

I. THE SHORAN RADIOPOSITIONING SYSTEM (continued)

the angle of intersection, at the mobile station, between the two Shoran range circles. This is illustrated in Figure 2. In normal geophysical operations, this angle of intersection is held between 30 and 150 degrees. Refer to Appendix A for examples of areas of coverage for different angles of intersection of the Shoran range circles.

The range accuracy of the Shoran system can be improved, possibly by a factor of 2, by correcting the propagation velocity slightly under varying meteorological conditions, and by the application of more rigid calibration and operating specifications. For most operations, this additional accuracy cannot be economically justified.

In computing (or determining graphically) the position from a pair of Shoran ranges, cognizance must be maintained that a position ambiguity may exist. Each pair of ranges (one to each base station) actually determines two independent positions, one on each side of the Shoran baseline, as illustrated in Figure 3. One position is the "mirror image," so to speak, of the other. Further, the Shoran mileage dials repeat every 100 miles of range. To eliminate this ambiguity one must know, from other means, the correct side of the baseline and the distance to each base station within the proper multiple of 100 miles.