
SYNCHRO DISPLAY (API) ANNUAL CALIBRATION

TO: ALL TA-900, TA-902 CUSTOMERS
FROM: TECH-AID PRODUCTS
SUBJECT: ANNUAL API CALIBRATION
DATE: 2/7/2007
CC: PORTER-STRAIT INSTRUMENT CO, INC.

DISPLAY RESOLUTION VS. UNIT ACCURACY

Over the years we have received calls regarding annual certification of our API's in concert with FAA test equipment guidelines. Your synchro display should always meet the original accuracy specification as required on an annual basis. When designing our API it was important that we maintained an accuracy that was greater than what the display resolution required. Also important is repeatability of angle when aligning the synchro in an instrument. The typical calibration lab is not set up to meet our requirement of reading the internal binary angle while performing the re-certification. The model TA-900/902 accuracy is specified at 0.03° based on an internal 14 bit binary number. The display resolution however is limited to 0.1° and therefore looking at the display does not provide the calibrating facility the true nearness of the specified number we look for.

Resolution is defined as the smallest discernible difference between any two measurements that can be made (or displayed). Accuracy is the nearness of a measurement to an accepted or known to be true value or the measurement device's degree of absolute correctness. The important issue here is that the display resolution shows little relationship to accuracy or precision of angle below the range of 0.1°.

It is our intent to stand behind our products and insure our customers that their synchro angle position indicators are maintained to within the original specification. Tech-Aid Products can provide the best service on our products and therefore strongly encourages that our customers send our angle position indicators back for any calibration or repair work.