Timekeeping with the Casio F-91W

This watch was set to have zero error on UTC on July 7, 2018. This is for Starpath watch serial no. #A

This watch gains time at the rate of +1.2 seconds every 10 days. To find the correct UTC on any subsequent date, count the days since July 7 and multiply by 1.2, divide by 10, and add that number of seconds to the time it reads. Example, on Oct 20. This is 105 days past July 7, so the watch correction is 105*1.2/10 = 12.6 = +13 seconds. Add 13s to the watch time to get correct UTC on Oct 20. This correction will increase with time at this same rate.

Most likely, a year from now or even longer this rate will be the same, but we recommend that the user periodically add more data to the table below to confirm or improve this value. Then using a reliable source of accurate UTC, record the date, time, and watch error (WE). Note that watch *error* is the same as watch *correction*—record what you have to add or subtract from the watch to get UTC.

Accurate UTC can be found at sea on HF radio (WWV or WWVH), or by calling (303) 499-7111 to hear the broadcast by satphone or cellphone if available. Exact time is announced on the whole minute, with ticks at each second. The 30-second tick is skipped, which can be used as marker for 30s past the whole minute.

This watch rate certificate is part of the **Starpath GPS Backup Kit** available at www.starpath.com.

Watch #A set July 7, 2018.							WE (s)	#A
year	mo	day	hr	min	d.dd	dT	UTC-A	10d rate
2018	7	7	03	31	7.13	0.00	0.0	
	7	14	22	02	14.92	7.79	1.0	+1.3
	7	18	01	01	18.04	10.92	1.2	+1.1
	7	21	00	25	21.00	13.875	1.8	+1.3
	7	24	00	44	24.00	16.875	2.0	+1.2
	7	24	18	55	24.75	17.625	2.2	+1.2

In the table, d.dd is the date in decimal days:

d.dd = day + hr/24.

dT is the latest d.dd minus the starting value.

10-day rate = (WE/dT) * 10.