REPAIR MANUAL

352

RADIO-CONTROLLED SCOREBOARDS

NECESSARY TOOLS :

- 1 x 13mm open-end spanner,
- 1 x 7mm pipe spanner,
- 1 x 5.5mm and 1 x 5 mm pipe spanners (or a small adjustable spanner),
- 1 small flat screwdriver,
- 1 Phillips screwdriver
- 1 cutting pliers,
- 1 multimetre,
- some fuses (1Amp., 1.6Amp).

WEB: www.stramatel.fr ou www.stramatel.com– E-mail : stramatel@stramatel.fr
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CONTENTS

REPAIR MANUAL 352 SCOREBOARD MODELS

I : SCOREBOARD

PROBLEM No 1 : The control console is off and there is no time display on the scoreboard

Check the mains power supply (230 VAC) to the scoreboard

Voltage OK ?

no → Power supply problem in the sport hall (check the circuit breaker at the mains)

yes

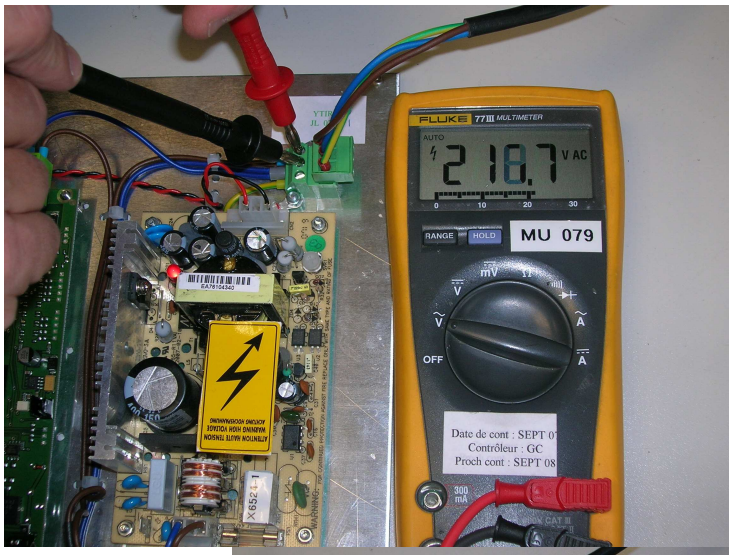
Check the scoreboard fuse

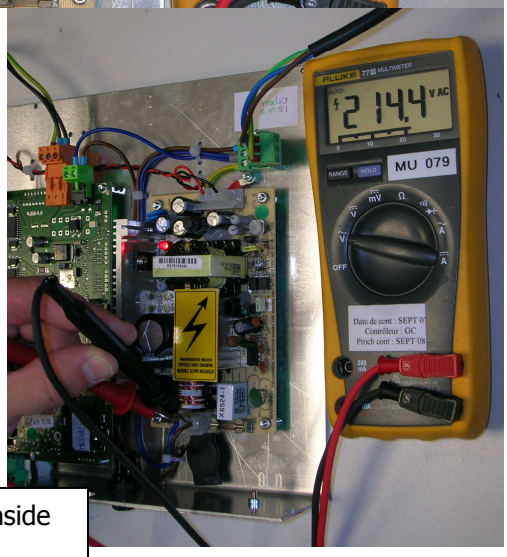
Fuse OK ?

→ Replace the fuse with a new one of an equivalent type

yes

Open the electronic rack of the scoreboard. Check the voltage at the entry of the 230V AC power supply connector.





yes

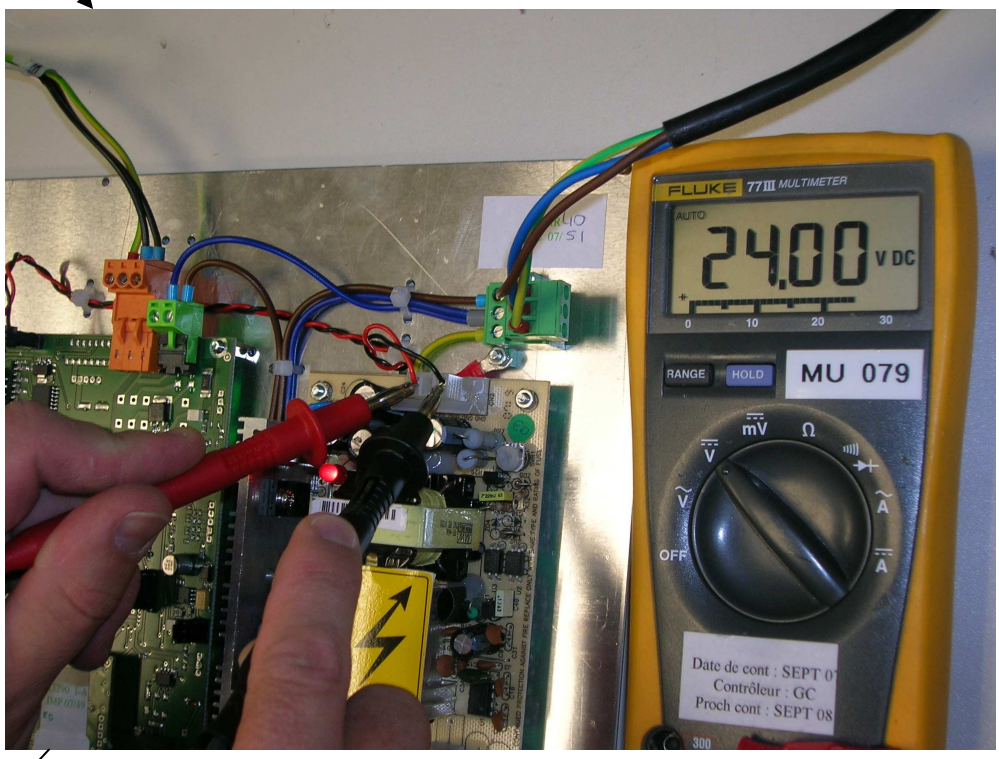
Voltage OK ?

no → Check the mains cable inside the scoreboard

yes

yes

Check the voltage coming out of the power supply PCB 24 volts DC.



Voltage OK ?

No

Replace the power supply PCB in the scoreboard.

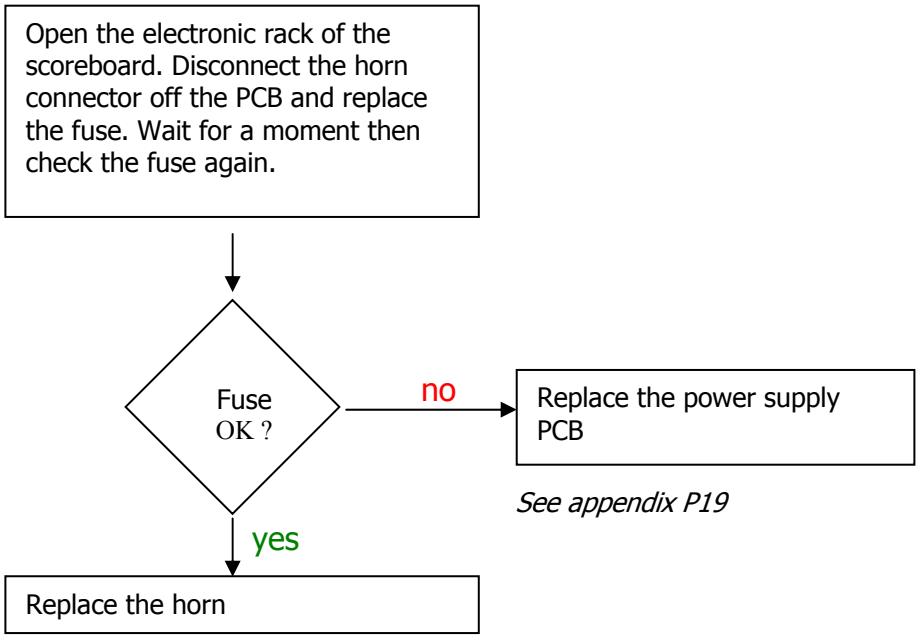
See appendix P19

yes

Replace the PCB in the scoreboard.

