

SERIES 60 (LEVEL 6)

Honeywell's RPG II (Report Program Generator II) provides an easy-to-use, yet powerful and comprehensive programming language for users of the 6/30 Models. RPG operates in the GCOS/BES (General Comprehensive Operating Supervisor/Basic Executive System) environment. RPG enables users without previous programming experience to take full advantage of the Level 6 central processor. Programs covering a wide variety of applications can be produced with RPG. These programs can be written, checked out, and put into production easily.

FUNCTIONAL DESCRIPTION

RPG is a high-level language with efficient, commercially-oriented, problem-solving capabilities. Originally intended for the production of reports, the language has been developed so it can now handle highly sophisticated applications.

RPG has the following features:

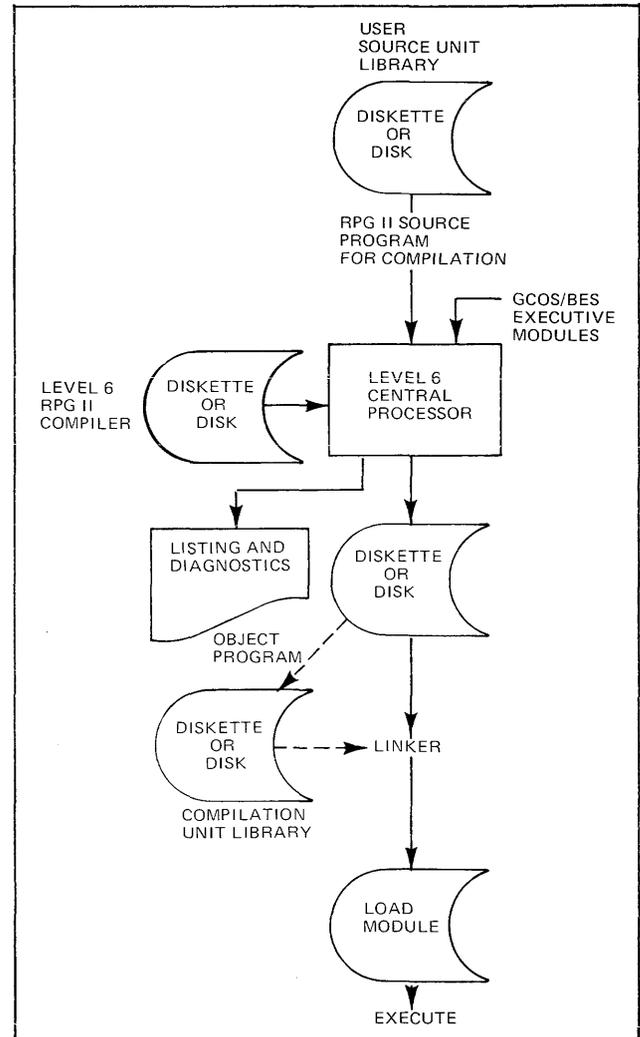
- Specification forms are ideal for describing complex input/output procedures
- A Fixed Logic Cycle handles control levels and control breaks automatically, eliminating many difficult data processing situations
- Thorough compilation and execution diagnostic capabilities make programs easy to develop and test

RPG II Specification Forms

RPG language statements are coded on preprinted, fixed-format RPG specification forms. Certain specification forms are mandatory; the remainder are optional depending on the particular application.

Specification forms include:

- *Header* – Provides the compiler with information about particular requirements of the program, Also supplies control information (e.g., memory available, program name, etc.)
- *File Description (mandatory)* – Provides a description of every file in the program and assigns peripheral devices as needed



- *File Extension* – Provides additional information about tables, arrays, and files containing tables or arrays
- *Line Counter* – Specifies the number of lines to be printed on each page of a report
- *Input (mandatory)* – Describes input file records, and defines data fields of each input

record. Also identifies record codes that indicate particular record types, and specify look-ahead, control, and matching fields within the record.

- *Calculation* – Defines program data operation, and indicates when they are to be performed. Also defines data fields not defined in the input specifications and constants to be used in calculation operations. Types of operations include: arithmetic, set indicators, branch, move, compare, table look-up, bit manipulation, subroutines, and program control of input/output
- *Output* – Describes the output which includes records, files, and data fields

RPG II Fixed Logic Cycle

The presence of a Fixed Logic Cycle allows the user to concentrate on the operations desired, thus making it possible to quickly implement programs. Moreover, the language is sufficiently flexible to allow the more experienced user to enhance the Fixed Logic Cycle by making special entries on the specification forms. Thus, RPG offers the new or relatively inexperienced programmer a simple and concise way of specifying requirements with minimum opportunity for error, while offering the more experienced user facilities available in other high-level languages.

The RPG Fixed Logic Cycle is specialized by the compiler according to programmers' specifications that have been coded to solve a particular problem. The specialized RPG Fixed Logic Cycle provided within the user's generated object program eliminates many routine programming tasks. In general, record selection and output are reduced to operations described by specifications rather than procedural statements. Thus, many cumbersome data processing actions such as file selection, record input, input record formatting, and the description of matching fields are no longer of concern to the user. During each cycle, the fixed logic presents the user with a single input record already in the form required for calculations. Any number of output records can be produced during one cycle.

Compiler Capabilities

Honeywell's RPG compiler has the following capabilities:

- Source input reading from card images on disk or diskette
- Automatic file manipulation and diskette or disk handling
- Support of sequential and direct file organizations
- Static and dynamic table handling
- Lookahead feature
- Linkage of external routines to RPG object programs
- Utilization of standard data management access routines by object programs

PROGRAM PREPARATION

To prepare an RPG source program, the user codes RPG language statements on a series of preprinted specification forms.

The RPG II compiler translates the program source deck and specializes the Fixed Logic Cycle according to the particular application to generate an RPG object program. Only one work file is necessary to run RPG programs. The compiler produces a listing of the source program together with a list of any diagnostics.

If required, external routines can be linked with the object program prior to execution, thus widening the scope of the application of RPG

SYSTEM REQUIREMENTS

Minimum equipment required:

- Level 6 central processors with 16K words of main memory
- Two diskette drives
- System console (KSR teleprinter or equivalent)

Specifications may change as design improvements are introduced.

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