



# Scoreboard User Manual for Hockey/Lacrosse/Netball with LED digits

## Setting up the scoreboard

The maximum range from the remote control unit to the scoreboard is 300 meters so you can position the scoreboard wherever you want. The LED digits are very directional and so it is important to 'aim' the scoreboard directly towards the middle of the spectators/players.

Switch on the scoreboard by the isolator switch on the side / front.

When power is applied, the scoreboard goes through a power-up sequence:

1. There will be a power-up sequence such as "Welcome to..." or similar.
2. The version number is displayed on the time digits. This is typically H30 or similar. H means hockey and the number is the version of the controller software.
3. Press the RESET button to go to stage 4.
4. The scoreboard will then be set to the start position of 35:00 minutes (or less if previously set) and zero scores. It is now ready to operate.
5. You can change the team names – refer to operating instructions close to the fixed control unit.

## Operating the scoreboard using the remote-control unit.

The maximum range of the remote-control unit is approximately 300 meters.

The unit has 6 buttons. **Note that most actions happen when you press and then immediately take your finger off the button.** Do not hold a button down unless you are trying to correct a mistake.

**START** Starts the clock running. If you make a mistake, you can hold down this button for 3 seconds to subtract an extra 10 seconds from the time. **Before** the start of a match, holding down this button for 3+ seconds will reduce the start time by 5 minutes so that any length of period is possible; 35,30, 25, etc down to 5 minutes. Holding the button at 5 minutes resets it back to a start time of 35:00. For times such as 13½ minutes, set the start time at 10 minutes then hold the STOP button to go back up to 13½ in 30 second increments.

**STOP** Stops the clock. If you make a mistake, you can hold down this button for 3 seconds to add 10 seconds to the time.

**← + SCORE** Pressing once will add one to the top score (as you look at the scoreboard). If you make a mistake, you can hold down this button for 3+ seconds to reduce the score by one (hold the button down until the score changes).

**+ → SCORE** Pressing once will add one to the bottom score (as you look at the scoreboard). If you make a mistake, you can hold down this button for 3+ seconds to reduce the score by one (hold the button down until the score changes).

**NEXT PERIOD** This button only works when the clock is stopped. Pressing the button will set the scoreboard for the next period. The time will be reset back to 35:00 minutes (or whatever the start time is set to). After 5 minutes of the end of the first half, the optional bell/horn will sound to denote the end of time out.

**RESET** This button only works when the clock is stopped. Pressing the reset button will set up the scoreboard for the next match. The time will be reset to 35:00 minutes (or whatever the start time is set to) and both scores set to zero. If you make a mistake, hold down this button for about 3 seconds. In this case, the scoreboard will revert to all the values before you pressed the button.

If your installation has a fixed control unit (see below), operation is exactly the same as for the remote-control above except the buttons are labelled differently as: -

START	=	START
STOP	=	STOP
TOP SCORE +	=	<- SCORE + (LEFT)
BOTTOM SCORE +	=	SCORE -> + (RIGHT)
HALF TIME	=	NEXT PERIOD
RESET	=	RESET



The fixed control unit

Holding down the STOP button and pressing the RIGHT SCORE button will display the actual time in hours and minutes. You can only select this at the end of a match when the clock is reset. You can correct the hours by pressing the left score button. The right score button corrects the minutes. To return to normal scoreboard operation hold down the STOP button and pressing the RIGHT SCORE button again.

Holding down the STOP button and pressing the RESET button will sound the optional horn whilst you hold the buttons. This only works before the beginning of the match when the RESET button has been pressed. The use of this is to hurry on the players for the next match. Normally there are 'emergency' manual switches on the side of the scoreboard. These operate exactly the same as the wireless remote but do not use the wireless system.

**To display the actual time in hours and minutes.** At the end of a match, you can display the actual time in hours and minutes by holding down the STOP button and pressing the right score button.



To correct the hours, press the left score button.

To correct the minutes, press the right score button.