See appendix P18

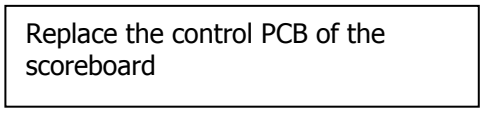
PROBLEM No2: The fuse burns out continuously



See appendix P19

See appendix P20

PROBLEM No3 : The horn sounds continuously



See appendix P18

II : CONTROL CONSOLE

PROBLEM No1: The control console displays nothing

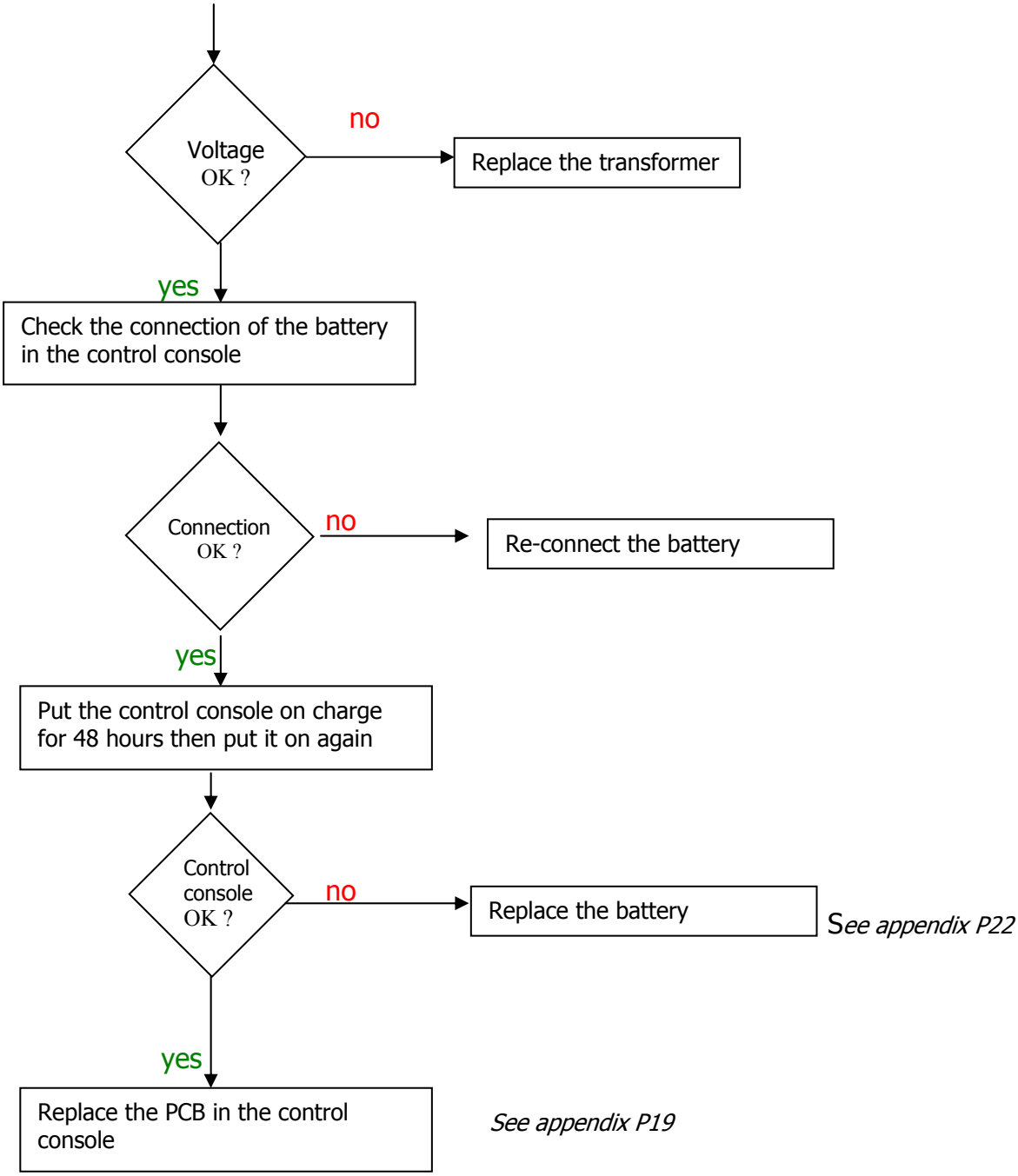
Check the voltage 230V on the socket on which the charger is connected

Voltage OK ?

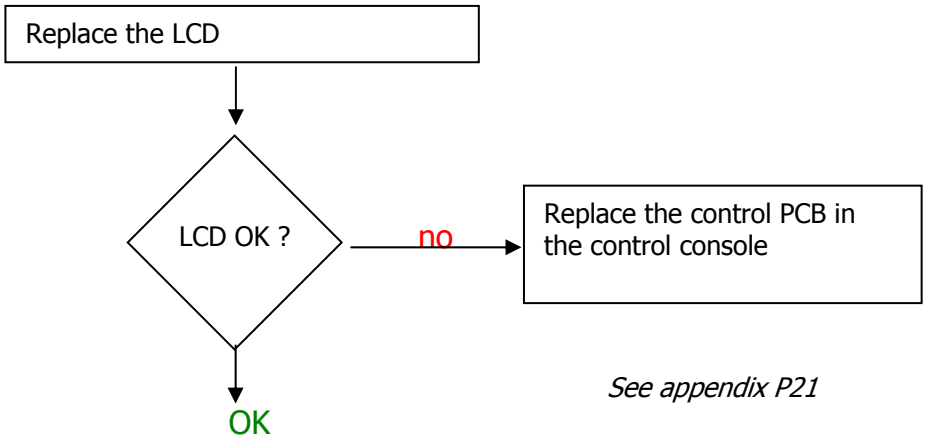
no → Power supply problem in the sport hall (check the circuit breaker in at the mains)

yes

Check the condition of the transformer plug and its voltage (≅ 16 Volts DC).

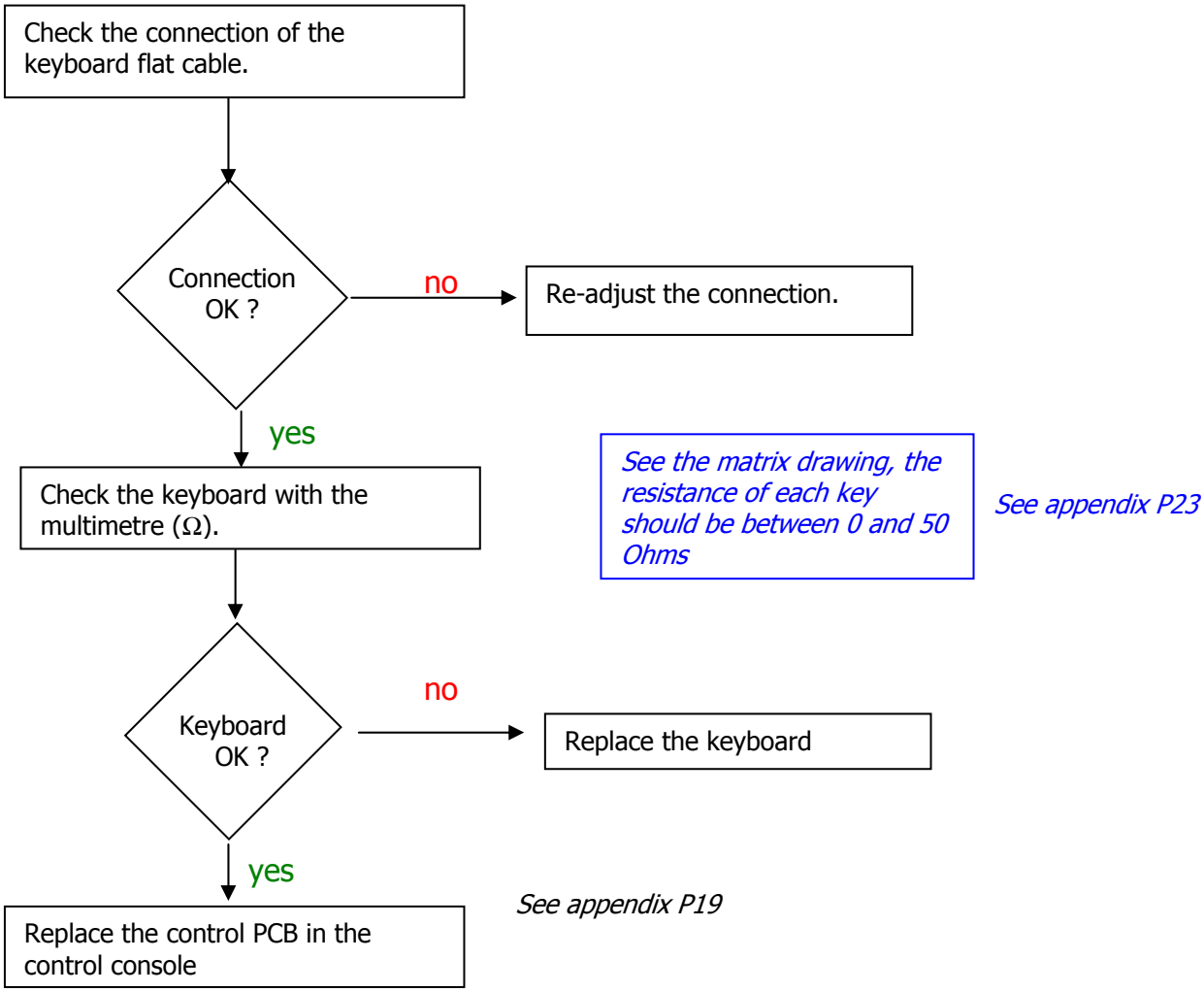

Voltage OK ?
no
Replace the transformer
yes
Check the connection of the battery in the control console
Connection OK ?
no
Re-connect the battery
yes
Put the control console on charge for 48 hours then put it on again
Control console OK ?
no
Replace the battery
See appendix P22
yes
Replace the PCB in the control console
See appendix P19

PROBLEM No2 : The control console displays a line on top of the LCD



See appendix P21

Problem No3 : The datas are displayed on the LCD but the keys of the control console do not work



