

DIFFERENCES BETWEEN TTS 5.0 PROGRAM VERSIONS FOR CR10X/510 (MIXED ARRAY) AND CR800/1000 (CRBASIC) DATA LOGGERS

The CR-Basic program has basically the same functionality as the old program. Customization is done as follows:

- Optional outputs (water temperature, air temperature, and rainfall) are enabled by un-commenting statements in the DataTable statement in the OUTPUT section of the program.
- Turbidity is output by default as an integer, but can be output as floating point by changing the DataType parameter in the statement Sample(1, medianTurb, Long) from Long to FP2.
- Equipment and logic setups are specified in Sub Initialize, which is first in the SUBROUTINES section. For example, this is where flags can be set to measure air temperature and rainfall.
- The Scan Interval is set in line 3 of the MAIN PROGRAM section.
- Array ID is no longer set in the program. Station identification is governed by the data file collection options in the data logger interface software (e.g. Loggernet or PC-400). The station can be identified by
 - station name as listed on the Connect Screen, if ASCII Table Data, Short Header (TOAC1) output is selected
 - station name as listed on the Connect Screen and data logger ID (less prone to user error than relying on just the station name), if ASCII Table Data, Long header (TOA5) output is selected.
 - array ID (as with the CR10X/510) if the Array Compatible CSV output option is selected.

Only the CRBasic version permits differential connection of the OBS-3 and OBS-3+ turbidity sensors -- preferred over single-ended connections. The user should refer to the TTS [CRBasic wiring table](#) for new wiring guidelines.

Subroutine and variable names have been changed and some have been eliminated. Refer to the tables below for correspondence between the old and new names.

Subroutine names:

<u>CR10X/510</u>	<u>CR800/1000</u>
SUB 1	SortTurbidity
SUB 2	ExtractMedian
SUB 3	<eliminated>
SUB 4	EmergingFromBaseFlow
SUB 5	GetNextThresh
SUB 6	PumpSample
SUB 7	Initialize (moved to first position)
SUB 8	<eliminated>
SUB 9	FixedTimeSampling
SUB 79	ThresholdSample
SUB 80	ReadTurbidity
SUB 81	ReadStage
SUB 82	ReadTemperatures
SUB 83	CalcDischarge

Variable names:

<u>CR10X/510</u>	<u>CR800/1000</u>
array_id	<eliminated>
atemp	airTemp
avg_stg	averageStage
bat_volt	batteryVolt

bot_cnt	bottleCount
both	<no change>
bottle	<no change>
daily	<no change>
delaytime	delayTime
dest_loc	<eliminated>
didsample	didSample (boolean)
disch	q
dn(24)	fallingThresh(nFalling)
do_sample	doSample (boolean)
dts_array(7)	dtsArray(7)
dts_mean	<eliminated>
dts_med	<eliminated>
dts_temp	dtsTemp
dump_cnt	dumpCount
flag1	flag(1) = dumpFlag (boolean)
flag2	flag(2) = diSampleFlag (boolean)
flag3	flag(3) = auxSampleFlag (boolean)
flag4	eliminated (formerly governed ColdStart/WarmStart)
flag5	eliminated (for output of water temperature, see 1st bullet above)
flag6	flag(4) = airTempFlag (boolean)
flag7	flag(5) = rainFlag (boolean)
flag8	eliminated (to change turbidity resolution, see 2nd bullet above)
fthr	fallingThresh
i1	i
inbounds	inArrayBounds (boolean)
index	<no change>
insert	insert (boolean)
interval	<no change>
j	<no change>
jminus1	<eliminated>
k	<no change>
last_mv	<eliminated>
last_ptr	<eliminated>
last_sam	lastIntervalSampled
lastfal(24)	lastFallingIntSampled
lastris(16)	lastRisingIntSampled
lim_skip	fixedTimeWait
med_mv	medianMv
med_turb	medianTurb
midpoint	<no change>
min_stg	minimumStage
mv(60)	<no change>
mv_limit	mvLimitOBS
n	<no change>
nep_array(3)	nepArray(3)
nep_temp	nepTemp
nep_wipe	nepWipeCode
next_thr	nextThresh
nextindex	nextIndex
nfalling	nFalling
nrising	nRising
ntu_limit	turbLimit
nxt_bot	nextBottle
obs3range	obs3Range
old_turb	oldTurb

prob_time	<eliminated>
q_exp	qExponent
q_mult	qMultiplier
qcalc	qCalc (boolean)
rain	<no change>
raw_mv	rawMv
raw_stg	rawStage
rep_wait	waitCount
rev_count	reversalCount
rev_mult	<eliminated>
rev_thr	reversalThresh
rev_val	reversalMinimum
revpct1	peakChange
revpct2	troughChange
rthr	risingThresh
samplers	<no change>
season	<no change>
smp_code	sampleCode
stage	<no change>
startwait	startWait
stay	persistence
stg_mult	stgMultiplier
stg_off	stageOffset
thr	threshold
thr_code	threshCode
thr_count	threshCount
thresptr	threshPointer
tmax	turbPeak
tmin	turbTrough
tot_stg	totalStage
turb_offset	turbC0
turb_mult	turbC1
<new>	turbC2
turb_dev	turbDevice
up(16)	risingThresh(nRising)
wipe_stg	wipeStage
wiper	<eliminated>
wtemp	waterTemp
wtemp_dev	waterTempDevice