



APPENDIX 8: IDENTIFICATION OF SYNCHRONISATION ERRORS

**EXCERPT TAKEN DIRECTLY FROM WORLD
AQUATICS COMPETITION REGULATIONS**

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29.8.1 Scoring Synchronisation

Introduction

The synchronisation panel, comprised of three synchronisation technical controllers, will operate only in Duet and Team routines (Team Technical, Team Free, Free Combination and Acrobatic).

The goal is to objectively identify synchronisation errors during the routine performance and calculate deductions accordingly.

Definition of Synchronisation:

Synchronisation is the precision of movements in unison one with the other/s. It means to have actions happen at the same time or correspond exactly in design.

It can also be understood as an UNEQUAL ACTION (or accuracy error) when comparing two or more athletes swimming at the same time. Unequal actions can be due to timing and/or design errors of the movements that make the "picture" not precise, accurate and/or perfect to what the choreography is demonstrating.

Definition of an UNEQUAL ACTION:

Is any movement performed by two or more swimmers that is performed with a difference in timing or positioning (design/shape). Movements that are choreographed as intentional unequal movements shall not be penalized.

A difference in timing:

Movements are not performed in complete unison one with the other(s).

Actions do not happen at the exact same time.

A difference in positioning (design/shape):

There is a difference in position of head, arms, legs or other body parts used.

There is a difference in water level of head, arms, legs or other body parts used.

There is a difference in spacing and pattern shape.

Note: When you observe two or more swimmers showing different positioning – it is unknown which was the intended or correct one, that is, you do not know who made the error but you can clearly see a difference, and this is an unequal action.

An example of a difference in positioning:



Fig 1: The pattern, direction of the legs and height of the legs are not showing a "perfect picture" of what we should be watching. As this is just a photo, we can't speak about timing differences here.


General principles in Regard to Synchronisation errors

- 1) Synchronisation Technical Controllers start to count unequal actions when the music accompaniment begins.
- 2) When a timing error and a positioning error (shape/design) occur simultaneously, controllers will only register ONE synchro error (unequal action).
- 3) For those movements and positions for which there is a precise indication regarding degrees of deviation in execution (i.e Vertical Position and Vertical descent, perpendicular leg of Ballet Leg Position, Knight Position, Fishtail/Crane), Elements judges will also take this into account in their execution mark.
- 4) Routines will have as many errors counted as are observed by the synchronisation controllers and validated by the system – therefore unlimited. It can be more than one during the same hybrid or transition sequence. This means that each movement is susceptible to generate a synchro error (unequal action). Two of the most significant examples of continued accumulation of deductions are: A hybrid beginning unsynchronised and keeping a timing difference until the end. Each movement delayed will be counted as a synchro error (unequal action). A rotation where a difference in timing or positioning may occur during the entire rotation. It is stated in the Introductory Guide for the Application of Declared Difficulty that each 180° rotation is considered as one movement, and therefore a difference in timing maintained from beginning to end of a 720° spin (or twist) could accumulate a maximum of 4 unequal actions (either small or obvious).
- 5) When movements are very fast the controller registers as many unequal actions as seen with the time limitation of the validation system; that is: controllers can only register one unequal action approximately every 0.5 seconds.

Definitions of Synchronisation Errors

Synchronisation errors are defined in THREE categories – Small, Obvious or Major:

Small	<p>Slight differences that cannot be considered as two different movements but distort the image of perfect synchronisation.</p>
	<p>Small synchronisation errors include:</p> <ul style="list-style-type: none"> Slight differences in timing All differences in positioning (design/shape) will be considered as a small error (as they are also considered by Elements panel) Non-accurate movements in pattern alignment and spacing Differences in angles or height Non-parallel walkouts <p>Examples of small synchro errors: https://vimeo.com/646159124/b2f4ba969a</p>
Obvious	<p>Any unintentional difference in matching that produces the effect of two movements being done one after the other.</p>
	<p>Obvious synchronisation errors include:</p> <ul style="list-style-type: none"> Clear difference in timing (one after the other) <p>Examples of obvious synchro errors: https://vimeo.com/646160065/6b4fcec916</p>
Major	<p>Any error that produces an alteration in routine content (missing one or more movements by one or more swimmers).</p>
	<p>Major synchronisation errors include:</p> <ul style="list-style-type: none"> An alteration of the routine content by one or more athletes (missing movements). Any alteration (missing movement) counts as a major error – for example even if it's just one quick backstroke that is missed by an athlete. All major errors must have video review overseen by the Referee since they result in the largest deduction. They ensure process is followed and does not participate in any decision making regarding the major error(s). <p>Examples of major synchro errors: https://vimeo.com/646160851/ac1a25b6e2</p>



*NOTE: When you are watching different routines, you might feel that some of the errors observed as “Small” in younger/developing athletes, may be considered “Obvious” in older/experienced athletes/routines. This is due to the length of time of the counting/speed of movement - speed adds more risk to synchronisation.

