5060
Q65	J11-1/J12-4	KARATE "K"	48	Gm-Blk	A	MCR-106	Q26	J10-4	Top "B"	15	Red-Wht	A	2N5060
Q34	J12-17/J13-1	KARATE "A"	81	Blk-Red	A	MCR-106	Q43	J10-11	Top "C"	31	Yel-Red	A	2N5060
Q51	J12-15/J13-8	KARATE "R"	93	Gry-Yel	A	MCR-106	Q58	J10-19	Top "D"	45	Gm-Wht	A	2N5060
Q66	J12-16/J13-6	KARATE "A"	87	Blk-Orn	A	MCR-106	Q27	J10-5	Top "E"	18	Red-Blk	A	2N5060
Q35	J13-2	KARATE "T"	83	Blk-Yel	A	MCR-106	Q44	J10-12	Top "F"	32	Yel-Blu	A	2N5060
Q52	J13-13	KARATE "E"	97	Gry-Orn	A	MCR-106	Q59	J10-14	Top "G"	37	Yel-Orn	A	2N5060
Q64	J11-2/J12-3	Left 10,000	58	Wht-Blk	A	2N5060	Q65	J11-1/J12-4	Yellow Belt	48	Gm-Blk	B	MCR-106
Q49	J11-9/J12-8	Left Arrow	67	Brn-Orn	A	2N5060	Q29	J11-8		64	Brn-Gm	A	2N5060
Q42	J10-9	Left Calf	26	Blu-Brn	B	2N5060	Q30	J11-12/J12-14		72	Orn-Blu	A	2N5060
Q25	J10-3	Left Knee	14	Red-Gm	B	2N5060	Q47	J11-11/J12-6		71	Orn-Red	A	2N5060
Q50	J11-7/J12-9	Left Open Gate	63	Brn-Yel	B	2N5060	Q60	J10-13		36	Yel-Brn	A	2N5060
Q70	J10-7	Left Outlane	24	Blu-Gm	B	2N5060	Q61	J11-6/J12-10		62	Brn-Blu	A	2N5060
Q36	J13-3	Left Return Lane	84	Blk-Gm	A	MCR-106	Q62	J11-4/J12-1		61	Brn-Red	A	2N5060

Lamps #555 are used in phase A (10) Red wire and phase B (80) Black wire.

## Coil Table

Sol. No	Solenoid description	Solenoid Type	Wire Code	Wire Color	Connector	Driver Transistor	Sol. Exp. Wire Color	Solenoid Coil Type
1	Left Thumper Bumper	Momentary	31	Yel-Red	J6-1, J8-5	Q11		AN-26-1200
2	Right Thumper Bumper	Momentary	32	Yel-Blu	J6-2, J8-4	Q12		AN-26-1200
3	Left Slingshot	Momentary	34	Yel-Gm	J6-3	Q13		AN-26-1200
4	Right Slingshot	Momentary	35	Yel-Wht	J6-4	Q14		AN-26-1200
5	Bright Light 'MAN'	Momentary	27	Blu-Orn	J8-7, J7-1	Q16	Blk-Red (81)	#912 (3 in series)
6	Bright Light 'SUN'	Momentary	25	Blu-Wht	J8-6	Q15	Blk-Red (81)	#912 (3 in series)
7	Not Used	Continuous			J9-9	Q9		--
8	Bright Light Right	Momentary	51	Wht-Red	J9-1	Q18	Blk-Red (81)	#912 (3 in series)
9	Bright Light Top Left	Momentary	52	Wht-Blu	J9-2	Q19	Blk-Red (81)	#912 (3 in series)
10	Bright Light Top Right	Momentary	53	Wht-Yel	J9-3	Q20	Blk-Red (81)	#912 (3 in series)
11	Bright Light Back Left	Momentary	54	Wht-Gm	J9-4	Q21	Blk-Red (81)	#912 (3 in series)
12	Bright Light Back Right	Momentary	56	Wht-Brn	J9-6	Q22	Blk-Red (81)	#912 (3 in series)
13	(German games)	Momentary	90	Gry	J9-7	Q38		--
14	Outhole	Momentary	58	Wht-Blk	J9-8	Q39		AN-26-1200
15	Knocker	Momentary	59	Wht-Gry	J7-2, J8-2, J9-11	Q40		AO-26-1200
16	Left Single Drop Target	Momentary	27	Blu-Orn	J8-7, J7-1	Q16	Blk-Blu (82)	AN-26-1200
17	Right Single Drop Target	Momentary	25	Blu-Wht	J8-6	Q15	Blk-Blu (82)	AN-26-1200
18	Left Saucer	Momentary	36	Yel-Brn	J6-5	Q17	Blk-Blu (82)	AN-26-1200
19	Middle Saucer	Momentary	51	Wht-Red	J9-1	Q18	Blk-Blu (82)	AN-26-1200
20	Right Kicker	Momentary	52	Wht-Blu	J9-2	Q19	Blk-Blu (82)	AN-26-1200
21	Left Gate	Momentary	311	Yel-Vio	J6-7, J7-4	Q10		G33-2800
22	Right Gate	Continuous	24	Blu-Gm	J7-3, J8-1, J9-10	Q8		G33-2800
23	Flipper enabling relay	Continuous	--	--	--	Q7		48V Relay
Flipper Circuits		Power Wire	Return Wire	Connector	Coil			
	Left Flipper	Brn (60)	95 Gry-Wht	J6-9				AQ-25-500/34-4500
	Right Flipper	Brn (60)	90 Gry	J6-8				AQ-25-500/34-4500
	Upper Left Flipper	Brn (60)	95 Gry-Wht (to lower left flipper)					AQ-25-500/34-4500
	Upper Right Flipper	Brn (60)	90 Gry (to lower right flipper)					AQ-25-500/34-4500

