

## TANGLES' PIN PARTS

TPP-1007

Replacement for 6 Digit Bally / Stern Display

### Description

The TPP-1007 display will replace the Bally A5-2518-21 and Stern A-434 6-digit displays used on many machines from approximately 1977 to 1986. Parts used in this assembly have been sourced through reliable channels to ensure highest quality and reliability.

The TPP-1007 comes fully assembled. No soldering is required. No modifications are needed to your pinball machine. This display unit uses only the 5-volt supply. The high voltage supply is not used. This means this display will operate even if the high voltage circuitry is faulty or has been disabled. The display will work fine with the high-voltage still operational, so this unit may be used with a mix of old and new displays.

With a mix of through hole and surface mounted components this assembly has been designed with reliability in mind. A careful selection of modern components has been made to reduce the part count with an eye to increasing the long term reliability.

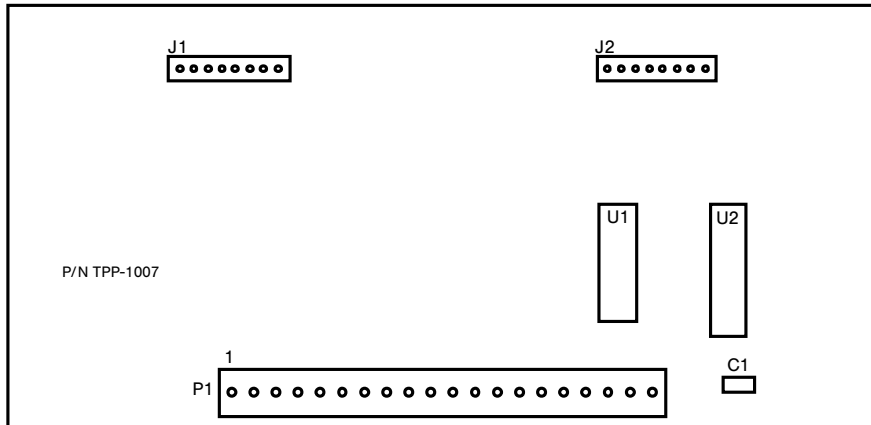
### Installation

**Warning: High voltages are present inside the head of the pinball machine. Ensure the power is off and the mains cable is disconnected before you commence work.**

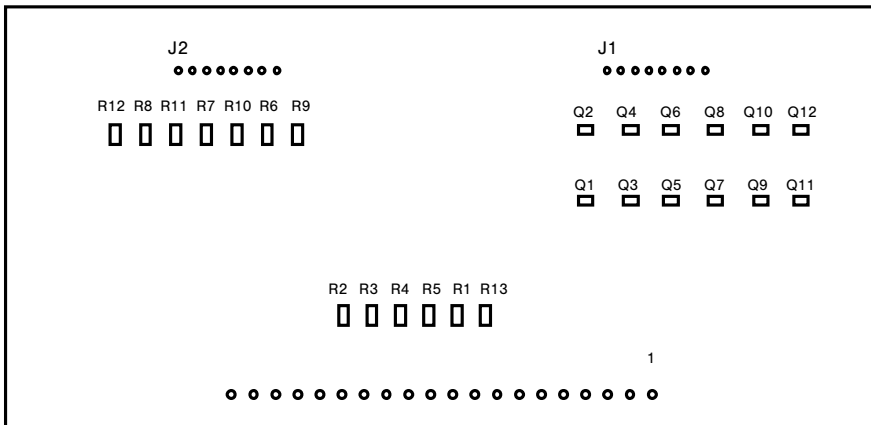
1. Ensure power is off.
2. Disconnect the 20-way Molex plug from the old Bally / Stern module.
3. Slide the old module out forward from the metal housing.
4. Slide the TPP-1007 assembly in from the front.
5. Plug the 20-way Molex plug into the board, taking note of the key to orientate the plug correctly.
6. Power on the pinball machine.

