



Chief Timekeeper Configuration & Guidance

Limited Contact Rally Timekeeping

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Revision 1v1

Contents

Introduction.....	2
Aims	2
Touchpoints	2
MTC / ATC.....	4
Start	6
Start sequence example	7
Start Alignment.....	9
Flying Finish	10
Stop Line	12
Service in, regroup, restart times	13

Introduction

As the lockdown restrictions are eased, we will all be looking forward to resuming motorsport. It certainly is not going to be exactly the same as prior to March 23rd because we still need to protect our marshals and competitors to prevent further outbreaks.

Given the demographic of many motorsport marshals, it is likely that some will choose to stay away for some time longer.

This proposal outlines one approach that could be used to change the way that timekeeping and results are managed on events to remove any direct contact between the marshals and competitors, as well as restricting interaction with results and the event management team.

Aims

- Reduce interaction between timekeepers and competitors
- Reduce the number of timekeeper marshals required.
- Reduce contact between the results team and competitors.
- Limit the amount of new equipment required
- Limit the amount of training required.

Touchpoints

The current method of rally timekeeping relies on a marshal filling in the competitor time card at each control. This means that each time card will pass through a minimum of 7 different people by the time it gets back to the results office, which would be a perfect route for any virus to spread.

The proposal is to get the navigator to fill in their own timecards and retain the timecards for their own reference. Results will use automatically transmitted times and copies of the marshal's check sheet.

This approach has been successfully used in the past where the prevailing weather conditions did not permit any paperwork to remain useful for more than a few seconds.

Clock configuration summary

Menu	Use	ATC / MTC	START	FFINISH	STOP	REGROUP IN
2	Use	ATC	SS	SF	SF	RG
3	Mode	6	3	2	5	7
4	Service out	Not used	-	-	-	Time for first car out
5	Service time	Not used	-	-	-	Min time in regroup or 0
8	Lights seq	0	As required	0	0	0
9	Start interval	Not used	30s or 1m	Not used	Not used	30s or 1m
10	Comms	Used	Used	Used (ON if TAGs in use)	ON	Used
11	Comms mode	CSV	CSV	CSV (RF if old comms box)	CSV	CSV
12	Comms delay	0	0	0	0	0
13	Blank lines	NO	NO	As required	NO	NO
14	Clock repeat	DT	ET	Not used	DT	ET
15	Display type	HMS	HMS / RLD	-	HMS	HMS
16	Alternate	OFF	LT	OFF	OFF	OFF
17	Beam gate	-	-	As required	-	-
18	Beam type	-	-	As required	-	-
19	Backlight	-	-	-	-	-
20	Extra memory	USED	USED	USED	USED	USED

MTC / ATC

The arrival clock records both the time the vehicle arrives at the control and the agreed arrival time which may be earlier if the stage has been delayed.

Menu	Use	ATC / MTC
2	Use	ATC
3	Mode	6
4	Service out	Not used
5	Service time	Not used
8	Lights seq	0
9	Start interval	Not used
10	Comms	Used
11	Comms mode	CSV
12	Comms delay	0
13	Blank lines	NO
14	Clock repeat	DT
15	Display type	HMS
16	Alternate	OFF
17	Beam gate	-
18	Beam type	-
19	Backlight	-
20	Extra memory	USED



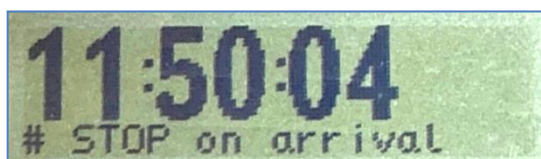
A start display can be used for arrival if a light sequence is configured as any none-zero value.

A time of day display will show a running clock as the competitor arrives.

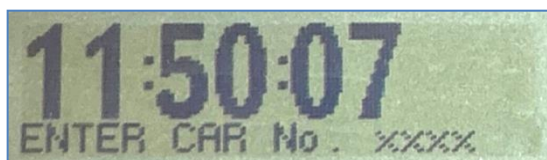
The marshal will stop the clock and enter the vehicle number when the competitor reaches the red sign.

The display will freeze and show just HH:MM:00

If this is not the time required by the team because of some holdup on the stage, the arrow keys can be used on the time clock to adjust the time forwards or backwards and then confirm the final agreed time.



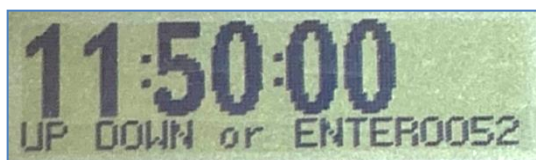
Normal display, clock is free running



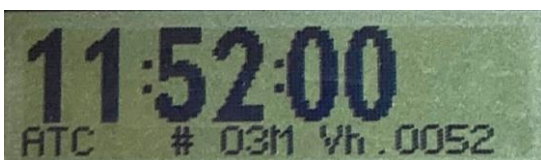
When the competitor arrives, press STOP



Type in the car number and press ENTER



The seconds will clear to 00. ↑ or ↓ can be used to adjust minutes if required. The led display will show the driver this time.



