Flip Digit

Fault Finding Guide

Digit Problems:

Sticking digits: Is it one segment or the whole digit?

Single segment:
If it is simply one segment of one digit then more than likely that there is a build-up of debris on the bearing of the segment.

- While operating digit, firmly “Bang” the polycarbonate front or rear of offending digit to help dislodge debris
- If scoreboard has not been used for a period of time, then “exercise” digit by continually operating a score appropriate to offending digit. This will help dislodge debris and promote self-lubrication of the bearing

NOTE: Do not try to clean with any solvents or cleaners as it may cause build-up that will prevent proper function.

Non-functional digits:
Try swapping the digit to another position on the circuit board. Remove the ribbon cable and power cable that are connected to the digit, and swap with a digit that is working.

If the problem seems to follow the digit, then the digit is in need of repair. If the problem seems to be constant to the circuit board, then there may be a problem with the digit driver circuitry. In either case, please contact Customer Service at +44 (0)28 86766131 for further instructions.

Digit Removal Procedure:
Slide the clear front cover of the scoreboard to the left, exposing the furthest right digit completely.

BODET DIGIT
Unscrew the digit from the scoreboard frame

FP DIGIT
Cut the cable-ties holding the digit into the scoreboard.

Gently remove the digit from the scoreboard enclosure avoiding damaging the individual segments on a digit. Remove the data ribbon cable and power connections.

Note: When replacing digits, do not over tighten, as the digits require some “slack” to allow for thermal expansion / contraction

Nothing Works

1. Replace the battery in the transmitter unit (even if the red light operates when a button is pressed)

IMPORTANT:
THERE IS MANIS ELECTRICITY VOLTAGES INSIDE THE SCOREBOARD.
COMPETENT PERSONNEL SHOULD ONLY REMOVE THE COVER!

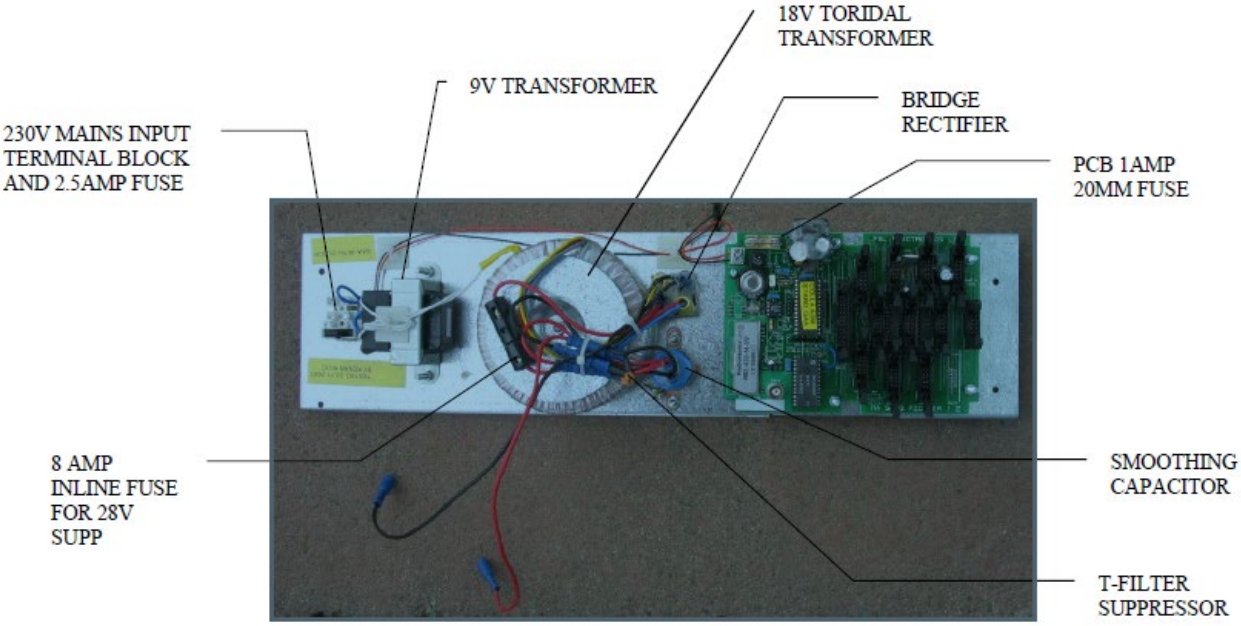
2. Check is the power LED illuminated?
   - FP Digit versions the LED is usually on the front face of the scoreboard
   - Bodet digit version the LED is usually underneath the scoreboard on the removable control panel



If the power LED is not lighting then there most likely is no mains supply to the scoreboard, or one of the internal fuses may be blown

Firstly check the fuses, circuit breakers, RCD and switches controlling the AC power leading to the scoreboard.