For example: when athletes are working at faster speeds (such as 4 movements per second), there’s more risk to make “Obvious” errors (visual two different movements) than when routines are slower (such as one movement per second). Movements done one per second, need a complete second difference to appear to be two different movements.

29.8.2 Procedures

Using a Synchronisation Application or Device

How we calculate the final result for the synchronisation panel:

There will be one panel of three synchronisation technical controllers, each of them with a synchronisation application (via tablet)/or a device with three buttons. Each “button” will have a different colour:

Green will be pressed for small errors.

Yellow will be pressed for obvious errors.

Red will be pressed for major errors.

The average of small and obvious errors of the three STCs will be calculated to be applied for the synchro error deduction. If major errors are identified by the STCs the deduction will be applied following the process as per section C below.

Paper and pencil method (No access to application/device)

If the implementation of the synchro application or device is not possible then a “paper and pencil” method can be used by the panel of synchronisation controllers.

For this method a printed one-page chart should be made for each synchro controller with three columns – one for small errors, one for obvious errors and one for major errors. Please see the end of the document for the World Aquatics template.

Synchro controllers then mark each small (S), obvious (O) and major (M) error they identify with a checkmark. Each controller then adds up their total number of errors. The average across the three STCs is taken of the small and obvious errors, and then is submitted to the scorer to be inputted for the synchro error deduction. Process for major errors to follow section C below.

Review of Major Synchronisation errors

- 1) If a STC logs a major error, video review by the entire STC panel will take place and will be overseen by the Referee who ensures process is followed and does not participate in any decision making regarding the major error(s).
- 2) In the case where the synchro device is in place the Referee will automatically see that a major error has taken place and will initiate the video review.
- 3) In the case where technology is not in place (pencil and paper method), the STC should communicate to the Referee that they have logged a major error.
- 4) The Referee then oversees the review of the major error(s) with the STC panel by video review.
- 5) The video may only be reviewed a maximum of one (1) time in slow motion (for each part with the major error(s) identified).



- 6) In order for a major error to be applied or the review to be dismissed, two of the three STCs must be in agreement.
- 7) At the conclusion of the review the Referee will communicate the final decision of the STC panel regarding major errors to the Scorer.

Deductions

Predetermined deduction values for each validated unequal action:

Small	-0.1
Obvious	-0.5
Major	-3.0

The total of synchronisation errors will then be deducted from the elements score.

Calculation examples

		Small Errors	Obvious Errors	Major Errors
ROUTINE A	STC-1	14	3	0
	STC-2	16	4	0
	STC-3	12	2	0
	Average:	14	3	0
	Deduction:	$14 \times 0.1 = 1.4$	$3 \times 0.5 = 1.5$	$0 \times 3.0 = 0$
	Total:	2.9		
ROUTINE B	STC-1	20	5	2
	STC-2	17	7	1
	STC-3	24	4	2
	Average:	20.3	5.3	2 (video review*)
	Deduction:	$20.3 \times 0.1 = 2.03$	$5.3 \times 0.5 = 2.67$	$2 \times 3.0 = 6.0^*$
	Total:	10.7		

*NOTE: entering a major error would trigger a video review, and in this example upon review it would be determined by the STC panel (with the Referee observing and ensuring process is followed as per section C above) that there were 2 major errors, and the Referee would confirm this deduction to the Scorer.


SYNCHRONISATION TECHNICAL CONTROLLER FORM

Competition:				
Age Group:				
Event:	<input type="checkbox"/> Duet Tech <input type="checkbox"/>	<input type="checkbox"/> Mixed Duet Tech	<input type="checkbox"/> Team Tech	<input type="checkbox"/> Acrobatic
	Duet Free	<input type="checkbox"/> Mixed Duet Free	<input type="checkbox"/> Team Free	<input type="checkbox"/> Combo

Controller Name: _____

Controller: **STC1** **STC2** **STC3**

Competitor No:		
Small	Obvious	Major
Total:	Total:	Total: