

Definition - This worksheet covers the initial settings of the watch and how you can personalise it to your individual requirements.

Information – You can personalise your watch and make it more user friendly to you, the individual co-driver. It is possible to deselect functions that you don't use, therefore saving time when scrolling through the functions. Setting and adjusting the time of day is simple and other personal settings include the backlight and alarm options.

Setting and adjusting the Time of Day

Setting Time of Day to official Rally Time is quick and easy. In the time of day mode, press and hold down the set button and scroll through the options to set the time of day as required. You have the option of 12 and 24 hour clock and two different calendar format displays.

Adjustment of the time of day is very quick due to the fact that the digits may be adjusted up or down. Most co-drivers will check the time of day on their watch with official rally time every morning of an event, and if there did happen to be a difference it only takes a few seconds to adjust.

Deselecting Modes

There are nine modes on the watch, some of which you may not need to use. Because of this, it is possible to disable the potentially unused modes so that time is saved when scrolling through them, always a help to the busy modern co-driver. In the time of day mode, press and hold the mode button and this will enter the mode menu. It is now possible to scroll and turn the mode ON or OFF as required. To combat errors, a mode cannot be disabled if it is currently running.

Night Mode

In addition to the light button, which turns on the backlight for 10 seconds once it is pressed, there is also a night mode function. For night-time stages, holding the light button down for two seconds enters night mode, and a bulb icon is displayed on the screen. In night mode, the backlight will come on and remain on for 10 seconds once any button is pressed. This is very useful at the end of a stage, as you can check your finish time immediately when you stop the stopwatch, without having to press additional buttons.

Alarm Options

In the Daily Alarm Mode there is the option to set the alarm to be either audio or visual or both. The sound (beeping) can be turned on or off and the visual (flashing light) can be turned on or off. This also relates to the alarm during the countdown process in the pre-start options in Chrono Time mode. The alarm will be seen/heard when the timer is counting down to the stage start time. This is useful as some drivers find the beeping of the alarm off-putting at the start of the stage, so it's possible to have only a visual alarm for the co-driver during the countdown to stage start. On the other hand a co-driver may not use the visual alarm but require the confidence of hearing the audio alarm to signify that everything is set and ready to start as required.

Definition - This is how the stopwatch starts to time the stage at the stage start line. The stopwatch can start instantly or automatically depending on your personal preference.

Information - The current pre-start option you have selected is always displayed at the top of the screen in Chrono mode. When set to start automatically, a countdown to the stage start time will be displayed in the centre of the screen, with time of day at the bottom.

There are three options for starting the stopwatch at the start line of a stage.

1. **Next Whole Minute Start** – This is probably the easiest way to start the stopwatch as you have the flexibility of a full minute and this can be incorporated as part of the co-driver's 'checklist' before starting a stage. If you press the start/stop button at any point during the minute preceding your stage start time, then the stopwatch will start at the next full minute, the stage start time. The accuracy of the stage time is therefore dependant upon the time of day setting on the watch being exactly the same as rally time.

For example you are sitting on the start line of the stage and are due to start the stage at 11:23. If you press the start/stop button at any point during the minute of 11:22 then the stopwatch section of the screen will count down the seconds that are left to go until 11:23 and the stopwatch will start automatically at 11:23 as you start the stage.

2. **Delay Start** – It is possible to enter a specific delay after which the stopwatch will start. This can be anything from 0, for an instant start, to 59 minutes. The obvious applications here would be to use either 0, 10 or 30 second delays depending upon personal preference. The delay period may be pre-set into the watch memory.

For example using a 0 second delay, the stopwatch will start instantly once the start/stop button is pressed. While sitting on the start line the co-driver would therefore press the start/stop button to start the stopwatch as soon as countdown has finished and the green traffic light start signal is given, as the stage start minute just turns.

In the same way with a 10 second or 30 second pre-set delay, the co-driver would press the start/stop button with either 10 seconds or 30 seconds to go to their stage start time. This method eliminates any potential inaccuracy with the co-driver's watch being different from rally time, but also puts more pressure on the co-driver to make sure the start/stop button is pressed at exactly the correct time.