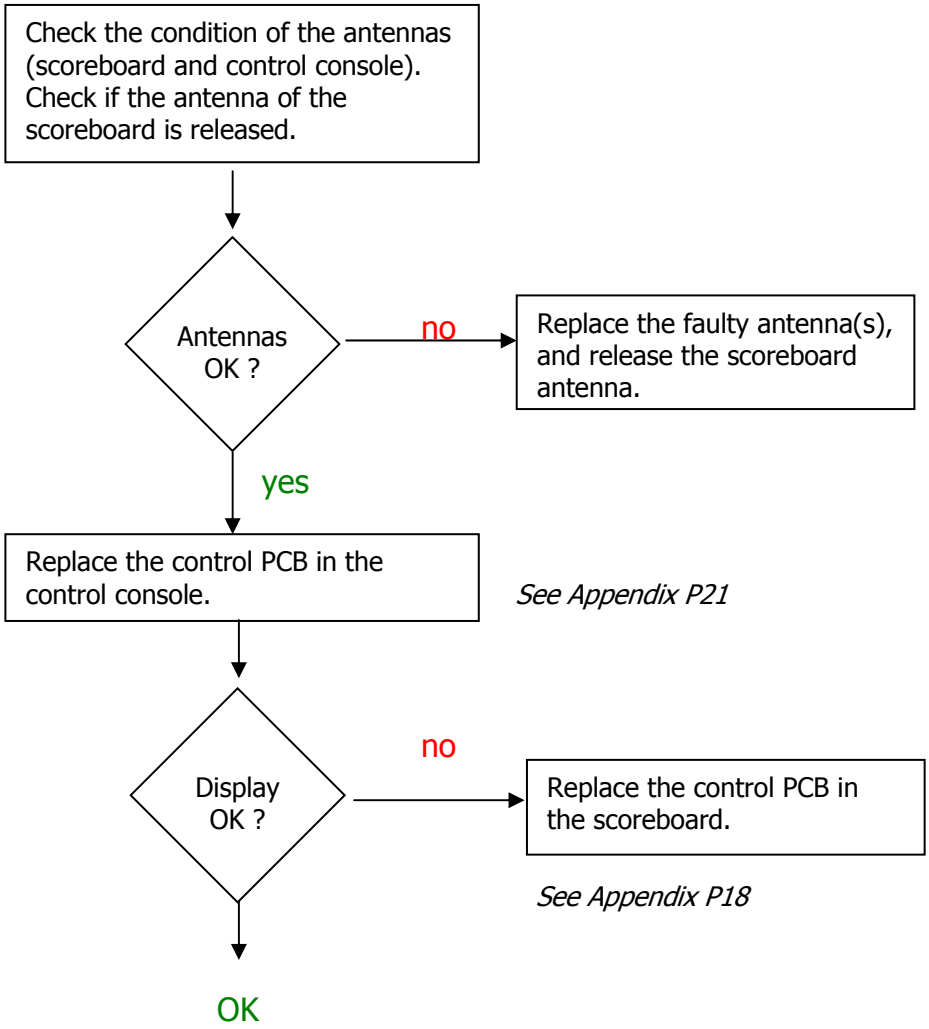
See the matrix drawing, the resistance of each key should be between 0 and 50 Ohms

See appendix P23

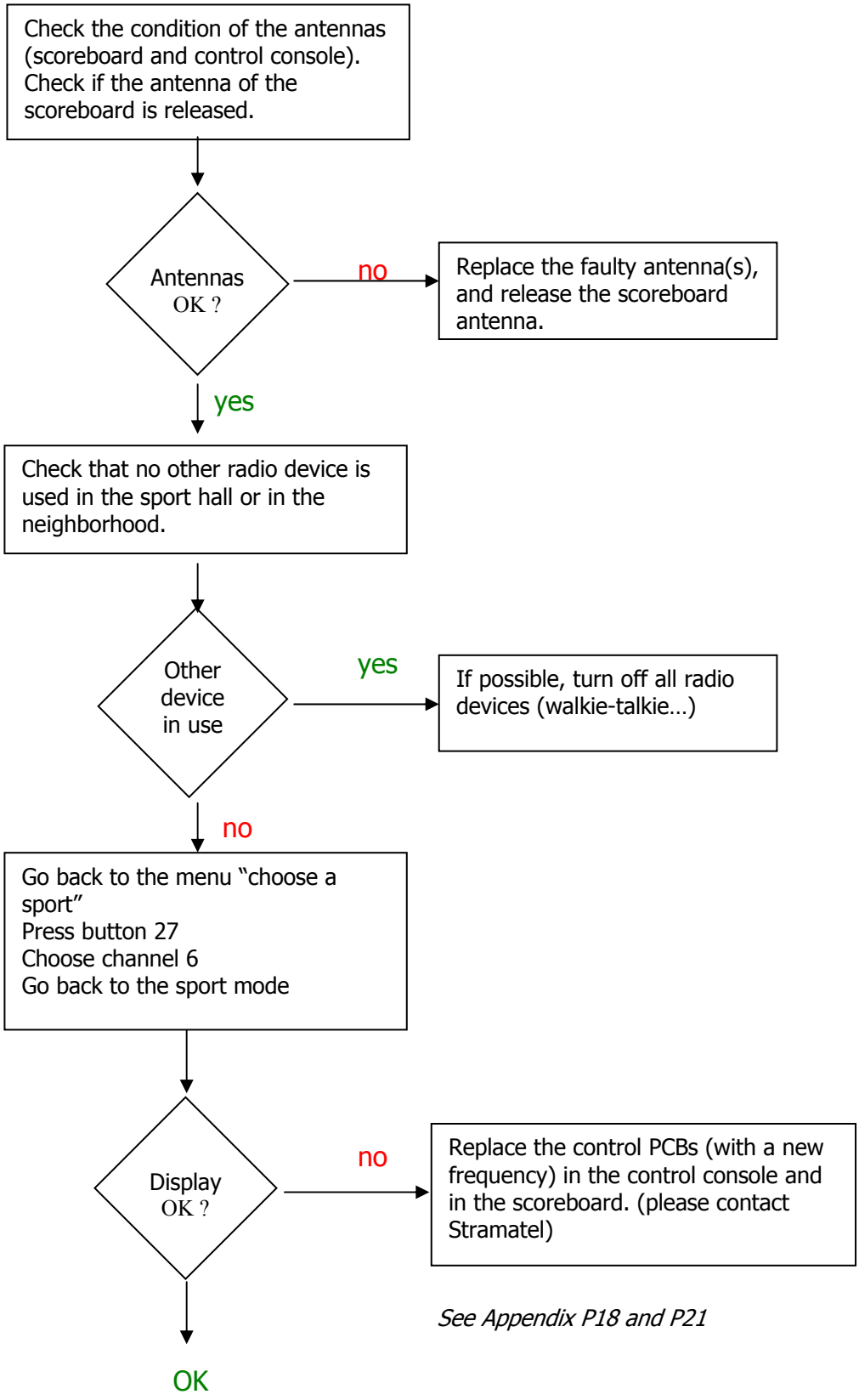
See appendix P19

III : PROBLEMS ENCOUNTERED WHEN THE SCOREBOARD IS RUNNING (control console programmed, timer launched in count down).

PROBLEM No 1 : The control console displays the information, but nothing is displayed on the scoreboard (Please stand 15 meters away from the scoreboard)



PROBLEM No 2: The control console and the scoreboard display the information, some problems intermittently appear on the scoreboard
(Please stand under the scoreboard)

