

# Protocol for Using Wireless Watches at NWAL Meets

(last updated May 2011)

## Why use Wireless Watches?

When deciding on the use of Wireless Watches, the following goals should be primary:

1. Providing more accurate timing by synchronized watch starts
2. Reducing clerical errors during data entry
3. Automatically checking time ranges (tolerances) between times

Other considerations like providing more efficient reporting, reducing volunteers or reducing written records **should not** weigh into the decision.

## Two types of timing devices shall be used:

(1) Wireless Watches -- this is the primary timing system for determining official times and must be in the Auto-start mode to use this protocol. Otherwise the Wireless Watches shall be considered Manual Watches.

(2) Manual Watches -- this is the secondary timing system for determining official times, unless the Manual Watches are needed to meet the 3 watch per lane minimum per rule V.F.4.a.i.

## Resetting the timing system:

Prior to the start of the meet, the Meet Referee, Starter and Head Timer shall agree on the protocol for stopping and resetting the wireless system for each race heat. There are 3 acceptable protocols:

1. The Head Timer: as he may be the best official to facilitate this action (see Rules V.F.4.b, V.F.4.d.iii and V.F.4.e).
2. A pool-side console operator: if the pool topology allows for such an operator to be in direct communication with the Referee and Starter and has direct sight of the pool.
3. The Starter or Referee.

If the system fails to be reset prior to the start of a race, the Manual Watch time(s) should be used as official times.

## Watches required per lane:

There shall be at least 3 watches per lane **per NWAL rule V.F.4.a.i.** Further, one of three shall be a Manual Watch as a secondary timing system.

1. If a team wishes to use 3 Wireless Watches per lane, **an additional Manual Watch shall be used as a secondary timing system.**
2. **If a team uses 2 Wireless Watches and one Manual Watch, then the Manual Watch shall be treated as the third watch per rule V.F.4.a.i., but its time is only used as a secondary time.**
3. If there is only one Wireless Watch per lane, then the Wireless Watch shall be considered a Manual Watch and NWAL rules for official times shall be followed. Two additional Manual Watches per lane shall also be used per rule V.F.4.a.1.

**All times shall be recorded by a lane scribe** with the manual watch time clearly indicated; per Rules V.F.4.d.iii and V.F.4.d.iv. The use of Wireless Watches **does not** allow for a 'paperless meet'.

### To report an official time:

a. If three Wireless Watches per lane are used, the wireless watch system shall be programmed to automatically select the middle time as the official time. If the difference is greater than 0.3 seconds, then it will prompt the CC/computer operator with an alert indicating that manual intervention is required as described below.

b. If only 2 Wireless Watches per lane are used, along with one Manual Watch, then the program will take an average of the 2 Wireless Watches' times and record that time as the official time. If the difference is greater than 0.3 seconds, then it will prompt the CC/computer operator with an alert indicating that manual intervention is required as described below.

### Manual Intervention - How to Determine Which Times to Use:

**The Wireless Watches will be used as the official time** unless there is (a) a malfunction, (b) an "exception" (i.e., a report from the computer operator that the Wireless Watches for a lane are greater than 0.3 seconds), or (c) the Wireless Watches' times are unavailable. Each alternative is explained below.

(a) If **a malfunction occurs**, which could be:

(i) a loss of the communication link on 2 or more of the Wireless Watches for a lane, then the CC shall use the written record of the Wireless Watches' times for lanes in accordance with the NWAL rules V.F.4.a. Note: the Manual Watches' times are NOT to be used for these entries. (Scribes need to probably note wireless and manual time records)

(ii) a failure of a Wireless Watch due to low battery, then the CC shall use the rules for Manual Watches in V.F.4.a.i-iv

(b) If **an exception occurs** which is known from a "flag" to the computer operator, the CC shall use the written record of the times for all lanes in that heat in accordance with the NWAL rules V.F.4.a.

(c) If the wireless times are not available for **all lanes** due to:

(i) **loss of communication link**, then the CC shall use the written record of the Wireless Watches' times for all lanes in accordance with the NWAL rules V.F.4.a. Note: the Manual Watches' times are NOT to be used for these entries unless the Manual Watches are considered part of the required 3 watches. (Scribes need to probably note wireless and manual time records), or

(ii) **a system reset failure**, then the CC shall use the written record of the Manual Watches' times as the official time.