THE LOCATOR SYSTEM

1. History

The scoring in official IARU Region 1 contests as well as in most sub-regional contests is based upon the distance in kilometres between two stations making a complete QSO. To facilitate the measurement of this distance, at a meeting of the VHF Working Group in The Hague in October 1959 a code system was adopted for giving the location of a station. This was the QRA-Locator system, devised in Germany, originally based on a two-stage sub-division of geographical longitudes and latitudes starting from the Greenwich meridian and from 40 degrees North. At the Region 1 Conference in Malmö (1963) the system was refined by introducing a third sub-division, and in its final form the QRA-Locator consisted of a five-character code, viz. two capital letters, a two-digit number and a lower-case letter, for example CM72j.

Many Region 1 societies developed maps based on this system, either of their own country or of larger parts of Western Europe.

At a meeting of the Region 1 VHF Working Group in Brussels (1965) Dr. H.R.Lauber, HB9RG, VHF Manager of USKA, showed the first prints of the Region 1 QRA-Locator map, issued on four sheets and made through his good offices at the request of the VHF Working Group.

At the Region 1 Conference in Opatija (1966) this map was adopted as the official Region 1 QRA-Locator map, while at the Region 1 Conference in Scheveningen the system was re-baptised with the more appropriate name QTH-Locator. In the meantime it had become very popular and was used not only during contests but also for general amateur work on the VHF/UHF/SHF bands. For instance, collecting "squares" (the first two letters of the QTH-Locator indicating a square of 2 degrees longitude wide and 1 degree latitude high) became one of the most widely practised sports .

When amateurs outside Region I, especially in North America (Region II), became interested in using a form of QTH-Locator during their contacts, contests etc. and started investigating the system devised in Region I, they found this Locator system repeated itself several times around the globe. Hence they considered this ambiguous system not very suitable for exchanging QTH information, for instance during EME contacts.

Furthermore, the QTH- Locator system was not very consistent in the set-up of sub-divisions, particularly with regard to the fifth character (letter). A more consistent system, if introduced, would be of use to the many amateurs who employed computers - from PC's to programmable pocket calculators - to calculate distances and determine antenna directions from QTH-Locators.

For reasons like the ones outlined above, at a meeting of the IARU Region 1 VHF Working Group in Amsterdam (1976) SM5AGM, VHF Manager of SSA, proposed to start discussions on a better Locator system that could replace the existing one and would be usable world-wide.

As there would not be much sense in changing to a world-wide applicable Locator system in Region 1 if the other Regions would not adopt it, at the Region 1 Conference in Miskolc-Tapolca (1978) it was agreed that Region 1 would consult the other two Regions on this matter. This consultation resulted in an exchange of system proposals between the Regions, and at a certain moment more than 20 different systems and variations on systems, generated in the various Regions, were under consideration!

At the VHF Working Group meeting in Maidenhead (1980) it was felt that the time had come to make a choice, and it was agreed that the best choice would be the system devised by John Morris, G4ANB, be it with a modification concerning the starting point of the grid of the first sub-division. This system was widely published in amateur magazines of member societies in Region 1 as well as in the other Regions.
Thanks to the effort of Folke Rasvall, SM5AGM - aided, amongst others, by ZL2AMJ (Region III) and W1XX (Region II) - agreement between the Regions could be reached and all Regions have now accepted the so-called Maidenhead Locator which henceforth will simply be known as the Locator.

Region II adopted the Locator in 1982, Region III in 1983. At the IARU Region 1 Conference in Cefalu (1984) Region 1 adopted the Locator system, and the introduction date was set at January 1, 1986. As from this date all official Region 1 contests are run using the new Locator system.

2. Description of the Locator system

The Locator system is a grid system, allowing to give the location of a station by a code consisting of six characters, viz. two capital letters, a two-digit number and, again, two capital letters. For example : JO31DG.

The system is set up as follows. The globe is divided in 18 * 18 = 324 fields, each 20 degrees longitude wide and 10 degrees latitude high (for an overview see the map in Appendix 1). Each of these fields is divided in 10 * 10 = 100 squares, each 2 degrees longitude wide and 1 degree latitude high. Finally, each of the squares is divided in 24 * 24 = 576 sub-squares, each 5 minutes longitude wide and 2.5 minutes latitude wide. The coding/numbering is, as shown in Appendix 2, always from west to east and from south to north, and the origin of the system is at 180 degrees west, 90 degrees south.

As far as "squares" are concerned, the system is compatible with the old QTH-Locator system, both having squares of 2 degrees longitude, 1 degree latitude. The only difference, of course, is in the coding; for instance, square CM in the QTH-Locator system will in the Locator system be square JO22. Consequently, for the collectors of "squares" continuity is assured.

Appendix 3 gives a set of diagrams to determine in a simple way a station's Locator from its geographical position.

At the 1999 Conference in Lillehammer it was decided that a more precise definition of “longitude” and “latitude” was required. The conference decided that the latitude and longitude to be used as a reference for the determining of locators should be :

“**THE WORLD GEODETIC SYSTEM 1984 (WGS-84) “**

An information paper from NRRL on this subject has been annexed in appendix 5 to this section