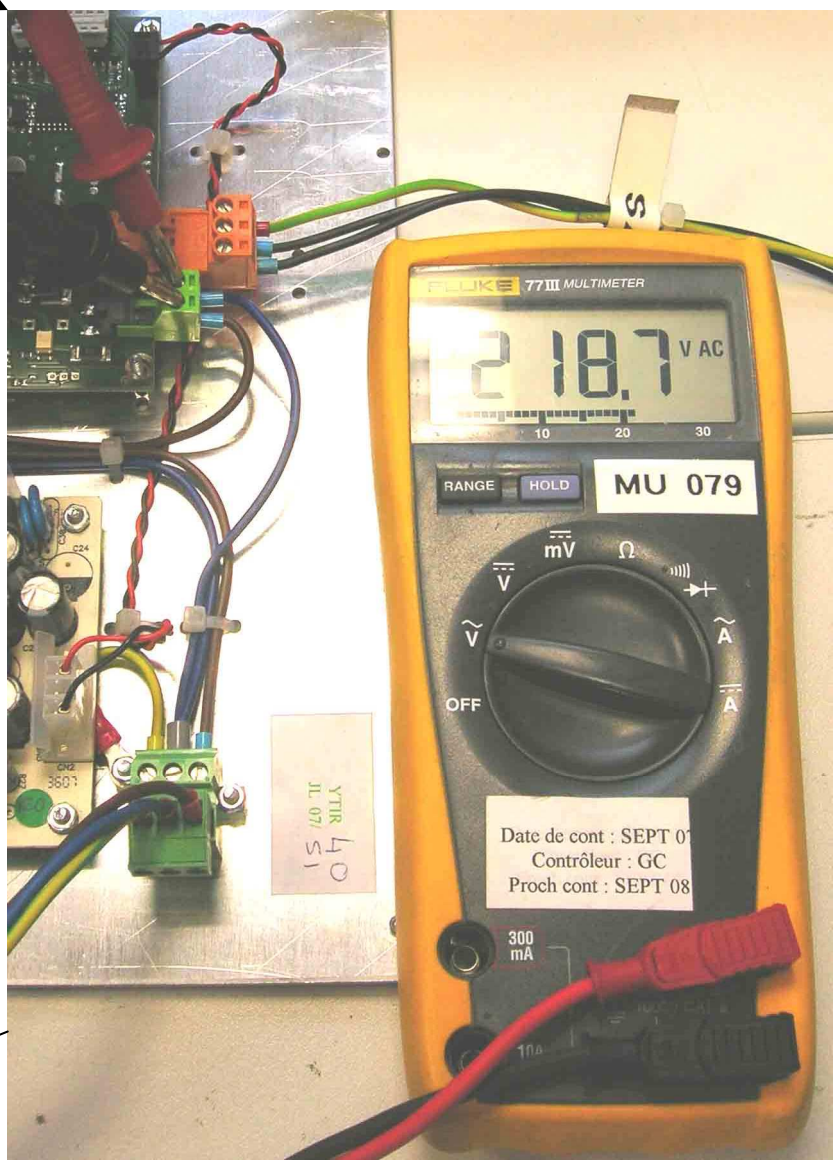


See Appendix P18 and P21

PROBLEM No 3: The control console and the scoreboard display the same information,
but the horn doesn't work

Programme the control console and choose Basket-Ball, then launch the timer.
Keep pressing button "HORN"

Check the voltage 230 V AC at the horn connector



P16

Voltage OK ?

no

Replace the control PCB in the scoreboard.

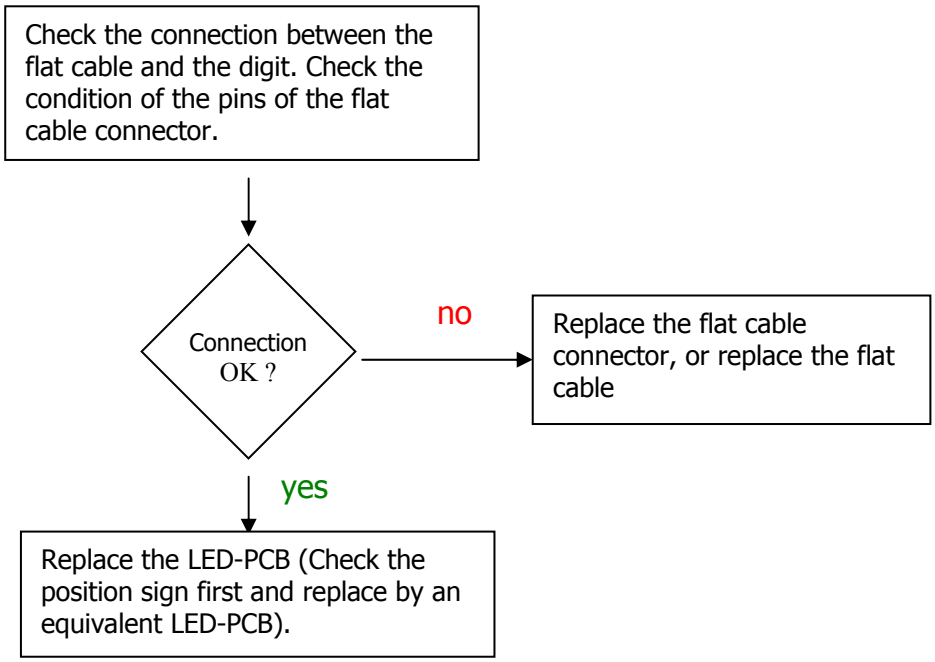
See Appendix P18

yes

Replace the horn.

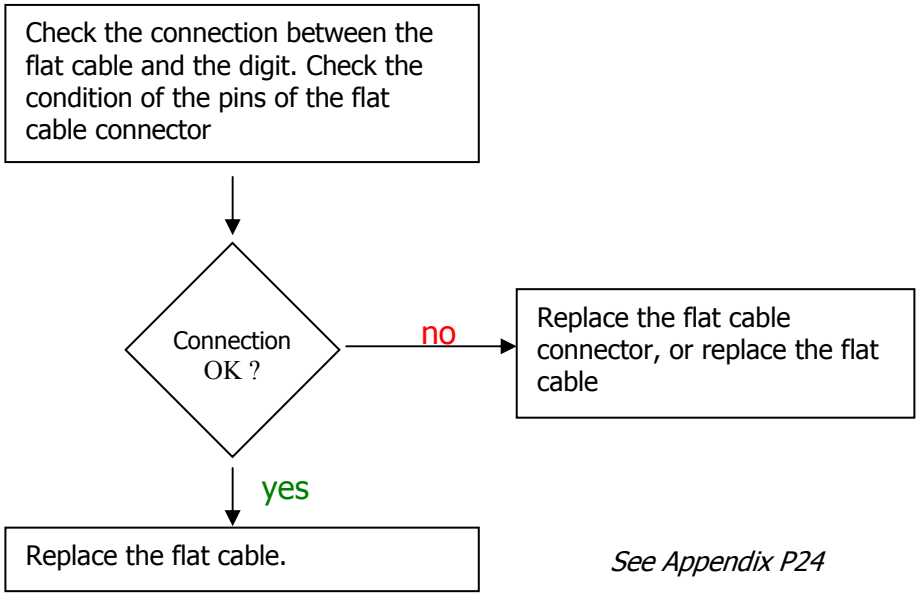
PROBLEM No 4: Incomplete LED-digit

A LED-segment is missing on a digit :



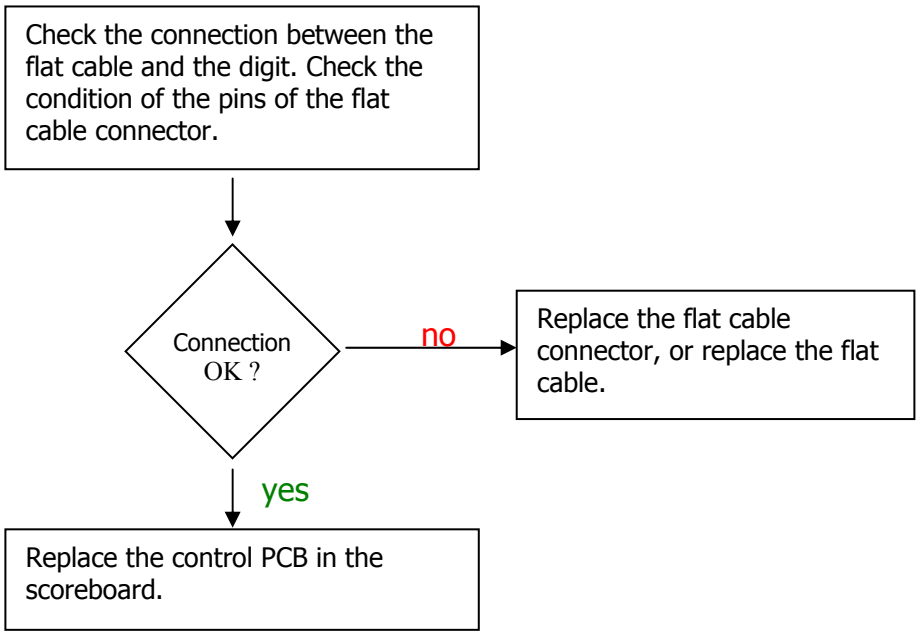
See Appendix P24

One digit is off :



See Appendix P24

Some digits or some LED-segments are off :



See Appendix P18

GLOSSARY :

PCB: Printed circuit board (electronic circuit board)

LCD :'' Liquid Crystal Display". Screen (with liquid crystals) which displays the information of the control console

Keyboard flat cable: Cable connecting the keyboard and the control PCB of the control console.

LED : Light emitting diode

Digit segment : Line of LEDs (a digit being made of several segments)

Scoreboard flat cable: Cable connecting the LED-PCBs to the control PCB of the scoreboard.