## Board Layout

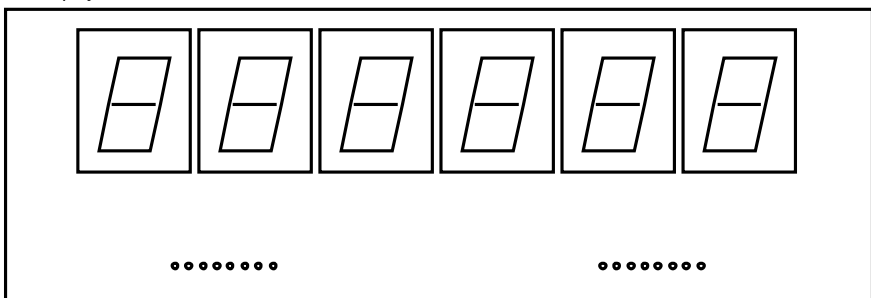
Main Board Top Side



Main Board Bottom Side



Display Board



## Parts List

Designator	Description
U1	MC4543
U2	ULN2003
Q1,Q3,Q5,Q7,Q9,Q11	PDTC143XT transistor
Q2,Q4,Q6,Q8,Q10,Q12	PDTB113ZT transistor
R6 – R12	RC1206JR-0768RL 68Ohm 1206 resistor
R1 – R5, R13	RC1206JR-071KL 1KOhm 1206 resistor
C1	0.1uF Ceramic radial capacitor
D1 – D6	8011BY 7 segment LED display yellow
P1	2 x Molex 10way 1-640383-0
J1,J2	MC34753 8-way 0.1" right angle board-to-board

## Compatibility

The TPP-1007 is compatible with Stern and Bally 6 Digit displays. Note that many 7 digit machines compatible with a 6-digit display in the credit display position.

### Stern PN A-434

Ali 1980	Meteor 1979
Dracula 1979	Nugent 1978
Galaxy 1980	Pinball 1977
Hot Hand 1979	Stars 1978
Lectronamo 1978	Stingray 1977
Magic 1979	Trident 1979
Memory Lane 1978	Wildfyre 1978

Used in the credit / ball display on these Stern machines:

Big Game 1980	Lightning 1981
Catacomb 1981	Nine Ball 1980
Cheetah 1980	Orbitor 1 1982
Dragonfist 1982	Quicksilver 1980
Flight 2000 1980	Seawitch 1980
Freefall 1981	Split Second 1981
Iron Maiden 1981	Viper 1981

### Bally PN AS-2518-21

Black Jack 1978	Nitro Groundshaker 1980
Dolly Parton 1979	Paragon 1979
Eight Ball 1977	Playboy 1978
Evil Knievel 1977	Power Play 1978
Freedom 1977	Rolling Stones 1980
Future Spa 1979	Silverball Mania 1980
Goldball 1983	Six Million Dollar Man 1978
Grand Slam 1983	Space Invaders 1980
Harlem Globetrotters 1979	Star Trek 1979
Hotdoggin 1980	Strikes and Spares 1978
Kiss 1979	Supersonic 1979
Lost World 1978	Viking 1980
Mati Hari 1978	Voltan 1979
Mystic 1980	
Night Rider 1977	

Used in the credit / ball display on these Bally machines:

Beat The Clock 1985	Flash Gordon 1981
Black Pyramid 1984	Frontier 1980
BMX 1983	Kings of Steel 1984
Centaur 1981	Lady Luck 1986
Centaur II 1983	Medusa 1981
Cybernaut 1985	Mr & Mrs Pacman 1982
Eight Ball Champ 1985	Rapid Fire 1982
Eight Ball Deluxe 1981	Skateball 1980
Eight Ball Deluxe 1984	Speakeasy 1982
Eight Ball Deluxe Limited Edition 1982	Speakeasy 4 1982
Elektra 1981	Spectrum 1982
Embryon 1981	Spy Hunter 1984
Fathom 1981	Vector 1982
Fireball Classic 1984	Xenon 1980
Fireball II 1981	X's & O's 1984