

## Bally EM General Electrical Information

### CIRCUIT INFORMATION GENERAL ELECTRICAL INFORMATION (1973)

The chart is a general motor, relay coil & switch location & function guide. Because of the large variety of slot machines involved, specific wiring & diagram location information can not be included. It is felt that when this information is used along with the specific schematic wiring diagram, a good understanding of games electronic system can be made.

Switch abbreviations include:

1. N.C. Normally Closed Switch
2. N.O. Normally Open Switch
3. S.P.D.T. Single Pole Double throw switch (or more simply a Transfer Switch).
4. T. Same as S.P.D.T.(Transfer Switch).

- (A) All Switches on the Diagram operate clockwise.
- (B) Wire Colors & Transformer Information are also on the Individual Diagram.
- (C) Switch Stack Numbers start on Bottom.

TITLE	LOCATION ON MACHINE	FUNCTION
Coin Switch N.O.	Front Door Below Slug Rejector	Activated by deposited coin. Energizes Coin Relay Coil
Coin Relay Coil	On left side of Reel mechanism	Energized by coin sw. & conditions the machine for a play cycle.
Coin Relay Switches 1. S.P.D.T.	Coin Relay	Transfers circuit from "Insert Coin Lite" to "Coin Accepted Lite"
2. N.O.	Coin Relay	Energizes Handle Release Coil & "Total In Meter"
3. N.C.	Coin Relay	De-energizes Coin Lockout Coil - which now will return additional deposited coins (over single game limit).
4. N.C.	Coin Relay	Opens circuit to Coin Relay - after Relay Sw. functions completed.
Total-In Meter Coil	On Reel Mechanism Front	Energized thru Coin Relay Circuit - 1 per coin (& thru Line Unit on multi - coin games).
Handle Release Coil	Above Handle Mechanism	Energized by Coin Relay Sw. & Release Handle to Start a Play Cycle.
Handle Release Switch N.C.	Above Handle Mechanism	Opens circuit to reel mech. contact plate discs & payout circuit in preparation for another play cycle.
Dash Pot Switch N.C.	Right Side of Reel Mech.	De-energizes Handle Release Coil as Handle is first pulled, which in-turn closes the Handle Release Switch.
Reel Mech. "A" or "A-1" Switch N.C.	Left Side, Far Rear on Reel Mech.	Opens circuit to Reel Discs, Payout Circuit, Handle Release Coil & Total-In Meter in preparation to a spin (open first as handle is pulled - closed when reels cocked) - Payout protect. circuit.
Reel Mech. "A-2" or "AA" Switch N.C.	Same Sw. stack as "A" Switch	Completes a Jackpot Bell Circuit (6 V.)
Reel Mech. "B" or "B-1" Switch N.O.	Left Side, Center - Horizontal Pos. Reel Mech.	This Switch closes momentarily when Reels kick-off to reset the Payout Counter
Reel Mech. "C" or "C-1" Switch N.C.	Located just opposite the "A" Switch's on Left side of Reel Mech.	Same function as "A/A-1" Switch except opens when "A" closes & stays open till last reel stops as a payout protection safety circuit.
Reel Mech. "C-2" Sw. ("E" Sw. on older games) N.C.	Same Sw. Stack as "C" Switch	Completes a Jackpot Bell Circuit (6 V.) & some Games on "Insert Coin" lite circuit.
Reel Mech. "C-3" Sw. ("D" Sw. on older games) N.C.	Same Sw. Stack as "C" Switch	Opens the circuit to the Handle Release Coil & Total-In Meter until the Reels have stopped (indexed) as a safety circuit (free games).

### CIRCUIT INFORMATION

TITLE	LOCATION ON MACHINE	FUNCTION
Coin Diverter Coil (Hopper Level Micro-Sw. N. O.)	Below slug rejector on front door	Energized by the Hopper Float Level Sw. (Full Hopper) which then causes inserted coin to be diverted from Hopper to Cash Box Run-Down).
"Cash Box" Meter Coil (Coin Ramp Sw. N. O.)	Near Cash Box	Energized momentarily by a coin dropping down Front Door Ramp - tripping the lower Coin Ramp Sw. & dropping into Cash Box. (cut-off when door open - by Interlock Sw.).
Payout Relay Coil	On back of Hopper Unit	Energized at end of spin when a winner is recorded on a "hot" win circuit on the payout counter disc (via a win circuit from reel Mech. Discs). The Relay Sw.'s (below) set-up game to pay out re- ward.
Payout Relay Switches 1. N. O. White & Green Wires	Payout Relay	Completes a circuit to the Hopper Motor which starts the Hopper Coin Disc Revolving, Also completes a circuit to the Safety Timer Motor.
2. N. O. White & Green Wires	Payout Relay	Completes a circuit to the hopper over-ride sole- noid which allows coins to be dispensed into Coin Cup. Note: The Hopper Motor, Over-Ride Solenoid & Safety Timer Motor are in-series on same circuit.
3. S. P. D. T. Has: Gray, Gray-White, & White-Orange Wires	Payout Relay	Transfers a coin circuit to the Payout Counter Step-Up Sw. & provides a Payout Relay Coil hold circuit. Note: The P. O. Counter Step-Up Sw. is mechan- ically "made" by action of Hopper Coin Pivot-Arm.
4. N. O.	Payout Relay	Completes a circuit to the Payout Unit's Step-Up Arm Switch which is operated by the Hopper Coin Pivot Arm. This in-turn pulses the "Total-Out" Meter.
5. Other Payout Relay Switches	Payout Relay	Other Switches on this Relay, Lite the "Winner Paid" Lite, complete a circuit to the Jackpot Bell and on some games complete a Jackpot Tower Circuit.
Total-Out Meter Coil	On Reel Mech. Front	Pulsed by the Payout Counters Step-Up Arm Switch during a payout.
Payout Counter Step-Up Arm Sw. N. O. Gray-Black & Gray- Yellow Wires	Hopper Payout Counter Unit	Completes a hold-in circuit to the Payout Relay during a payout.
Payout Counter Step-Up Arm Sw. N. O.	Hopper Payout Counter Unit	Completes a circuit to pulse the Total Out Meter during a payout.
Payout Counter Open at "Zero" Sw. (no winner) Closed during a payout. N. O.	Hopper Payout Counter Unit	Opens the payout counter reset circuit when payout complete.
Payout (Counter Reset Pawl Sw. N. O.)	Hopper Payout	Closed when counter is being stepped (during a pay- out) - Completes a "Winner Paid Lite" circuit & also a Jackpot Bell circuit.
Payout Counter Reset Coil	Hopper Payout Counter Unit	Energized by Reel Mechanism "B" or "B-1" Switch when reels kick-off on a new game cycle.
Safety Timer Unit Motor	Bottom Rear of Cabinet	Energized by Payout Relay Switches during a winner. However, if the Relay Switch or payout Circuit malfunctioned. A Timer Break Sw. in the Timer cuts the games power in a pre-set number of seconds.
Safety Timer Motor Switch N. C.	Safety Timer	Opens the main 120 V. power supply to game & lites red pilot lite when a payout runs over 45 - 50 seconds (adjust.) - button reset.