Lexan : Transparent front face of the scoreboard

APPENDIX

CONTENTS

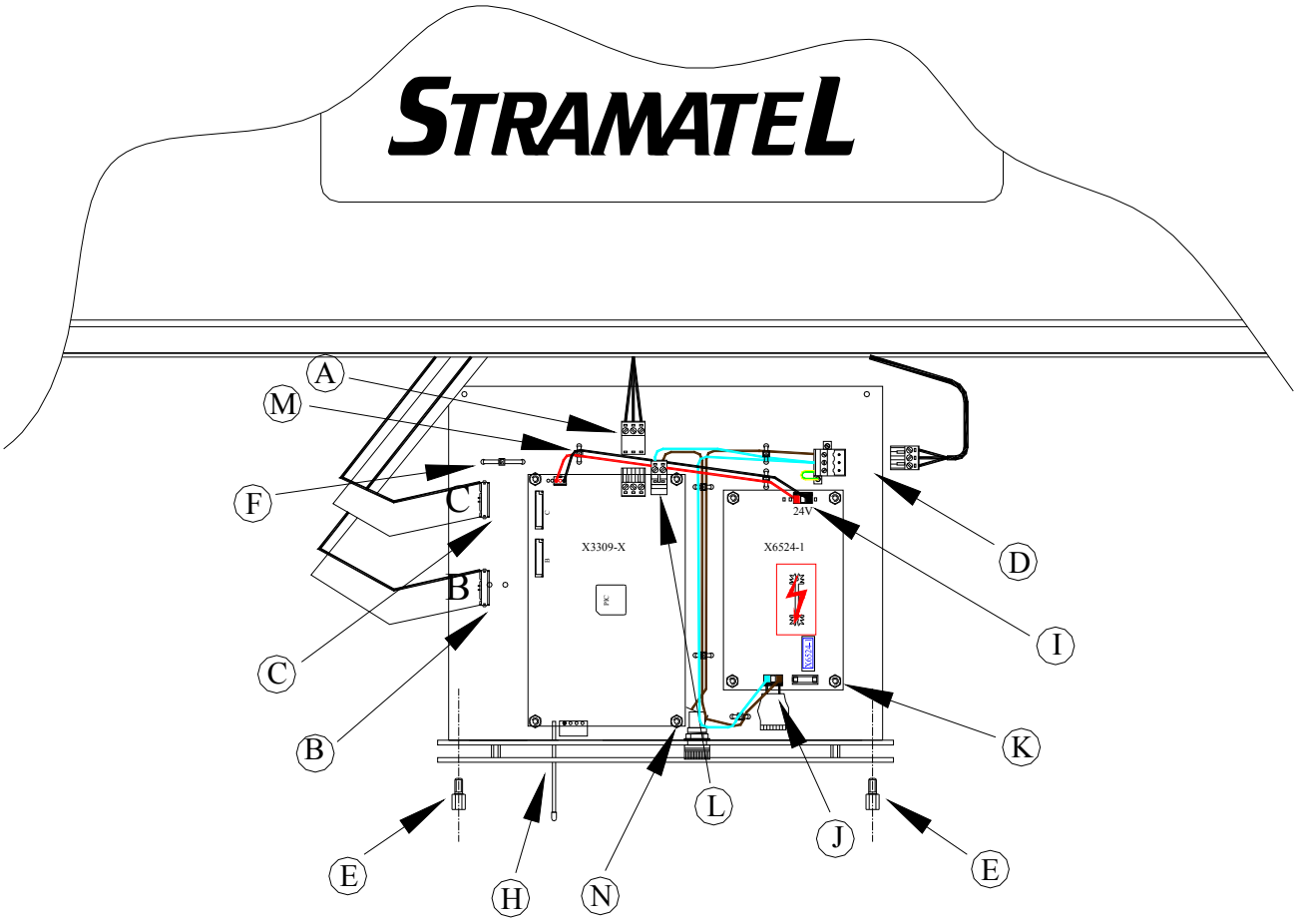
In any case, the cost involved for setting the scaffolding up and down, will be supported by the customer.

REPLACEMENT OF THE CONTROL PCB IN THE SCOREBOARD

Switch off the mains supply to the scoreboard.
The rack is situated on the bottom of the scoreboard.
Using a 7mm pipe spanner, unscrew each of the two nuts (E), then let the rack slide downwards.
Cut the tie-wrap, which maintains the flat cables (F) in place.
Unplug the flat cable, horn, and power supply connectors (A,B,C,D).
Lift the electronic rack off. Unplug the connectors (L,M).
Unscrew the four nuts (N), one on each corner of the PCB X3309-X, and gently lift off the PCB, making sure not to damage the antenna.
Slot the antenna on the new PCB into the appropriate hole (H), and fix the new PCB into place with the four nuts (N).
Plug the connectors (L,M). Replace the electronic rack.
Plug in the flat cable, horn and power supply connectors (A, B, C, D).
Refit the replacement plastic tie-wrap into place (F).
Push the rack back up into the scoreboard, and fix it into place with the two nuts (E).
Switch on the mains supply to the scoreboard, and test it with the control console.

Return the faulty PCB to STRAMATEL for analysis.

Work time : 30 minutes

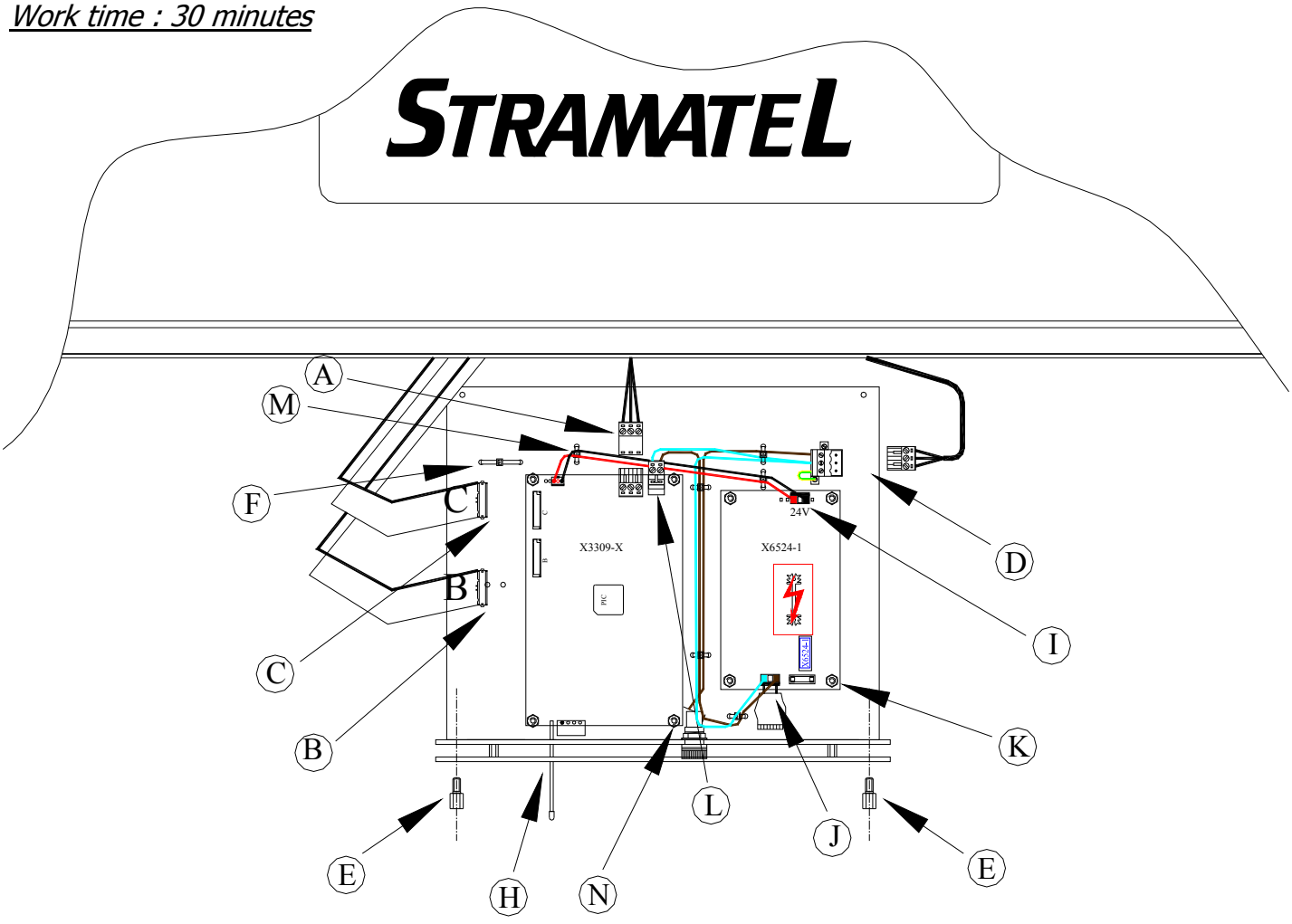


REPLACEMENT OF THE POWER SUPPLY PCB IN THE SCOREBOARD

Switch off the mains supply to the scoreboard.
The rack is situated on the bottom of the scoreboard.
Using a 7mm pipe spanner, unscrew each of the two nuts (E), then let the rack slide downwards.
Cut the plastic tie-wrap which maintains the flat cables (F) in place.
Unplug the flat cable, horn and power supply connectors (A,B,C,D).
Extract the rack. Unscrew the connectors (I, J).
Unscrew the four nuts of the power supply, (K), one on each corner of the PCB X6524-1, and gently lift off the PCB.
Fix the new PCB into place with the four nuts (K).
Connect the wires into the connectors (I,J). Replace the electronic rack.
Plug in the flat cable, horn, and power supply connectors (A,B,C,D).
Fit on a plastic tie-wrap to the flat cable (not too tight) to maintain them in place (F).
Push the rack back up into the scoreboard, and fix it into place with the two nuts (E).
Switch on the mains supply to the scoreboard, and test it with the control console.

