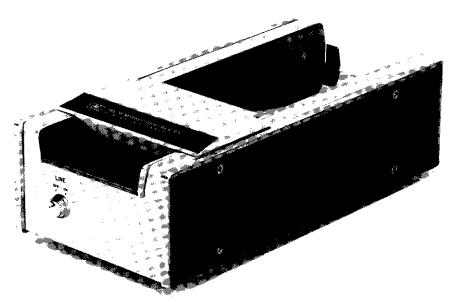




9860A MARKED CARD READER

TECHNICAL DATA SEPTEMBER 1973





9860A MARKED CARD READER

DESCRIPTION

The Model 9860A Card Reader optically reads cards marked with a soft lead pencil. Using cards users can quickly and conveniently enter computer programs or numerical data.

Often used numerical data marked on cards can be retained permanently for record purposes or as part of a data file.

Many users can simultaneously write machine readable programs without tying up the keyboard for hours. Thus the computer is available to more users because valuable machine time is reserved for actual program execution.

The 9860A allows total keyboard programming of the 9800 Series Programmable Calculators. Keys including decimal settings, program mode, and magnetic card load, record, and others can be controlled by the 9860A.

SPECIFICATIONS

Line Width

Minimum 0.020 inch pencil mark required for reliable sensing.

Reading Rate:

30 milliseconds per character. Inserting card starts motor which pulls card through reader.

Codes:

Column weights of marked columns are added to total the calculator key code.

Operating Modes:

a) Program mode-program instructions on the card are loaded into successive calculator core memory locations.

b) Run mode-key operations may be performed by marking the appropriate octal key code.

Skip Channel: Marking in the skip channel causes that character to be ignored.

GENERAL

Weight:

Net 6.4 lbs., shipping 9 lbs.

Power:

Either 115 V or 230 V AC, ± 10%. 48-440 Hertz; maximum power

requirements are 7 W AC.

Dimensions:

3 1/2" high by 5 1/3" wide by 11

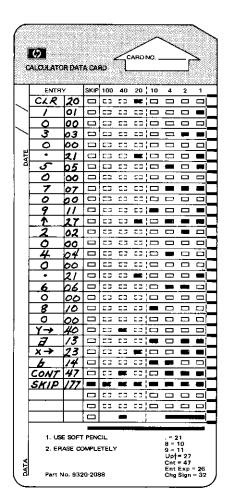
1/4" deep.

Temperature: Operating range, $0^{\circ} - 55^{\circ}$ C.

PURCHASE PLANS

Check with one of the Hewlett-Packard worldwide sales and service offices for specific prices and plans in your area.

Service Contracts Available



TYPICAL CARD FORMAT

The 9860A uses cards printed in the format shown here. There are two cards available. The standard card will hold 30 program instructions. The longer optional card will hold 50 program instructions. Cards may be cascaded for longer programs.

Marking boxes are used to indicate areas of the card that are examined by the mark reader for presence of a pencil mark. A soft—lead pencil is recommended; the mark provided by a hard—lead pencil may not be read consistently by the mark reader.

CARDS

Furnished: Package of 100 Standard Calculator

Program Cards.

Available: Standard Calculator Program Format

Standard Calculator Data Format
Optional Calculator Program Format.
Optional Calculator Data Format.

These cards may be ordered to conform to different models of the 9800 Series Calculators.

INK SPECIFICATIONS

The 9860A requires that a non-reflective ink be used for the clock marks and reflective ink be used for all other printing on both the data and the program cards.

Clock marks and preprinted codes, if any, must be printed in non—reflective black ink with a reflectance value of less than 30 millivolts as measured on a Kidder MR-8 Tester. (Non—reflective ink should not be used elsewhere on the card.) The entire area of the clock mark must have solid ink coverage without voids. Edges must be sharp, clean, and free of raggedness. Marking boxes must be printed in reflective ink with a reflectance value of more than 50 millivolts as measured on a Kidder MR—8 Tester. Lithal Red ink, L 3 series, can be used.



SERIES 9800 PROGRAMMABLE CALCULATOR
AND 9860A CARD READER



Sales, service and support in 172 centers in 65 countries Loveland, Colorado 80537. Offices in principal cities throughout the U.S.