To revert to normal operation, hold the STOP button and press the right score button again.

## Changing the configuration.

### Changeable values

There are a number of values which may be changed by the user. These values are stored permanently even if the scoreboard is powered down. It is also possible to revert to 'factory' settings which are shown in the list below under the column 'Factory'. Earlier versions of the software may not have all of these values.

To change any settings:

1. Power off the scoreboard.

2. Power up the scoreboard. Immediately, press and hold the 'NEXT PERIOD' ('HALF TIME' on the fixed remote control unit) button.
3. After a few seconds, the time digits will show CHA (for change). Release the NEXT PERIOD button.
4. The first value will be shown. The top score shows the value number (1). The time digits show USE and the bottom score shows the number for the scoreboard use (e.g. PO, AR, HO etc)). Press the LEFT SCORE button to go down and the RIGHT SCORE button to go up. The setting is permanently changed immediately.
5. Press the NEXT PERIOD to step onto the next value. Use the LEFT SCORE and RIGHT SCORE buttons to increment or decrement the value. See the table below for all the values.
6. Some of the timer settings are in tenths of seconds (a value of 35 means 3.5 or 3½ seconds) – see table below.
7. At any time, you can power down / up the scoreboard to use the new values or continue to press NEXT PERIOD button through all the values.

Value no.	Display	Factory settings	Range	
1	USE	PO	See->	Scoreboard type where: - PO = Outdoor polo AA = Arena polo HO = Hockey R1 = Running race (mins/secs) R2 = Running race (hrs/mins/secs) RU = Rugby SO = Soccer SH = Show jumping PC = Polo Cross. LA = Lacrosse. NE = Netball. CR = Cricket (only for scoreboards so equipped)
2	CHU	4	4-6	Only used for polo
3	BEL	30	0-99	Time (in tenths of seconds) the bell sounds for towards the end of a period. (30 = 3.0 seconds)
4	HOR	30	0-99	Time (in tenths of seconds) the horn sounds for at the end of a period. (30 = 3.0 seconds)
5	DIS	1	0-1	Display time to end of time-out at half time (1=Yes; 0=No)
6	BE2	30	0-99	Time (in tenths of seconds) the bell sounds for at the end of time-out between periods.
7	APO	10	0-99	Time before scoreboards powers down if idle. In tenths of hours (10=1.0 hours)
8	PS1	7	0-99	Start time (minutes) for periods for outdoor polo to start.
9	PSS	0	0-50	Start time (seconds) for periods for outdoor polo to start.
10	AS1	6	0-99	Start time (minutes) for periods for arena polo to start.
11	ASS	30	0-50	Start time (seconds) for periods for arena polo to start.
12	EN1	7	0-50	First bell time (minutes) when in count up mode
13	EN2	30	0 / 30	First bell time (seconds) when in count up mode
14	ENR	0	0 / 30	Repeat bell time (0 means every minute; 30 means every 30 secs) when in count up mode

