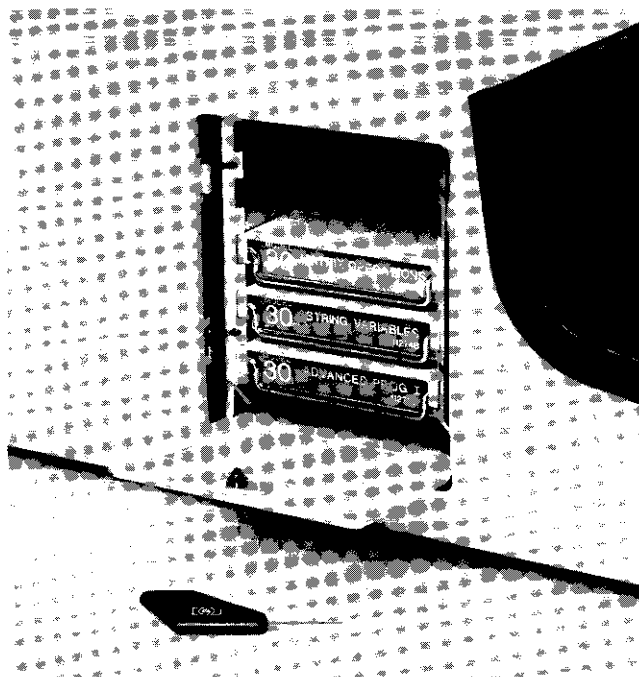


HEWLETT **hp** PACKARD

MODEL
30

11279 ADVANCED PROGRAMMING I ROM

TECHNICAL DATA JULY 1973



Externally Installed ROM



Internally Installed ROM

GENERAL

The 9830A Calculator (Model 30) allows the addition of up to 8 blocks of add-on Read-Only-Memory. Five may be added as external plug-in, 3 as internal plug-ins.

Add-on ROMs provide additional capabilities to the Model 30, permitting extension of the basic language with no change in the amount of read/write memory available to the user.

The Advanced Programming I ROM described in this data sheet is one of the many language extending ROMs available for use with the Model 30. It is available in internal and external configurations.

EXTERNAL — 11279B
INTERNAL — 11279F

SPECIFICATIONS

Memory: 2048 8-bit bytes (1024 words)
Power: Supplied by the 9830A Calculator
Temperature: 0°C — 45°C

(Specifications Below for External Plug-in ROM)

Weight: 3 oz. (85 g)
Dimensions: 2.56" wide x 4.8" long x 0.8" deep
(6.5 cm x 12.2 cm x 2.05 cm)

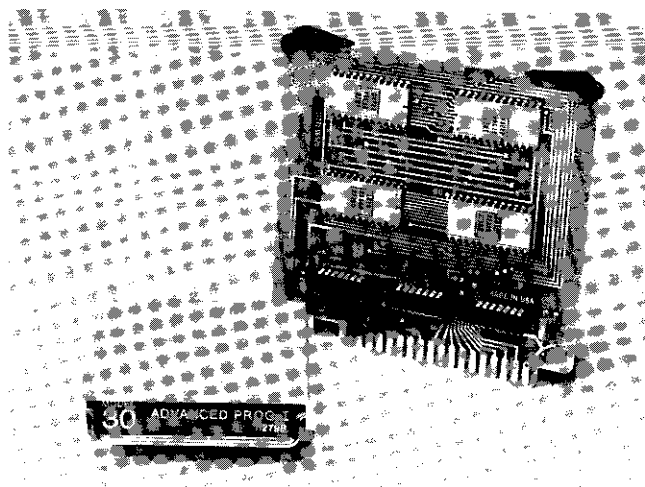
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ADVANCED PROGRAMMING I ROM



11279B (External ROM)

11279F (Internal ROM)

DESCRIPTION

The Advanced Programming I ROM, HP Model 11279, allows the user to write larger, more efficient programs for the Model 30. Also, specialized statements are made available in the 11279 ROM, which aid both in duplication of tapes and in controlling typewriters which have lower case as well as upper case type.

ADVANCED PROGRAMMING OPERATIONS

The *DUP* command allows all or part of a cassette tape containing user programs or data to be duplicated with the Model 9865A Cassette Memory.

The *TRANSFER* statement allows strings to be stored in numeric arrays. This capability is most useful in programs where many strings are processed so that larger quantities of string data can be stored in a single cassette file.

```
45 TRANSFER A$(5,9) TO B(7)
```

The *LOWCASE* statement allows the calculator to be used like a standard typewriter; that is, the upper case alphabet is typed only when the SHIFT key is held down.

The *HIGHCASE* statement returns the calculator to its normal operation; that is, the lower case alphabet is typed when the SHIFT key is held down.

The audible *BEEP* can be used as a signal to the calculator user that a program has been completed or that data must be entered.

The *SCROLL* statement allows the user to display a visual message of up to 72 characters in the display.

The *OCT* (octal) function converts base 8 (octal) numbers to base 10 numbers. The octal codes can be used in I/O applications rather than their decimal equivalents.

```
10 FORMAT B
20 WRITE (15,10)OCT42
```

The *XREF* (cross-reference) command gives a list of all variables used in a program, along with line numbers in which they are referenced. When changes are to be made to an existing program, the cross-reference can be consulted. The cross-reference also greatly enhances permanent program documentation.

```
1 COM B,C(10),D$(20)
2 INPUT A,B,C(1)
3 PRINT A
```

XREF

B	1	2
C(1)	1	2
D\$	1	
A	2	3

The *DFC* (Define Characters) statement allows the user to call single-line and multiple-line functions by meaningful names. This capability not only makes initial programming easier, but also makes final documentation more complete.

```
3 DFC "PAY/YR."(Z)=Z*40*52
4 PRINT FC"PAY/YR."4.81
```



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