Once the time is correct press ENTER again and record this as the arrival time.



Press ↑ to get back to a running clock for the next car.

If a notional start time is required, it should be calculated by the competitor as 3 minutes after the arrival time.

At the end of each stage, the marshal should take a picture of their check sheet and send to the rally control office.

Start

Menu	Use	START
2	Use	SS
3	Mode	3
4	Service out	-
5	Service time	-
8	Lights seq	As required. Recommend 4
9	Start interval	30s or 1m
10	Comms	Used
11	Comms mode	CSV
12	Comms delay	0
13	Blank lines	NO
14	Clock repeat	ET*
15	Display type	HMS / RLD
16	Alternate	LT
17	Beam gate	-
18	Beam type	-
19	Backlight	-
20	Extra memory	USED



A few display modes are possible on the start

RT	to always show a running clock
DT	if held times are required
ST	Countdown to start in seconds
ET*	Expected start time. Display will show ---- until a car number is entered

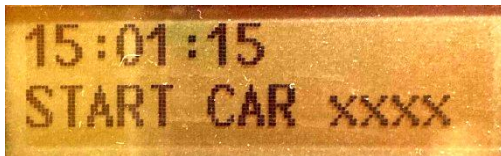
*The Alternate display setting can be enabled (to LT) to show a countdown and the start time in this mode.

Start operation does not change as far as the start marshal is concerned.

The display will show a running clock until the first competitor number is entered into the clock. It will revert to a running clock if idle for 33 seconds.

Once the stage is ready to run the first car number can be entered into the clock and the start sequence will start on the next available minute.

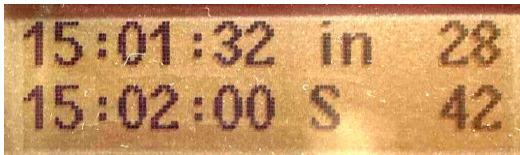
The display will show the competitors their start time so that they can complete the time card.



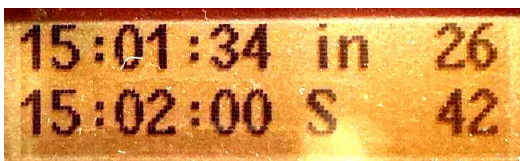
Waiting for vehicle number to be entered



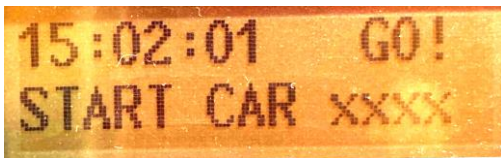
Car 42. Press ENTER to start sequence.



Car will start at 15:02:00 in 28 seconds



still counting down



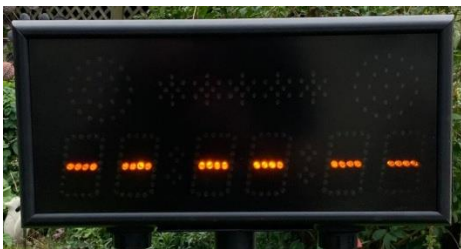
Green light on, ready for next car number

If an incorrect vehicle number is entered, simply correct it and press ENTER again.

At the end of each stage, the marshal should take a picture of their check sheet and send to the rally control office.

An option is available to alternate the start time with a countdown so that the driver gets each 10s displayed.

Start sequence example



Initially the driver display will show dashes



The RED will illuminate with 15s to go



Amber lights will come on at 10s to go



Red goes out with 5s left



last 5s counted on the amber leds



The green light comes on when time to go (12:57:30).

Timing will start at the point the green light is shown, irrespective of if the navigator has actually finished with the paperwork.

Start Alignment

There are no clock settings associated with the alignment system.

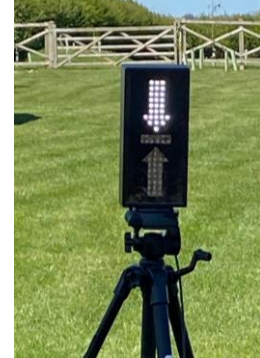
The start can also be enhanced by using alignment lights. These ensure correct positioning of the car without having a marshal standing in front of the car with a stick.



Move forward



Just right. Stop



Too far, move back

This display will operate without any marshal intervention, but take care not to walk through the beams or knock the tripods.

If the back arrow (↓) is show before the green traffic light is illuminated an automatic jump start penalty will be applied.

Flying Finish

Menu	Use	FFINISH
2	Use	SF
3	Mode	2
4	Service out	-
5	Service time	-
8	Lights seq	0
9	Start interval	Not used
10	Comms	Used (ON when using tags)
11	Comms mode	CSV (RT-HUB) RF (White comms box)
12	Comms delay	0
13	Blank lines	As required
14	Clock repeat	Not used
15	Display type	-
16	Alternate	OFF
17	Beam gate	As required
18	Beam type	As required
19	Backlight	-
20	Extra memory	USED

Unmanned operation.