## Switch Matrix

strobe (ST)  return (I)

Column \ Row	STROBE 0 J4-15 Wht-Red (51) J3-15 Red-Yel (13)	STROBE 1 J4-14 Wht-Blu (52) J3-14 Red-Gm (14)	STROBE 2 J4-13 Wht-Yel (53) J3-13 Orn-Gm (74)	STROBE 3 J4-12 Wht-Gm (54) J3-12 Yel-Wht (35)	STROBE 4 J4-11 Wht-Brn (56) J3-11 (not used)	STROBE 5 J4-1 Wht-Vio (511)
<b>RETURN I 0</b> CJ4-10 Red (10) CJ3-10 Red-Wht (15)	Not Used 01	Coin Chute III (Right) 09	Right Outlane 17	Left Thumper Bumper 25	Right Top Target 33	Right Top Drop Target 41
<b>RETURN I 1</b> CJ4-9 Blu (20) CJ3-9 Brn-Wht (65)	Middle Saucer 02	Coin Chute I (Left) 10	Left Outlane 18	Right Thumper Bumper 26	Left Top Target 34	Left Top Drop Target 42
<b>RETURN I 2</b> CJ4-8 Yel (30) CJ3-8 Blu (20)	Kicker Right 03	Coin Chute II (Middle) 11	Right Calf 19	Left Slingshot 27	Right Middle Target 35	Right Middle Drop Target 43
<b>RETURN I 3</b> CJ4-7 Gm (40) CJ3-7 Blu-Red (21)	Left Saucer 04	Right Open Gate 12	Right Knee 20	Right Slingshot 28	Left Middle Target 36	Left Middle Drop Target 44
<b>RETURN I 4</b> CJ4-6 Wht (50) CJ3-6 Gry-Orn (97)	Left Flipper 05	Left Open Gate 13	Right Thigh 21	Chop Side 29	Right Bottom Target 37	Right Bottom Drop Target 45
<b>RETURN I 5</b> CJ4-4 Brn (60) CJ3-5 Yel (30)	Credit Button 06	Slam 14	Left Thigh 22	Right Ramp 30	Left Bottom Target 38	Left Bottom Drop Target 46
<b>RETURN I 6</b> CJ4-3 Orn (70) CJ3-4 Blu-Orn (27)	Right Flipper 07	Tilt 15	Left Knee 23	Left Ramp 31	Top Arc 39	Right Return Lane 47
<b>RETURN I 7</b> CJ4-2 Blk (80) CJ3-2 (not used)	Outhole 08	Spinner 16	Left Calf 24	Shooter Lane 32	Mushroom 40	Left Return Lane 48