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HP 28094A (3490A) DMM DEVICE SUBROUTINE

GENERAL

HP 25124-60002 is an ATS-BASIC device subroutine with two Call entries for handling the HP 3490A Digital Multimeter which is equipped with Option 030, ASCII Remote Control.

This subroutine is provided with two Calls so that the user may program and initiate a 3490A measurement with one Call and then, while 3490A is actually performing the measurement, perform other testing/computing. The second Call allows the user to retrieve the previously initiated measurement. The second Call may also be used to initiate a measurement and wait to retrieve the results.

> NOTE: The 3490A requires approximately one second to make an AC measurement (with no AUTO ranging), and approximately 1/5 of a second to make a DC measurement and 200-550 msec (depends on range) to make an OHM measurement for an Option 060 (60 Hz Power Source) 3490A.

This subroutine does not directly input or output to the 3490A, but rather interprets and converts the Call parameters to the appropriate ASCII Programming Codes, and passes them on to the BUS Supervisor, together with the device. The second Call of the subroutine passes the device's Talk Address to the BUS Supervisor and then after interpreting and converting the returned results (measurement and status), passes it on via one of the Call parameters.

SUBROUTINE ENTRIES AND FUNCTIONS

When used in ATS-BASIC, the subroutine entry names are determined by the ATS-BASIC Mnemonic Table

|DMM| (U, F, R, T)   DVM SET FUNCTION

    where:

    U = Unit
    F = Function
            0 = DC with Sample and Hold (S/H) off
            1 = OHMS
            2 = AC
            3 = Test
            4 = DC with S/H in Track and Hold (See User Note 4) *nur bei neuem Syst*
            5 = DC with S/H in Acquire and Hold (See User Note 4)

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R = Range

R	OHMS	AC/DC	TEST
0	AUTO	AUTO	–
0.1	0.1K	0.1V (DC Only)	–
1	1K	1V	1
2	–	–	2
3	–	–	3
4	–	–	4
5	–	–	5
6	–	–	6
7	–	–	7
10	10K	10V	–
100	100K	100V	–
1,000	1000K	1000V	–
10,000	10000K	–	–

T = Trigger

    0 = Front Panel SAMPLE RATE Control or Manual Trigger Push-
        button (See User's Note 1)
    1 = Computer Initiated Trigger
    2 = External Trigger Enable or Front Panel Manual Trigger
        Pushbutton
    3 = None (To be initiated by DMMR Call with M = 1)

    | DMMR (U, M, V) | → | DVM READ |

    Read

where:

U = Unit *immer 1*
M = Mode

    0 = Retrieve measurement initiated or enabled by the DMM
        Call (T = 0, 1, or 2) (See User's Note 3)
    ①= Initiate new measurement defined by DMM Call and wait
        to retrieve the measurement.

V = Value

    Value (Measurement) returned by the subroutine, scaled to
    fundamental units of VDC, VRMS, or OHMS. (See User Note 4)

    NOTE: If the reading is out-of range (overload)
           the device subroutine will return a value
           of 9.99999E30.

           If external trigger has not initiated a
           measurement (DMM T = 2), the returned   *wenn*   *m*
           value will be -9.99999E30 (See User Note 3). *kein Triggerpuls*

					MODEL		STX NO	
					HP 28094A (3490A) DMM DEVICE SUBROUTINE			
					BY Bill Birdsell		DATE 2-27-75	
					APPD		SHEET NO 2 OF 2	
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