Return the faulty power supply to STRAMATEL for analysis

Work time : 30 minutes

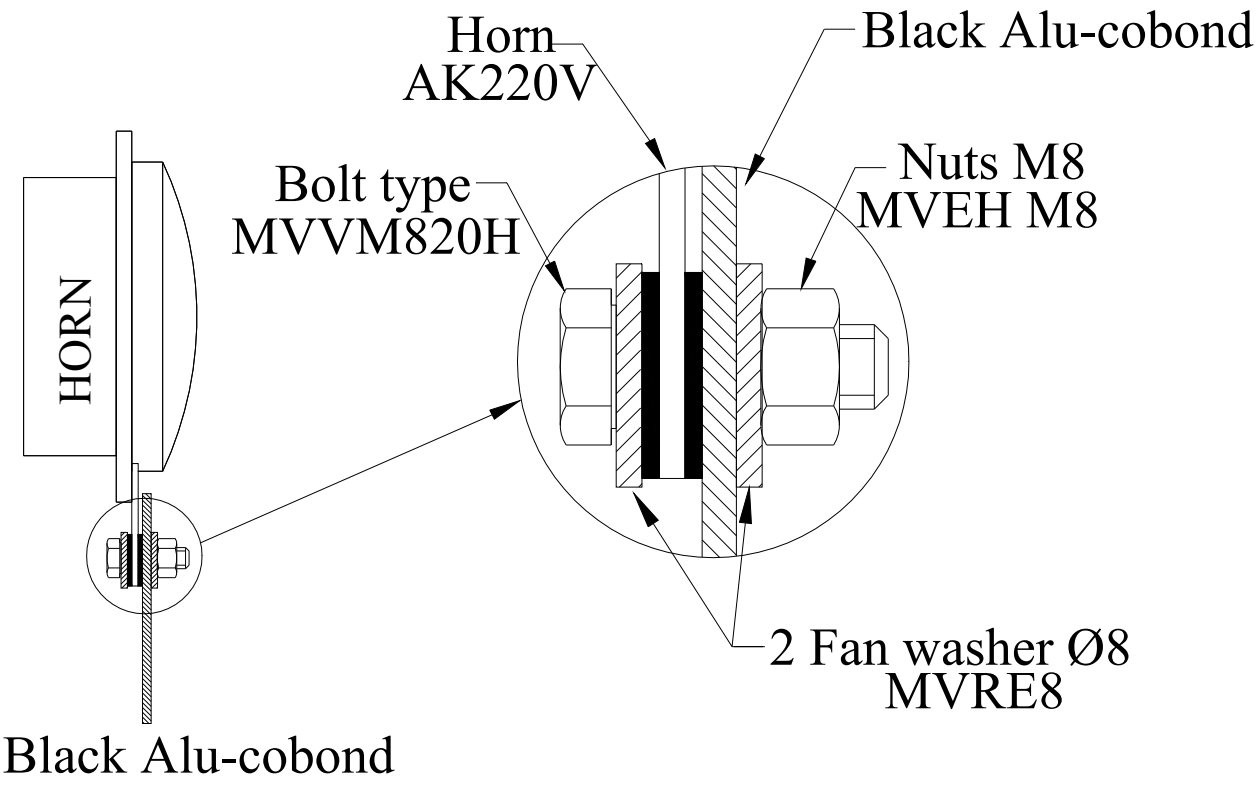


REPLACEMENT OF THE HORN

Switch off the mains supply to the scoreboard.
Unscrew the four screws on the horn grill, and lift it off.
Loosen the two nuts fixing the horn, and extract the horn by lifting it up and forward at the same
time.
Disconnect the three wires of the horn.
Screw the two bolts (type M8) on the new horn.
Connect the three wires of the horn.
Slot and fix the new horn.
Slot the horn grill into place and screw it.
Switch on the mains back onto the scoreboard and test the horn.

Return the faulty horn to STRAMATEL for analysis.

Work time : 30 minutes

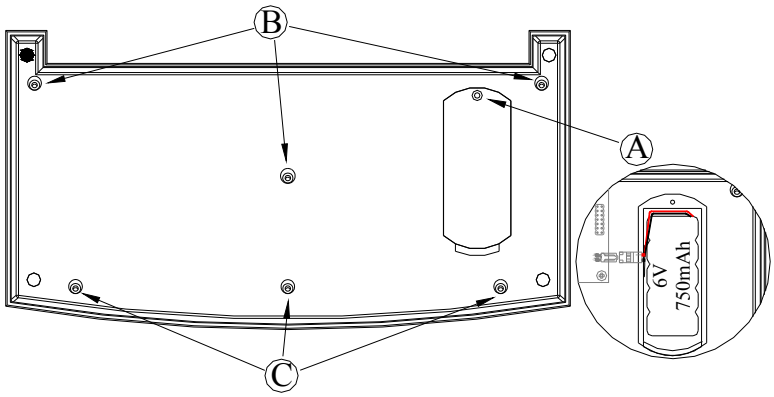


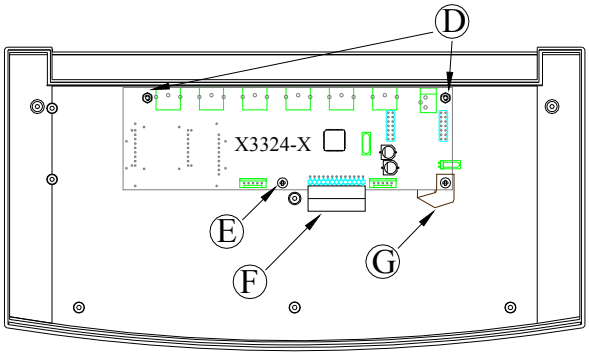
REPLACEMENT OF THE PCB IN THE CONTROL CONSOLE

Replacement of the PCB X3324-X:
Unscrew the screw (A), take gently the battery pack out and unplug its connector.
Unscrew the 3 small screws (C), and the 3 big screws (B), then take the back of the control console out.
Unscrew the 2 nuts M3 (D), and the 2 small screws (E, G), and disconnect the flat cable (F).
Gently lift off the PCB X3324-X, and fit the new one into place.
Screw the nuts (D), and the small screws (E) (do not forget the flat cable), reconnect the flat cable (F).
Close the control console (make sure you don't screw the big screws (B) in place of the small Ones (C)).
Plug in the battery pack, place it in its spot, and screw back the trap door.

Return the faulty PCB to STRAMATEL for analysis.

Work time : 30 minutes



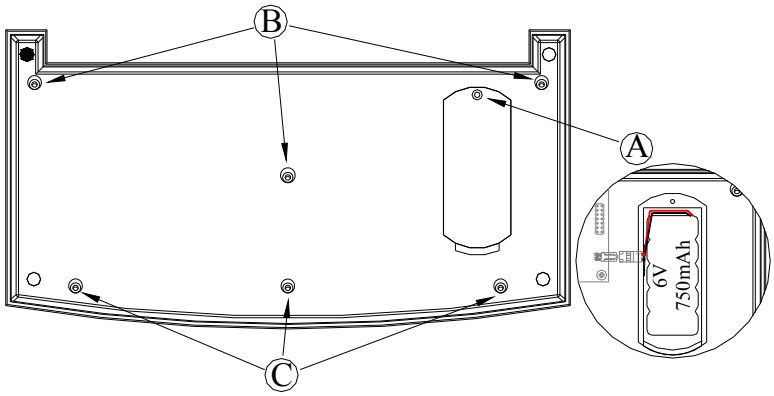


REPLACEMENT OF THE BATTERY PACK IN THE CONTROL CONSOLE

Unscrew the screw (A), take gently the battery pack out, and unplug its connector.
Connect the new battery pack, place it in its spot, and screw back the trap door.

