

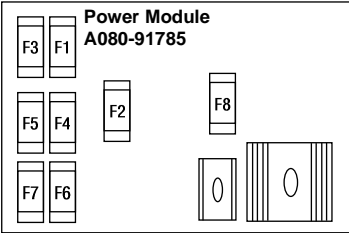
# Bally/MIDWAY HARDBODY

## Fuse List

Power Module A080-91785-C000		
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	Solenoids	1A, 250V, SB
F2	Flexsave solenoids	1A, 250V, SB
F3	Bright Lights C-Phase	1A, 250V
F4	Bright Lights D-Phase	1A, 250V
Transformer Module		
F1	Main fuse	3A, 250V, SB

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

6803 Controller Module  
A-084-91786



## Coil Table

Sol. No.	Solenoid description	Solenoid Type	Wire Code	Wire Color	Connections	Driver Transistor	Solenoid Coil Type
1	Left Slingshot	Momentary	31	Yel-Red	J6-1, J8-5	Q11	AO-26-1200
2	Right Slingshot	Momentary	32	Yel-Blu	J6-2, J8-4	Q12	AO-26-1200
3	Reset Top Drop Targets	Momentary	34	Yel-Grn	J6-3	Q13	NO-26-1900
4	Reset In-Line Drop Targets	Momentary	27	Blu-Orn	J8-7, J7-1	Q16	NO-26-1900
5	Left Ramp Up	Momentary	25	Blu-Wht	J8-6	Q15	AO-27-1300
6	Right Ramp Up	Momentary	51	Wht-Red	J9-1	Q18	AO-27-1300
7	Ramps Down	Momentary	36	Yel-Brn	J6-5	Q17	C-31-2000
8	Outhole	Momentary	58	Wht-Blk	J9-8	Q39	AO-26-1200
9	Knocker	Momentary	59	Wht-Gry	J7-2, J8-2, J9-11	Q40	AO-26-1200
10	Right Flexsave	Momentary	311	Yel-Vio	J6-7, J7-4	Q10	A-30-3000
11	Left Flexsave	Continuous	24	Blu-Grn	J7-3, J8-1, J9-10	Q8	A-30-3000
12	Flipper enabling relay	Continuous	--	--	--	Q7	48V Relay
	Not Used	Momentary	35	Yel-Wht	J6-4	Q14	--
	Not Used	Momentary	52	Wht-Blu	J9-2	Q19	--
	Not Used	Momentary	53	Wht-Yel	J9-3	Q20	--
	Not Used	Momentary	54	Wht-Grn	J9-4	Q21	--
	Not Used	Momentary	56	Wht-Brn	J9-6	Q22	--
	(German games)	Momentary	57	Wht-Orn	J9-7	Q38	--
	Not Used	Continuous	511	Wht-Vio	J9-9	Q9	--
Flipper Circuits		Power Wire	Return Wire	Connector	Coil		
	Left Flipper	Brn (60)	90	Gry	J6-8		A-24-570/34-3600
	Right Flipper	Brn (60)	95	Gry-Wht	J6-9		A-24-570/34-3600
	Upper Left Flipper	Brn (60)	63	Brn-Yel	(to lower left flipper)		AQ-25-500/34-4500
	Upper Right Flipper	Brn (60)	98	Gry-Blk	(to lower right flipper)		AQ-25-500/34-4500

