The Digital Mapping System Establishing and Applying

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The digital mapping system is a practical map production system. It links map database, uses the advanced technology and method of the computer to product map.   It exports separate color film and the paper-quality picture, at same time to update the map database completely. Using of the system leads the revolution of the production mode of the whole mapping field, from handmade mode to digital mapping mode. The paper discusses the related problems about establishing and applying of the digital mapping, and expounds the whole process of achieving.

The paper firstly summarizes the development and status of the digital mapping technology, and points out its major task and request of system; and puts forward three great problems and their solutions: the symbolization of whole map elements, saving geo-attribute of the symbols, map electric publishing standardization, along with discusses the main modules of system.

1. Symbolization

  We discuss the process of data of map database translating map symbol on Microstation. A lot of development tasks have been done, for examples, building the symbol library, regulating levels, symbolization program, managing geo-attribute database.

2. Compilation and modification

  We design many tools about to query information, to compile figure, to modify the element attribute, and to collect element. All of modules is run base on the attribute database.

3. Topology and the data of database

  After complication and modification, many elements have been changed and elements relations of topology have been destroyed. But in order to update the map database, we must rebuild the relation of topology, and the data will be extracted from the symbol map.

4. Dealing with the map for publish

  The part shows some details about how to deal with data for map publishing, such as adding symbol cover, pattern filling with symbol, river width changing.

5. Format translating: DGN to EPS

  The file format of Microstation (DGN) should be translated to EPS format. The EPS file can be directly sent to the laser printer.