Return the faulty battery pack to STRAMATEL for analysis

Work time : 15 minutes

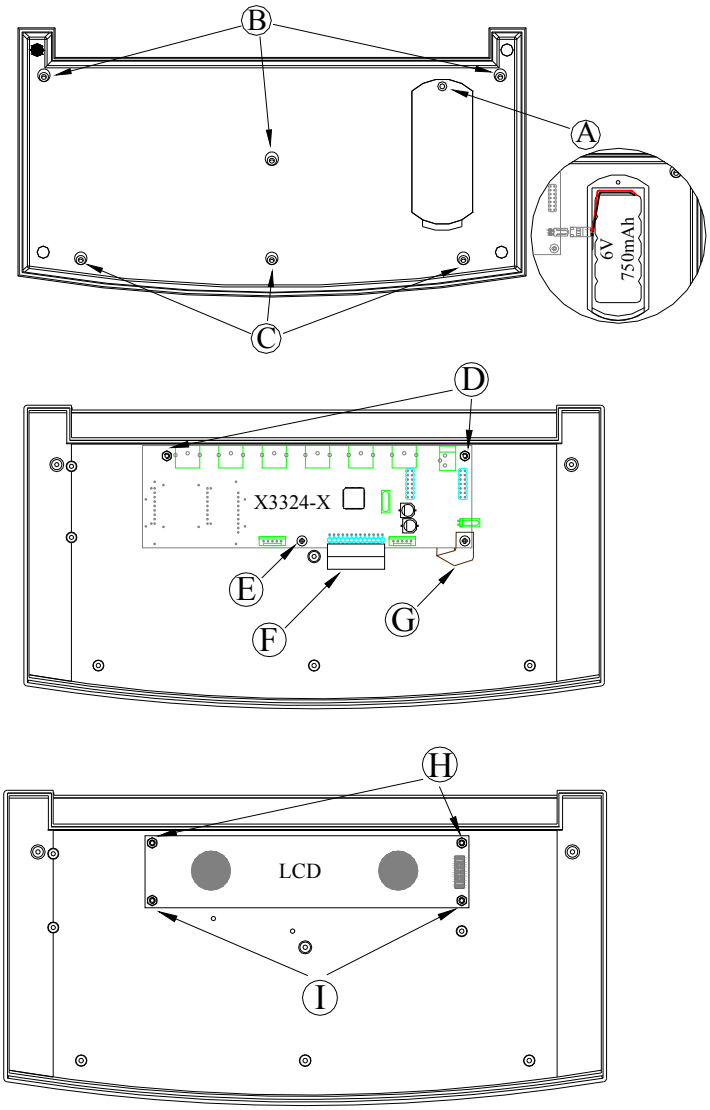


REPLACEMENT OF A LCD IN THE CONTROL CONSOLE

Unscrew the screw (A), take gently the battery pack out, und unplug its connector.
Unscrew the 3 small screws (C), and the 3 big screws (B), then take the back of the control console out.
Unscrew the 2 nuts M3 (D), and the 2 small screws (E,G), and disconnect the flat cable (F).
Gently lift off the PCB X3324-X.
Unscrew the 2 nuts M3 (I), and the 2 nuts M3 (H), then replace the LCD.
Screw the nuts back, fit the PCB back into place, and screw the nuts (D) and the small screws (E) (do not forget the flat cable (G)), and reconnect the flat cable (F).
Close the control console (make sure you don't screw the big screws (B) in place of the small ones (C)).
Plug in the battery pack, place it in its spot, and screw back the trap door.
Test the control console.

Please send the faulty LCD to STRAMATEL for analysis.

Work time : 30 minutes

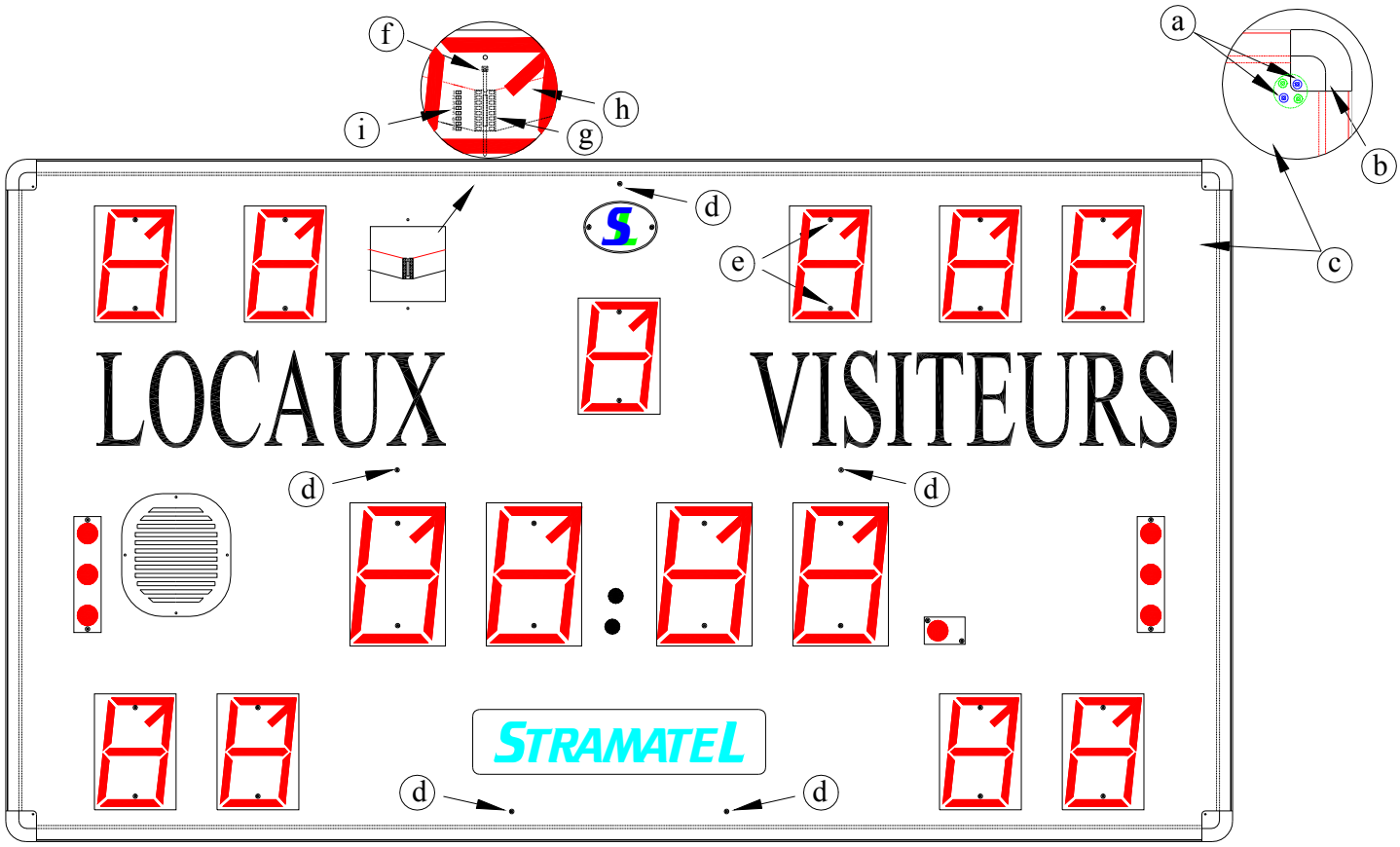


REPLACEMENT OF THE LED-PCB

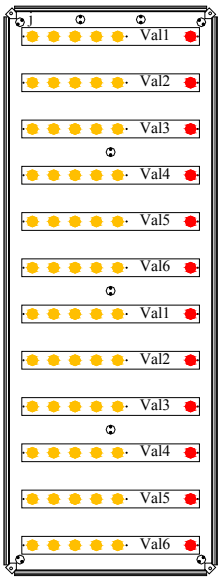
Switch off the mains supply to the scoreboard.
Unscrew the 8 screws (a) and take out the 4 angles of the scoreboard (b).
Unscrew the 5 screws (d) and take out the lexan front face (c).
Unscrew the 2 screws (e) and lift off the faulty LED-PCB(s) by unplugging gently the connector
(g) and the flat cable (h) on the back of the PCB.
Connect the new LED-PCB(s) (with the same position sign, e.g. Pos 4 (i)).
Screw the 2 screws (e)).
Put the lexan front face back into place (c) and screw the 5 screws (d).
Put the 4 angles back into place (b) and screw the 8 screws (a).
Switch the mains back to the scoreboard, and test it with the control console.
Test the scoreboard.

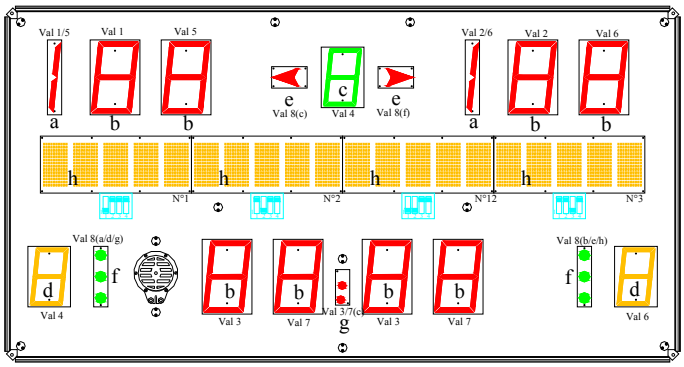
Return the faulty LED-PCB to Stramatel for analysis.

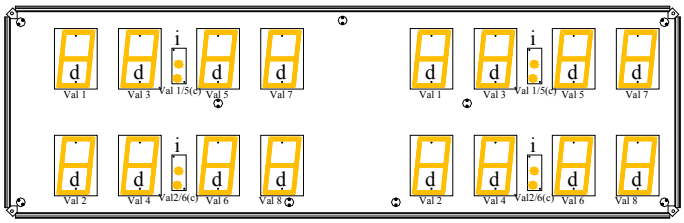
Work time: 30 minutes

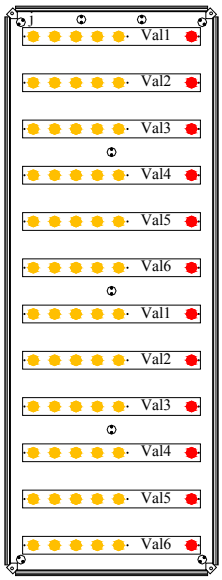


REPLACEMENT OF THE LED-PCB

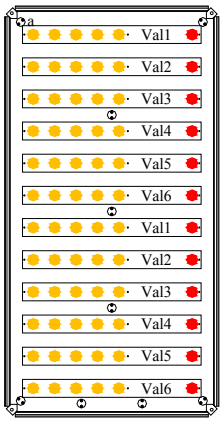


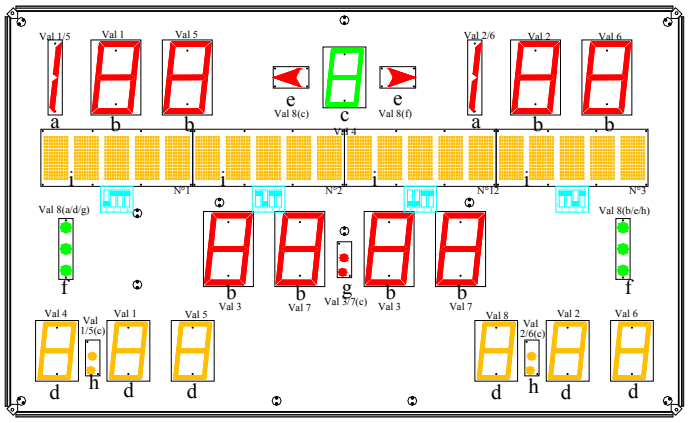




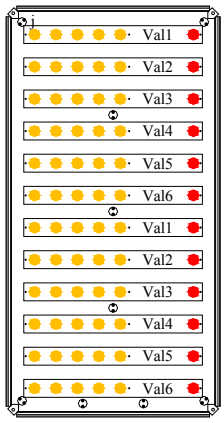


a:X3298-1LR f:X3302-1LG
b:X3297-1LR g:X3292-1LR
c:X3295-1LG h:X3307-1LJ
d:X3295-1LJ i:X3292-1LJ
e:X3291-1LR j:X3303-1RJ