## Controlled Lamps Chart

SCR	connector	lamp description	code	wire color	phase	tr type	SCR	connector	lamp description	code	wire color	phase	tr type
Q55	J10-16	Blue Bonus Bottom	38	Yel-Blk	A	2N5060	Q31	J11-13/J12-13	Inline Drop Target 25K	73	Orn-Yel	B	2N5060
Q33	J11-15/J12-11	Blue Bonus Middle	75	Orn-Wht	A	2N5060	Q48	J11-10/J12-7	Inline Drop Target 2X	68	Brn-Blk	B	2N5060
Q63	J11-3/J12-2	Blue Bonus Top	59	Wht-Gry	A	2N5060	Q63	J11-3/J12-2	Inline Drop Target 3X	59	Wht-Gry	B	2N5060
Q62	J11-4/J12-1	Blue Target Calves	61	Brn-Red	A	2N5060	Q32	J11-14/J12-12	Inline Drop Target Extra Ball	74	Orn-Grn	B	2N5060
Q47	J11-11/J12-6	Blue Target Glutes	71	Orn-Red	A	2N5060	Q57	J10-18	Left Bonus 20K Bottom	43	Grn-Yel	A	2N5060
Q30	J11-12/J12-14	Blue Target Hams	72	Orn-Blu	A	2N5060	Q26	J10-4	Left Bonus 20K Middle	15	Red-Wht	A	2N5060
Q61	J11-6/J12-10	Blue Target Quads	62	Brn-Blu	A	2N5060	Q43	J10-11	Left Bonus 20K Top	31	Yel-Red	A	2N5060
Q37	J13-4	Bonus 2X	85	Blk-Wht	A	2N5060	Q58	J10-19	Left Bonus 40K	45	Grn-Wht	A	2N5060
Q54	J13-11	Bonus 3X	95	Gry-Wht	A	2N5060	Q53	J13-12	Left Return	96	Gry-Brn	A	MCR-106
Q45	J10-10	Bonus Middle 25K Bottom	28	Blu-Blk	A	2N5060	Q56	J10-17	Normal Power	41	Grn-Red	A	2N5060
Q60	J10-13	Bonus Middle 25K Middle	36	Yel-Brn	A	2N5060	Q23	J10-1	Orange Bonus Bottom	12	Red-Blu	A	2N5060
Q29	J11-8	Bonus Middle 25K Top	64	Brn-Grn	A	2N5060	Q49	J11-9/J12-8	Orange Bonus Middle	67	Brn-Orn	A	2N5060
Q46	J11-16	Bonus Middle 300K	78	Orn-Blk	A	2N5060	Q31	J11-13/J12-13	Orange Bonus Top	73	Orn-Yel	A	2N5060
Q65	J11-1/J12-4	Bright, Blue	48	Grn-Blk	D	MCR-106	Q37	J13-4	Orange Drop Target Biceps	85	Blk-Wht	B	2N5060
Q52	J13-13	Bright, Drop Target Inline	97	Gry-Orn	C	MCR-106	Q69	J13-7	Orange Drop Target Deltoid	91	Gry-Red	B	2N5060
Q34	J12-17/J13-1	Bright, Green	81	Blk-Red	D	MCR-106	Q54	J13-11	Orange Drop Target Triceps	95	Gry-Wht	B	2N5060
Q67	J13-5	Bright, Left Slingshot	86	Blk-Brn	C	MCR-106	Q57	J10-18	Ramp 50K	43	Grn-Yel	B	2N5060
Q67	J13-5	Bright, Left Up Ramp	86	Blk-Brn	D	MCR-106	Q26	J10-4	Ramp 100K	15	Red-Wht	B	2N5060
Q35	J13-2	Bright, Middle Hoop	83	Blk-Yel	C	MCR-106	Q43	J10-11	Ramp 200K	31	Yel-Red	B	2N5060
Q66	J12-16/J13-6	Bright, Ramp Left 1	87	Blk-Orn	D	MCR-106	Q58	J10-19	Ramp Extra Ball	45	Grn-Wht	B	2N5060
Q35	J13-2	Bright, Ramp Left 2	83	Blk-Yel	D	MCR-106	Q27	J10-5	Right Bonus 20K Bottom	18	Red-Blk	A	2N5060
Q65	J11-1/J12-4	Bright, Ramp Middle	48	Grn-Blk	C	MCR-106	Q44	J10-12	Right Bonus 20K Middle	32	Yel-Blu	A	2N5060
Q51	J12-15/J13-8	Bright, Ramp Right 1	93	Gry-Yel	C	MCR-106	Q59	J10-14	Right Bonus 20K Top	37	Yel-Orn	A	2N5060
Q34	J12-17/J13-1	Bright, Ramp Right 2	81	Blk-Red	C	MCR-106	Q28	J10-6	Right Bonus 40K	21	Blu-Red	A	2N5060
Q36	J13-3	Bright, Right Slingshot	84	Blk-Grn	C	MCR-106	Q68	J13-10	Right Return	94	Gry-Grn	A	MCR-106
Q36	J13-3	Bright, Right Up Ramp	84	Blk-Grn	D	MCR-106	Q42	J10-9	Shoot Again	26	Blu-Brn	A	2N5060
Q66	J12-16/J13-6	Bright, Top Hoop	87	Blk-Orn	C	MCR-106	Q42	J10-9	Special Arrow	26	Blu-Brn	B	2N5060
Q52	J13-13	Bright, Top Lane	97	Gry-Orn	D	MCR-106	Q24	J10-2	Yellow Bonus Bottom	13	Red-Yel	A	2N5060
Q51	J12-15/J13-8	Bright, Yellow	93	Gry-Yel	D	MCR-106	Q50	J11-7/J12-9	Yellow Bonus Middle	63	Brn-Yel	B	2N5060
Q25	J10-3	Center Special	14	Red-Grn	A	2N5060	Q32	J11-14/J12-12	Yellow Bonus Top	74	Orn-Grn	A	2N5060
Q41	J10-8	Double Power	25	Blu-Wht	A	2N5060	Q62	J11-4/J12-1	Yellow Target Oblique	61	Brn-Red	B	2N5060
Q70	J10-7	Green Bonus Bottom	24	Blu-Grn	A	2N5060	Q47	J11-11/J12-6	Yellow Target Rectabs	71	Orn-Red	B	2N5060
Q64	J11-2/J12-3	Green Bonus Middle	58	Wht-Blk	A	2N5060	Q30	J11-12/J12-14	Yellow Target Transab	72	Orn-Blu	B	2N5060
Q48	J11-10/J12-7	Green Bonus Top	68	Brn-Blk	A	2N5060	Q27	J10-5		18	Red-Blk	B	2N5060
Q59	J10-14	Green Target Lats	37	Yel-Orn	B	2N5060	Q29	J11-8		64	Brn-Grn	B	2N5060
Q44	J10-12	Green Target Pecs	32	Yel-Blu	B	2N5060	Q33	J11-15/J12-11		75	Orn-Wht	B	2N5060
Q28	J10-6	Green Target Traps	21	Blu-Red	B	2N5060	Q45	J10-10		28	Blu-Blk	B	2N5060
Q23	J10-1	Hoop 20K	12	Red-Blu	B	2N5060	Q46	J11-16		78	Orn-Blk	B	2N5060
Q70	J10-7	Hoop 35K	24	Blu-Grn	B	2N5060	Q49	J11-9/J12-8		67	Brn-Orn	B	2N5060
Q55	J10-16	Hoop 50K	38	Yel-Blk	B	2N5060	Q50	J11-7/J12-9		63	Brn-Yel	A	2N5060
Q24	J10-2	Hoop 65K	13	Red-Yel	B	2N5060	Q53	J13-12		96	Gry-Brn	B	MCR-106
Q41	J10-8	Hoop 80K	25	Blu-Wht	B	2N5060	Q60	J10-13		36	Yel-Brn	B	2N5060
Q56	J10-17	Hoop 100K	41	Grn-Red	B	2N5060	Q61	J11-6/J12-10		62	Brn-Blu	B	2N5060
Q69	J13-7	Hoop Arrow	91	Gry-Red	A	2N5060	Q64	J11-2/J12-3		58	Wht-Blk	B	2N5060
Q25	J10-3	Hoop Extra Ball	14	Red-Grn	B	2N5060	Q68	J13-10		94	Gry-Grn	B	MCR-106