Value no.	Display	Factory settings	Range	
15	FL1	100	100 +	Not used for LEDs
16	FL0	5	5 +	Not used for LEDs
17	HS1	35	5-95	Start minutes for Hockey/Rugby/Soccer (may also be adjusted by holding down the START button before the match starts)
18	BEE	0	0-99	Beep time. Beeps the horn when the operator start/stops/increments a score. 0=Off. 40 is approx 1/2 second
19	HS2	0	0-30	Stop minutes for Hockey/Rugby/Soccer. If > 0 will automatically stop the clock at this so that the umpire can use his own clock to decide when to say the match is over. If 0, does not stop.
20	SEC	50	0-99	Time correction in seconds to adjust timer accuracy. Subtract a value of 50 to get the actual adjustment value. A resultant of +9 means add 1 second every 9 minutes. A value of 45 (means -5) means subtract 1 sec every 5 mins
21	POF	1	0-9	Not used for LEDs.
22	POB	0	0-1	Power off beep. If set to 1, the scoreboard beeps every hour (whatever the timer is) if no power off circuit exists and the scoreboard should have powered off (parameter 7 (APO) > 0).
23	SPC	6	1-8	Start minutes for Polo Cross (mode PC in parameter 1). Start seconds are always zero.
24	SE2	0	0-99	Time correction in 10 times seconds to adjust timer accuracy. A value of 9 means add 1 second every 90 minutes
25	SE3	0	0-99	Time correction in 100 times seconds to adjust timer accuracy. A value of 9 means add 1 second every 900 minutes
26	FLE	0	0-99	Not used for LEDs.
27	SOU	0	0-2	Sounds. 0=normal; 1=always sound horn; 2=always sound bell.
28	RCD	0	0-1	Real time clock counts down if = 1
29	LS1	15	0-35	Lacrosse start time – Minutes
30	LSS	0	0-30	Lacrosse start time - Seconds
31	12B	0	0-50	Beep horn ½ way through each chukka for this time (30 = 3.0 seconds). 0 means don't sound.
32	PUL	0	0-20	Pulse sound on/off time. 5=1/2 sec on 1/2 sec off.

Value no.	Display	Factory settings	Range	
33	LE1	20	0-99	LED minimum brightness (in %) where 99=full brightness.
34	LE2	50	10-99	ADC value divided by 10 where LED is at maximum brightness. Typical value is $540/10 = 54$ .
35	LE3	0	0-99	ADC value divided by 10 where LED is at minimum brightness. Typical value is 0.

**To revert to Factory settings:**

1. Power off the scoreboard.
2. Power up the scoreboard. Before all the digits finish showing 8888888, Press and hold the RESET button.
3. After a few seconds, the digits will re-start showing 88888888. Release the RESET button. Factory settings will have been stored.

**Resetting the scoreboard:**

The scoreboard may be reset (the scoreboard will go through the power-up sequence) via the remote control (or the manual buttons). Hold down the STOP button then hold down the NEXT PERIOD button, then press the RIGHT SCORE button. The digits will all go blank. Release all the buttons. Note that the scoreboard must be RESET (ready for the start of a new match) for this to work. You can then change any of the user-changeable settings once the digits have gone past 88888888 and are blanked again (hold down the NEXT PERIOD button).

**Show Jumping mode:**

Later versions have a 'Show Jumping' mode (User configurable parameter no 1 = SH). This is where an EG Timing Show Jumping control unit sends the time to the scoreboard. Please contact Sporting Designs for further information.

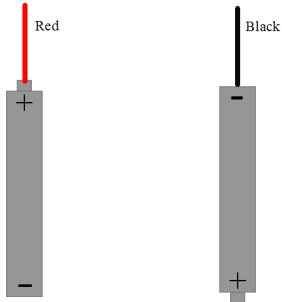
**Special notes for Netball:**

Netball traditionally has 4 periods of 15 minutes. However, you may play for 2 longer periods in which case set the scoreboard for Hockey. If you select count-down between periods (Parameter 5), when you press NEXT PERIOD, the clock will initially go to 15:00. 2 minutes before the next period should start, the clock will be set to 2:00 and start counting down. You can press STOP to immediately set the clock to 15:00 or press START to start the next period. If the clock reaches 0:00, the (optional ) bell will be sounded for a time (Parameter 6).



