

SOFTWARE FOR THE NEW FUNCTION GENERATORS

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In order to make use, in time, of the new Function Generators (FG), an interactive software has been implemented in the IBM 1800. One part of the software is used to test the units after production, the other allows the operating team to manipulate and create the necessary functions. The main lines of the latter part are described in this note. Operating details can be found in (1).

1. DIRECTORIES

A function has different characteristics and can be used by more than 1 terminal. A terminal can also be described by some characteristics. All this information is stored on disc in two directories which also provide information on file length, etc.

2. DATA FILES

The scheme adopted is similar to ISAAC and MIDI-CONSOLES. Space is provided for reference values, current control values and a buffer for intermediate storage. Due to the restrictive environment the present system can handle only 63 functions and 63 terminals plus a special display terminal and a so-called "OFLIN" function. Each function can use an average of 17 vectors, the maximum being fixed at 32 vectors.

3. CONSOLE FACILITIES

All access to the software is done in a special ISAAC-Superset and the syntax is similar to the other supersets.

3.1. UPDAT

This facility allows the user to create a function from scratch and to control his action by watching the results on an oscilloscope.

3.2. LIST

This facility permits the user to access terminal and/or function specifications and eventually to get a print-out of all the directories.

3.3. MODIF

This facility allows the user to modify two consecutive vectors through shaft encoders ; visualisation of the results is also provided.

3.4. MULTP

This facility allows the user to manipulate a part of a function through the shaft encoders, selecting a starting point, a length and scaling factor.

3.5. SENDF

SENDF permits the user to send a function to a specific terminal.

3.6. INIT

INIT allows the user to send all or a specified function to its terminals.

3.7. INVER

This facility allows the user to invert the polarity of a function.

3.8. FILE MANIPULATION

Facilities are provided also to exchange data between references, buffer and control value files through the well-known AUTOMATIC, back and save, set buffer features.

3.9. On-line/off-line

All modifications on the functions are done in physical units and can be performed off-line or on-line. In case of off-line operation a special file is created (called OFLIN) and later on could be written into the current control value file through the RENAM facilities.

4. OFF-LINE FACILITIES

Specific programs provide a means to update directories, to dump specified files and to restore them from cards.

CONCLUSION

This software will allow the operation to make use of the new FG without waiting for the installation of the expanded computer control system which will allow them to get a better service.

The implementation of the software has been speeded up by the active collaboration of M. Boutheon, L. Merard and J.P. Potier.

Distribution

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Reference

- 1) Utilisation des nouveaux générateurs de fonction, H. van der Beken, MPS/CCI Note 74-39.