3. **Time of Day Start** – You may also enter a specific time of day that you want the stopwatch to start. Obviously this is slightly more time consuming due to the short period of time available between the stage arrival control, where you are given a provisional stage start time, and the start line, where the start time is confirmed. Realistically due to the timing format of the sport you will only have between 30 seconds to 1 ½ minutes to enter in your confirmed start time of day. For this reason it is advisable to use either the Next Whole Minute or Delay Start options rather than trying to enter a specific Time of Day at the every stage start line.

Definition – This is how you can use the stopwatch function in the Chrono Time mode of the watch to accurately work out your time taken to complete a special stage.

Information – This function enables you to record and store your stage time for every stage and quickly and efficiently check that the stage time you are given at the stage finish control is correct.

The Chrono Time mode has both stopwatch and time of day displayed on the screen. The top of the display also shows the current pre-start option and the next stage number that is ready to be timed.

When sitting on the start line you should press the start/stop button at the appropriate time to start the stopwatch, depending on your personal pre-start setting (Worksheet 1). The stopwatch display in the centre of the screen will count down to your stage start time and then start timing once the stage start time is reached. The bottom display will always read the time of day.

If the stage is stopped or your confirmed start is aborted while you are on the start line, pressing the start/stop button again before your original start time is reached will abort the countdown and reset the pre-start procedure of the stopwatch. You will then need to repeat the start procedure once your new start time has been confirmed.

When crossing the stage finish line you should press the start/stop button again. This will give you two different times at the stage finish control. In the central display you will have your stage time which you can then check with the stage time entered on your time card by the finish control marshal. The actual time of day that you crossed the finish line will be frozen and flashing in the bottom display of the screen.

For rallies with 'International' timing, you can quickly check that this time of day is the same as that entered on the time card. For events with 'National' timing you can quickly check that this time of day, in hours and minutes only, is the correct time used on the time card to start your next road section.

Once you have checked and are happy that this information is correct, you should press the split/reset button. This will send both the stage time and the finish line time of day into the watch memory. It will also unfreeze the current time of day at the bottom of the screen and leave the stage time displayed in the centre of the screen, enabling easy viewing on the next road section.

If you don't remember to press the split/reset button after the stage then the frozen time of day continues to flash to remind you to unfreeze it, as it's easy to think the frozen time of day is the actual real time during the next road section.

The watch will store all stage times and their respective finish line time of day in the memory. These can be accessed and viewed using the Recall function (Worksheet 3).

Definition – The Recall function allows you to view the stage times in the watch memory and view your cumulative time after each stage completed.

Information – This function allows you to view your individual stage time and the cumulative time or running total after every stage. It also displays the stage number and finish time of day for that particular stage and will hold 30 stages in the memory.

The recall function is extremely useful for checking all times on your time card and for keeping a running total of your stage times. For every stage the following information is stored and therefore you can quickly and simply check the information on your time card and have a back up bank of stage data should there be a problem or query with any of the timing:

- Stage number
- The time of day you finished the stage
- Stage time
- Cumulative stage time after that stage

In order to keep an accurate cumulative stage total for the event, you will require the individual stage times to be exactly the same as the time issued by the event. With this in mind, it is possible to adjust the stage time in recall mode to be identical to the stage time on your time card.

Time penalties may also be added into the cumulative total by using the 'Stage 0' function. A stage number zero has been included in the recall mode and you can adjust the time for this fictional stage to reflect any time penalties incurred during the event.

If you make a mistake and start timing a stage then put it in the memory, all data for a full stage may be deleted, so keeping the cumulative total correct and also the stage numbers for the remaining stages.

The recall function is of great benefit when you arrive into a re-group or service after a loop of stages. Usually the organisers will hand you a copy of the latest results and you can easily check your stages times and cumulative total against their copy. Any discrepancies can therefore be identified and dealt with quickly.

Definition – This is how you can use the Timer function to keep an eye on and find out how much time you have remaining within a road section and during a service.

Information – There are six timers which can be linked to each other and count up or down. You can therefore use a timer to countdown the time allowed for a competitive section or to keep an eye on the left you have left during a service.

Each individual timer may be set to a certain value and count up or down to this value, obviously within rallying, counting down is better as you can see the amount of time left in service or to complete the section.