a:X3298-1LR d:X3295-1LJ g:X3292-1LR
b:X3297-1LR e:X3291-1LR h:X3292-1LJ
c:X3295-1LG f:X3302-1LG i:X3307-1LJ



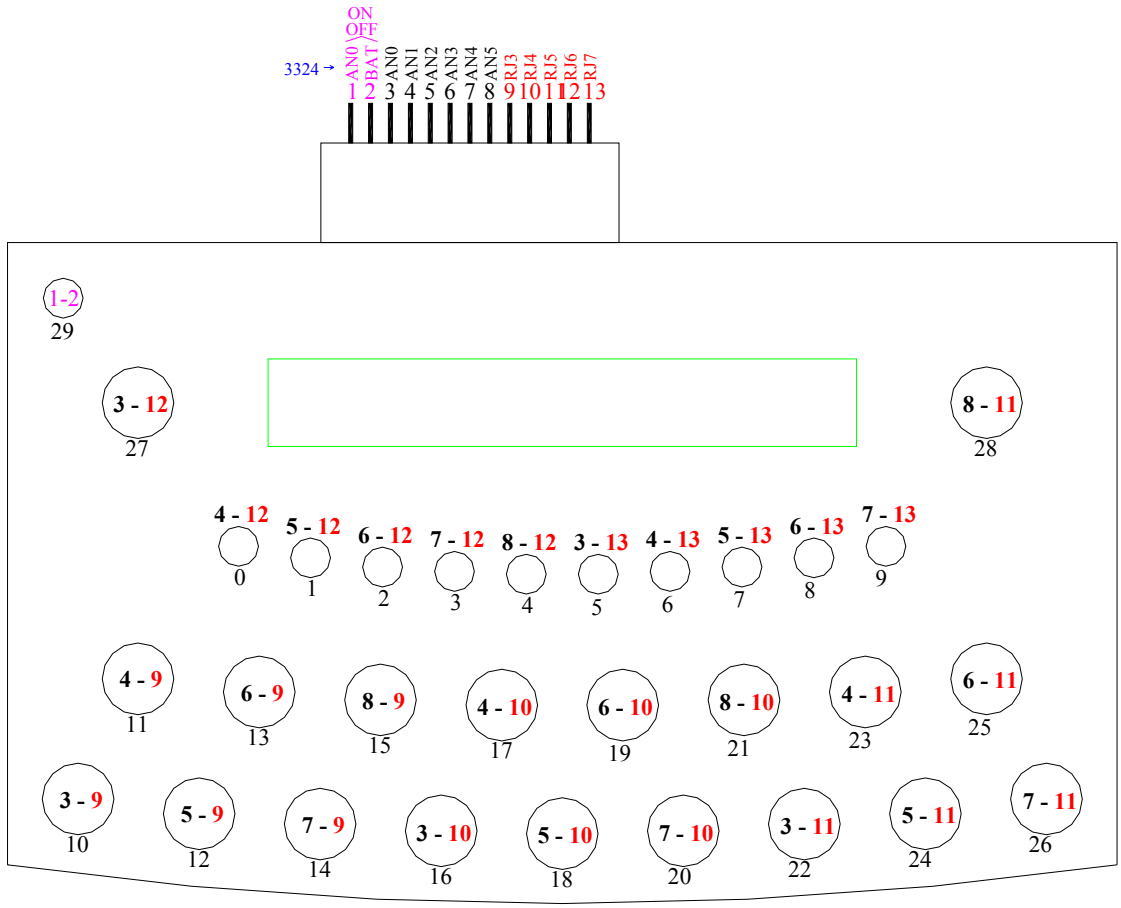
j:X3303-1RJ

CHECK THE KEYBOARD

For example :

Press Button No 1

Check the resistance between pins No 5 and No 12 of the connector.

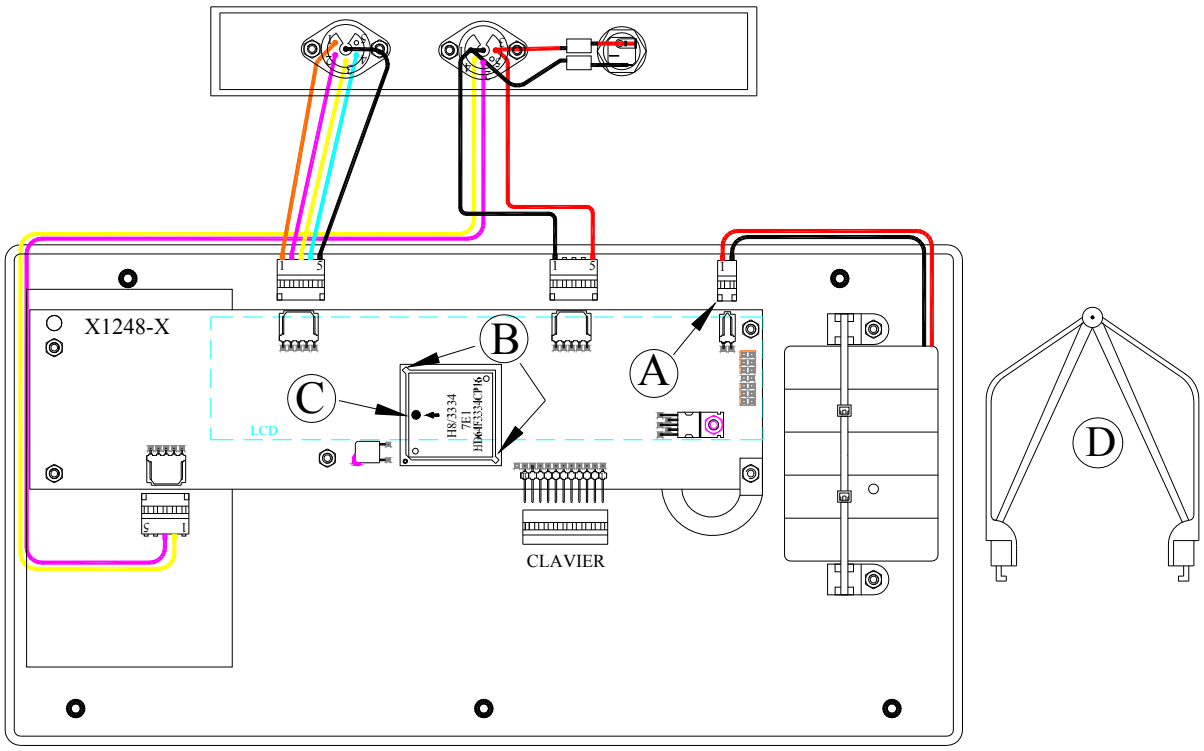


PROGRAMM UPDATING ON THE CONTROL CONSOLE TYPE "252M"

Unscrew the five screws on the bottom of the control console and lift off the bottom half.
Unplug the battery connectors (A).
Place the nipper (D) in the both angles of the micro-processor stand (B).
Extract the micro-processor out of its stand.
Slot the new micro-processor into place (respecting its direction) (C).
Plug the battery connector on the circuit board (A).
Close the control console, and screw the five screws.
Test the scoreboard.

Return the faulty micro-processor and the nipper to STRAMATEL.

Work time: 15 minutes



PROGRAMM UPDATING ON THE SCOREBOARD TYPE "252M"

Switch off the mains supply to the scoreboard.
The rack is situated on the bottom of the scoreboard.
Using a 7mm pipe spanner, unscrew the two nuts (E), then let the rack slide downwards.
Place the nipper (F) in the both angles of the micro-processor stand (C)
Extract the micro-processor out of its stand.
Slot the new micro-processor into place (respecting its direction) (D)
Pusch the rack back up into the scoreboard, and fix it into place with the two nuts (E).
Switch on the mains supply to the scoreboard, and test it with the control console.

Return the faulty micro-processor and the nipper to STRAMATEL.

Work time: 15 minutes