# Batteries

## Remote control unit



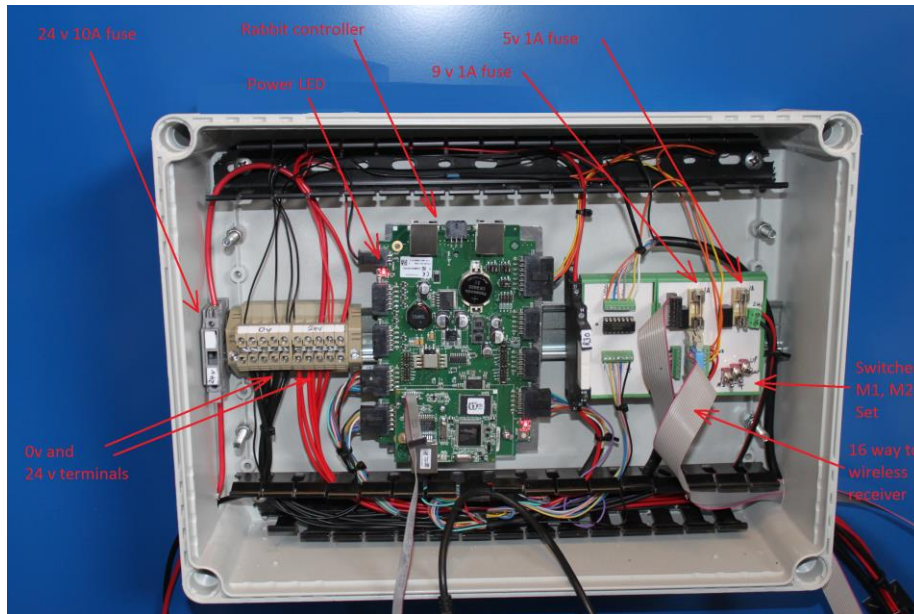
The remote-control unit uses 2, AAA batteries. These are non-rechargeable and are widely available from DIY shops, supermarkets and petrol stations. When changing these batteries, be sure to insert them the correct way with the positive terminal facing the mark +. This has a red wire. The negative terminal faces the mark -. This has a black wire. See layout above.

## Fixed control unit

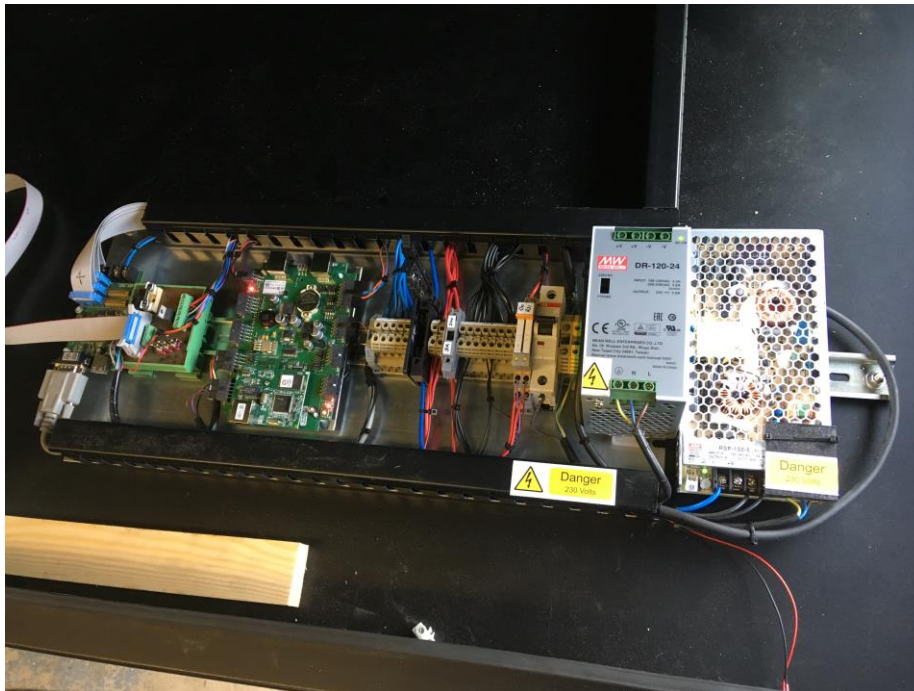


The fixed-control unit uses 2, AA batteries. These are non-rechargeable and are widely available from DIY shops, supermarkets and petrol stations. When changing these batteries, be sure to insert them the correct way with the spring terminal facing the mark -.

