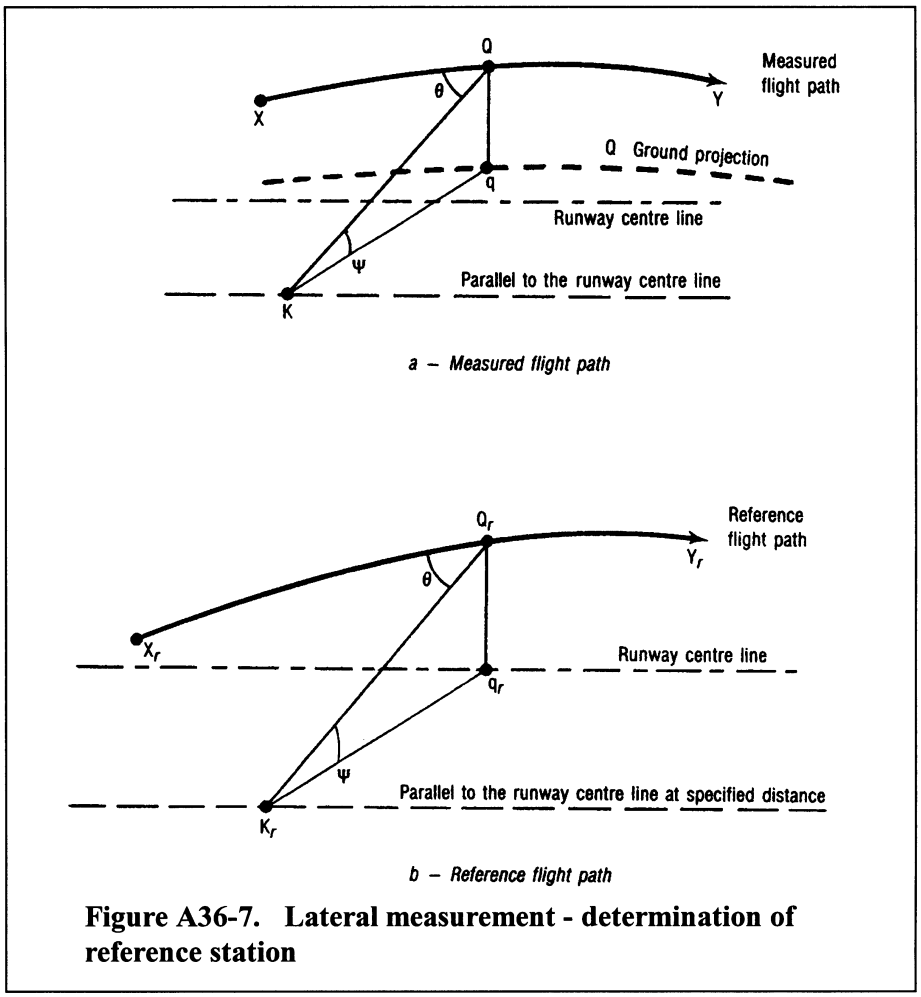

Figure A36-7. Lateral measurement - determination of reference station

A36.9.3.2.1 The one-third octave band levels SPL(i) comprising PNL (the PNL at the moment of PNLTM observed at K) must be adjusted to reference levels $SPL(i)_r$ as follows:

A36.9.3.2.1(a) For calculations using the English System of Units:

$$SPL(i)_r = SPL(i) + 0.001[\alpha(i) - \alpha(i)_0]QK + 0.001\alpha(i)_0(QK - Q_rK_r) + 20\log(QK/Q_rK_r)$$

In this expression,

(1) The term $0.001[\alpha(i) - \alpha(i)_0]QK$ is the adjustment for the effect of the change in sound attenuation coefficient, and $\alpha(i)$ and $\alpha(i)_0$ are the coefficients for the test and reference atmospheric conditions respectively, determined under section A36.7 of this appendix;

(2) The term $0.001\alpha(i)_0(QK - Q_rK_r)$ is the adjustment for the effect of the change in the noise path length on the sound attenuation;

(3) The term $20 \log(QK/Q_rK_r)$ is the adjustment for the effect of the change in the noise path length due to the ''inverse square'' law;

(4) QK and Q_rK_r are measured in feet and $\alpha(i)$ and $\alpha(i)_0$ are expressed in dB/1000 ft.

A36.9.3.2.1(b) For calculations using the International System of Units:

$$SPL(i)_r = SPL(i) + 0.01[\alpha(i) - \alpha(i)_0]QK + 0.01\alpha(i)_0 (QK - Q_rK_r) + 20 \log(QK/Q_rK_r)$$

In this expression,