Lamps #555 are used in phase A (10) Red wire and phase B (80) Blk wire.  
Lamps #912 are used in phase C (81) Blk-Red wire and phase D (82) Blk-Blu wire.

## Switch Matrix

		strobe (ST)  return (I)					
		STROBE 0	STROBE 1	STROBE 2	STROBE 3	STROBE 4	STROBE 5
		J4-15 Wht-Red (51) J3-15 Red-Yel (13)	J4-14 Wht-Blu (52) J3-14 Red-Grn (14)	J4-13 Wht-Yel (53) J3-13 Orn-Grn (74)	J4-12 Wht-Grn (54) J3-12 Yel-Wht (35)	J4-11 Wht-Brn (56) J3-11 (not used)	J4-1 Wht-Vio (511)
Column	Row						
RETURN 10 CJ4-10 Red (10) CJ3-10 Red-Wht (15)	Left Slingshot	Coin Chute III (Right)	Right Inline Drop Target	Orange Target Biceps	Orange Drop Target Biceps	Yellow Target Transab	
RETURN 11 CJ4-9 Blu (20) CJ3-9 Brn-Wht (65)	Right Slingshot	Coin Chute I (Left)	Middle Inline Drop Target	Orange Target Triceps	Orange Drop Target Triceps	Yellow Target Rectabs	
RETURN 12 CJ4-8 Yel (30) CJ3-8 Blu (20)	Left Ramp Rollover	Coin Chute II (Middle)	Left Inline Drop Target	Orange Target Deltoid	Orange Drop Target Deltoid	Yellow Target Oblique	
RETURN 13 CJ4-7 Grn (40) CJ3-7 Blu-Red (21)	Right Ramp Rollover	Left Return Lane (2 switches)	Behind Inline Drop Target	Not Used	Double Power	Left Middle Hoop	
RETURN 14 CJ4-6 Wht (50) CJ3-6 Gry-Orn (97)	Left Flipper Button	Right Return Lane (2 switches)	Blue Target Quads	Top Lane 50K	Normal Power	Right Middle Hoop	
RETURN 15 CJ4-4 Brn (60) CJ3-5 Yel (30)	Credit Button	Slam	Blue Target Hams	Top Lane Special	Not Used	Green Target Pecs	
RETURN 16 CJ4-3 Orn (70) CJ3-4 Blu-Orn (27)	Right Flipper Button	Tilt	Blue Target Glutes	Left Top Hoop	Left Ramp Sense	Green Target Lats	
RETURN 17 CJ4-2 Blk (80) CJ3-2 (not used)	Outhole	Rebounds (4 switches)	Blue Target Calves	Right Top Hoop	Right Ramp Sense	Green Target Traps	