A timer can also be linked to another timer, which is of benefit for competitive sections after a service. Each unlinked timer can be preset to start in whichever way you choose, options being next minute start, delay start, instant start and time of day start. In addition, timer 1 can be linked with Chrono Time mode so that timer 1 starts when the stopwatch starts in Chrono Time mode, i.e. the start of a stage.

The timer function may be used accurately for the following examples of competitive route.

In an internationally timed event:

- A section including a stage and the remaining road section to the next time control.

The easiest way to do this is to use timer 1 and link it to Chrono Time. Set timer 1 to be the total time allowed for the competitive section, counting down and linked to Chrono Time. Therefore on the start line of the stage when you initiate the start procedure for the stopwatch to time the stage, it will start timing the stage and start timer 1 when the desired stage start time is reached.

At the flying finish line when you stop the stopwatch, the stage time and time of day will be displayed, but timer 1 will continue to run. Then on the road section after the stage, you can easily view timer 1 counting down with the remaining allocated time left to complete that section and check into the next control.

Due to current International timing procedures, it is difficult to link this procedure to another section as usually you will not know for definite your next stage start time or the time of day to begin a new section before timer 1 has finished running.

- A road section only, e.g. driving to the first stage in the morning.

Simply enter the time allowed for the road section and again select to count down. In this example you also have the option to select your preferred start procedure. The easiest options are 'time of day start', as you will know your due time at the control at the start of the road section, and 'next minute start', where you can press the button to initiate the timer at any point during the minute preceding your due time at the control.

This is much easier than using 'instant start' due to the co-driver duties required at the time control when the due minute just turns as you can initiate the timer start procedure and just forget about it.

- Service and re-groups (which may be linked to the next road section).

The timer function can also be used during services and longer re-groups (10-30 minutes duration). In a similar way to a road section, enter the time allowed for the service or re-group and choose to count down. Again, select your preferred starting procedure, and the timer will then show you the amount of time you have left. Some drivers will set the timer at 28 minutes for a 30 minute service so that they have 2 minutes to travel from the service bay to the time control, and therefore the actual time that is counting down, is the time you have left in the service bay.

Depending on whether a re-group is before or after a service, you may also have the option of linking the service timer. If there is a road section immediately after a service, then you can link a timer for the road section to the timer for service. When the service timer has reached the required time, it will automatically start the timer for the road section. Obviously the service timer will then need to be set as the full service time e.g. 30 minutes rather than 28.

In the same way, if a road section is immediately followed by a service then you can link the timers so that when the road section timer has run its course, it will automatically trigger the service timer to start. So basically the amount of timers you can link to each other depends on the time format of the individual event.

For events with national timing, any section can be controlled as long as you know the time of day that the section begins from. It is therefore not possible to use the timer on a road section after a stage as you don't know in advance the time of day that the road section starts at, as it is your stage finish time.

It is possible to use the timers for:

A road section not immediately following a stage, e.g. driving to the first stage in the morning or from a time control to another time control where you know your due time at both controls. In this instance follow the instructions above for road section only and use either 'time of day start' or 'next minute start' for the starting procedure.

Service and re-groups (which may be linked to the next road section). In this case follow the method and notes above for service and re-groups. Again the degree to which you can link the timers will depend on each individual event

Definition – This mode uses the Speed / Distance / Time theory to work out and store up to nine calculations.

Information – Using the Speed = Distance/Time formula, when you enter any two variables, the watch will calculate and store the third.

This function can be used to calculate the average speed to be maintained during a road section, if this is not already given in the road book. By entering the distance of the section and the time allowed you will be provided with the average speed to be maintained during the road section. If the time allowed is 35 minutes and you need 5 minutes to prepare at the stage start (helmets and belts), then by entering 30 minutes as the time variable, you will be given the average speed required to be at the start of the stage 5 minutes early.

This function may also be used on long road sections, for example on motorways, so that you can keep an eye on your progress. If you know your required average speed for the section, just pick a couple of points along the route, say for example a third and two thirds of the total mileage for the road section. By inputting the distance of these points and the speed, you will have the time that it should take you to reach these points. You can therefore gauge your progress along the road section relative to these times.