# The Control box



Control box (style 1)



Controller (style 2)

## Registering a new remote-control unit.

1. Open the scoreboard and remove the lid from the control box
2. Power off the whole scoreboard (or remove the 24v fuse at the left-hand side of the control box). Wait for 5 seconds for the power to decay.
3. On the receiver interface module, set the 3 switches to: -

Switch	Setting
M1	OPEN (UP)
M2	OPEN (UP)
SET	GND (DOWN)
4. Power up the scoreboard
5. After 5 seconds, press any key on the new remote-control unit for two seconds.
6. Wait 5 seconds.
7. Power off the scoreboard. Wait for 5 seconds for the power to decay.
8. On the receiver interface module, set the 3 switches to: -

Switch	Setting
M1	GND (DOWN)
M2	GND (DOWN)
SET	OPEN (UP)
9. Power up the scoreboard.
10. After the power-up sequence is complete (it takes about 5 seconds), test the new remote-control unit.

## Erasing all remote-control units.

1. Open the scoreboard and remove the lid from the control box
2. Power off the whole scoreboard (or remove the 24v fuse at the left-hand side of the control box). Wait for 5 seconds for the power to decay
3. On the receiver interface module, set the 3 switches to: -

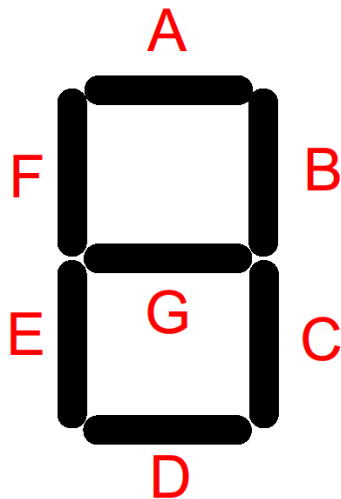
Switch	Setting
M1	OPEN (UP)
M2	GND (DOWN)
SET	GND (DOWN)
4. Power up the scoreboard
5. Wait 10 seconds.
6. Power off the scoreboard. Wait for 5 seconds for the power to decay.
7. On the receiver interface module, set the 3 switches to: -

Switch	Setting
M1	GND (DOWN)
M2	GND (DOWN)
SET	OPEN (UP)
8. Now you can register a new remote-control unit as per the previous section, (start at item 3).

## Troubleshooting

**The remote only works very close to the scoreboard.** The antenna in the receiver (normally within a small box in the top of the scoreboard) has either been damaged or has pulled out of the receiver module. The antenna is a small black wire about 10 cm long. It is a push fit into the receiver module

**The remote only works after a 15 second delay.** If you have two remote control units, you must leave a 15 second delay before using a button on a second unit.



**One digit is not working at all (flip digits),** Check that there is 24 volts going to the connector card at the back of the digit. One connector card drives 2 digits. The green LED on the connector card should be flashing at least once per second.

**The remote-control unit is not working at all (but the scoreboard goes through its self-test ok).** Try replacing the batteries. It takes two AAA batteries but be sure to place them + to the red wire and – to the black wire. If still faulty, check that the switches in the control box have not been changed (M1 down M2 down, SET up). Check that no wires are loose. Check if the emergency manual switches on the side are working. If still not working you will have to contact Sporting Designs.

**If the scoreboard does not do anything when you power it up,** check that: -

1. There is power, the isolator is switched on.
2. Check that the fuses inside the scoreboard control box are ok. One is in inside the bottom of the scoreboard (230v). The other is inside the control box on the left (24v) and two on the connector card (9v) and (5v). 9v is only used for the wireless system.
3. Rabbit controller: - Look at the Power LED and the Controller Running LED. Both should be on. If these are on, check the two 1amp fuses on the connector board.
4. Check that no wires are loose.
5. For LED scoreboards, there must be 24 volts and 5 volts (for the LEDs themselves)

## Suggestions

We are very pleased to receive **any** suggestions from you as we want to improve the operation of the scoreboard and make it easier to operate. Please contact Paul Girdham, Sporting Designs Ltd. Thank you.

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