3. The following sections relates to the fuses and main electrical components of the FP digit scoreboards

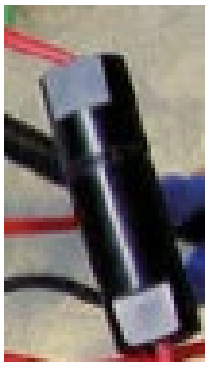


FP DIGIT POWER



On left side of connector, there should be 230VAC when measured between the blue (N) and brown (L) wires. On right-hand side, there also should be 230VAC. If power is at left side and not at right, then the plug in fuse has blown and needs replaced (2.5Amp, 20mm).

SB/TB1



This fuse protects the power supply in the event of a faulty digit causing a short circuit on the 26 volt power line. It usually blows as a result of a faulty digit. It is an 8Amp, 20mm Antisurge fuse (Part No. SB/FS8A) If the digits are heard to faintly “click” then this is most likely cause and needs replaced.

SB/FS8A



On the circuit board there is a 1Amp 20mm fast blow fuse. If this fuse is blown the scoreboard will be completely dead with no LED illuminated. The output from the 9 Volt transformer can be checked at the connector to the left of the fuse. The voltage should read approximately 9V- 12V AC

SB/FS



This transformer provides the power for the radio receiver and control electronics (Board A, B, C, etc). The output of this transformer should be 9Volts (AC) and goes to main control board (Board A). If this transformer is faulty, the scoreboard will be completely inoperable. To order replacement, quote SB/TR1/9V

SB/TR1/9V



This transformer provides the power to the digits. It outputs 18 volts AC (approx).
If this transformer is faulty, the digits will be heard to faintly “click” when they try to operate. If there is 230VAC at it’s inputs and nothing at its output (best measured across the grey/yellow and red/blue wires on the rectifier (Photo SB/RECT1 below) then the transformer is faulty and needs replaced (Part No. SB/TR2/TOR18)-.

SB/TR2/TOR18V



This capacitor provides smoothing for the 26 volts DC supply to the digits. A faulty capacitor could lead to blowing fuses or digits part working. It is extremely rare for this to go faulty and is difficult to test so if in doubt and all other possibilities have been ruled out, change for a new unit (Part No. SB/CAP28V).

SB/CAP28V



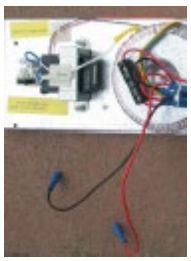
This is a bridge rectifier and converts the 18 Volts AC from SB/TR2/TOR18 to 26 Volts DC. It can be damaged if a digit burns out and causes a short circuit. There should be approx. 26 Volts DC on the Red (+V) and Black (-V).

SB/REC



These are surge protectors and can occasionally be damaged by a voltage spike or surge.
If removed, the scoreboard will be able to be operated but replacements should be ordered to protect the electronics from mains borne damage (Part No. SB/SUPP1).

SB/SUPP



The 26V DC output voltage to the digits can be measured at the red and black connection points.

SB/26V CONNECTION



IMPORTANT: FAULTY CLOCK DIGIT:
In many occasions were the scoreboard stops operating a faint “clicking” can be heard from the digits when a button is pressed on the remote control. The red LED on the front of the scoreboard is usually illuminated.

This usually indicates that the 26V DC supply has failed. If the scoreboard has clock digits then the bottom right hand clock digit is the usual culprit. If this digit goes faulty the 8Amp inline fuse will have blown. The coils of the digit will show evidence of burning and overheating.

The digit needs to be completely disconnected before a new fuse is fitted to prevent the fuse from being shorted out again. Usually the rest of the scoreboard can be operated until a replacement digit is obtained

Check for signs of overheating on coils. They should normally be a green colour with free movement of the segments.



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