If the flying finish is unmanned, beam break times should be sent to the stop line by selecting menu 13, print blank lines to YES, and the RF link used.

Alternatively, a cable can be run from the beam to the clock at the stop line, which should then be configured as above, but the display enabled as DT.

Operation of the flying finish remains unchanged where transmission of times between flying finish and stop is being used.

Either a beam to trigger the clock or a manual button can be used, although 2 people are recommended when using manual timing.

The vehicle number is entered into the clock and the finish time is transmitted to results and the stop line.

If the number cannot be seen for any reason use a large number so that a time is still sent to the stop line where it can be corrected when the car arrives.

It is important to give the safety cars numbers (1000, 1001 etc) so that they can be given times at the stop line.



Clock is running



Beam broken, waiting for car number



Car 85 entered



ENTER pressed to confirm, time sent to stop line



↑ pressed to get back to a running clock

Stop Line

Menu	Use	STOP
2	Use	SF
3	Mode	5
4	Service out	-
5	Service time	-
8	Lights seq	0
9	Start interval	Not used
10	Comms	ON
11	Comms mode	CSV
12	Comms delay	0 or as required
13	Blank lines	NO
14	Clock repeat	DT
15	Display type	HMS
16	Alternate	OFF
17	Beam gate	-
18	Beam type	-
19	Backlight	-
20	Extra memory	USED



The stop line is enhanced with the use of a display to show competitors their stage time.

The display will show blank until a vehicle passes the flying finish. Once the FF timekeeper enters a car number it will be displayed as above.

When the car arrives at the stop, check the display shows their number and ensure this is the time they copy down.

Press the **↑** on the timer to get the time for the next car arriving or back to a blank display.

The **↓** key can also be used to go back if a time is missed.

The stop line marshal is responsible for selecting the correct time to be displayed and ensuring the competitor moves away as soon as possible.

If the event is running to 1/10s the display will show MM:SS.t instead of HH:MM:SS

Service in, regroup, restart times

Menu	Use	REGROUP IN
2	Use	RG
3	Mode	7
4	Service out	Time for first car out
5	Service time	Min time in regroup or 0
8	Lights seq	0
9	Start interval	30s or 1m
10	Comms	Used
11	Comms mode	CSV
12	Comms delay	0 or as required
13	Blank lines	NO
14	Clock repeat	ET
15	Display type	HMS
16	Alternate	OFF
17	Beam gate	-
18	Beam type	-
19	Backlight	-
20	Extra memory	USED



There are several ways the regroup control can be operated:

For a **single venue event**, the regroup is normally in service and the time the car arrives at the service in is not important because it is typically only a few 100m from the stop line.

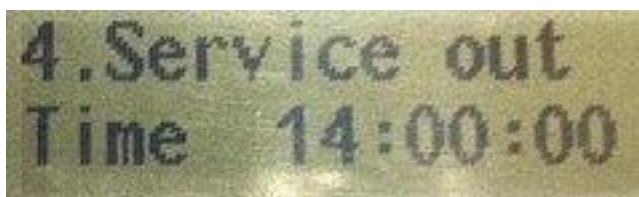
The configuration above should be used, and the time the first car is due out of service entered as each stage starts. This is normally issued by the Clerk and where possible teach the clock operator to enter the time, rather than having to go back to the control each stage.

The clock will follow the start interval setting, issuing 1 or two times per minute. The display will show the seconds as zero, however the timer will show 30s when issuing two per minute.

For a **multi-venue event**, the regroup in needs to operate as an ATC and the regroup out is normally decided by the Clerk after several cars have arrived. For multi-venue it may be better to use mode 6 for both of these controls.

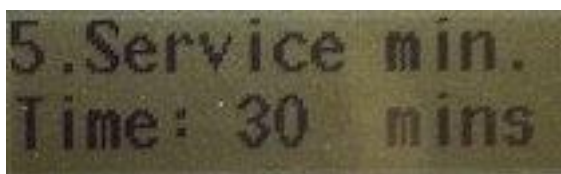
The service timer issue consecutive times at a specified interval (either 30s or 1m) and ensures that all drivers get a minimum specified service interval. These settings will all be configured by the chief timekeeper prior to the first vehicle arriving.

For each batch of cars it may be necessary to specify a restart time in the clock menu 4.



If a service time is specified in menu 5 all cars will be given this service time (i.e. not a regroup)

To operate as a regroup set the service min time to 00 and set the service out time.



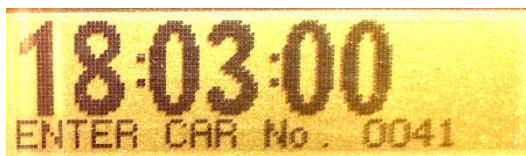
The LED display will show dashes until a vehicle number is entered and only revert to a free running clock if idle for 90s or more.



Clock running, waiting for first car



stop pressed, service exit time shown (15 mins)



vehicle number entered



↑ pressed to get back to a running clock