

PDP11

LGOPBACK PROGRAM
MD-11-DZVTK-A

EP-DZVTK-A-DL-A

NOV 1976

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MADE IN USA

IDENTIFICATION

PRODUCT CODE: MD-11-DZVTK-A-D
PRODUCT NAME: VT INPUT LINE LOOP BACK PROGRAM
DATE: JULY, 1976
MAINTAINER: DIAGNOSTIC ENGINEERING
AUTHOR: DAVID L. ADAMS

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1. OBJECT:

THE OBJECT OF THIS PROGRAM IS TO RESIDE IN THE REMOTE TERMINAL AND MONITOR THE SERIAL LINES COMING FROM THE DHSE. UPON DETECTING DATA THE PROGRAM WILL SEND THE SAME DATA BACK TO THE SAME SERIAL LINE UNIT INTERFACE THAT SENT IT OUT. THE PROGRAM WILL HANDLE UP TO 4 SERIAL LINE INTERFACE OPTIONS.

THIS LOOP BACK INSURES THAT ALL LINE CONNECTIONS BETWEEN THE DHSE AND THE REMOTE TERMINAL ARE FUNCTIONAL.

THE PROGRAM IS SELF STARTING WHEN LOADED BY THE ABSLDF.

2. REQUIREMENTS:

THE ONLY REQUIREMENTS ARE IN THE ADDRESS SELECTION OF THE VT SERIAL LINE DEVICES. THEY MUST BE SET TO ADDRESS MULTIPLES OF 10 IE. 175610, 175620, 175630, ETC. THEY MUST ALSO HAVE THEIR VECTOR ADDRESSES SET TO 300 THROUGH 336.

3. OPERATION:

UPON STARTING THE PROGRAM (LOC. 200 JUMPES TO 1200) IT SETS UP THE STACK POINTER THEN SETS THE INTERRUPT ENABLE BIT FOR EACH SERIAL LINE DEVICE. THEN IT CLEARS A LOCATION IN THE STACK AND DOES A "RTI" THUS SETTING TO ZERO THE INTERRUPT LEVEL OF THE PSW.

NOW IT SETS IN A "WAIT" INSTRUCTION FOR AN INTERRUPT CAUSED BY ONE OF THE RECIEVER LINES GETTING DATA. IT THEN ADJUSTS THE INTERNAL DEVICE CODE FOR THE DEVICE JUST INTERRUPTING, LOOKS FOR THE TRANSMIT READY FLAG, AND THEN MOVES THE DATA FROM THE RECIEVE BUFFER TO THE TRANSMIT BUFFER OF THAT DEVICE. FINALLY IT DOES A "RTI" BACK TO THE "WAIT" INSTRUCTION TO ACCEPT THE NEXT INTERRUPT.

NOTE: THE PROGRAM IS SELF STARTING AND WILL, AFTER IT'S INITIAL SET UP START SENDING ANYTHING IT SEES ON THE RECIEVE LINE BACK DOWN THE TRANSMIT LINE. THE PROGRAM IN THE DHSE MUST BE AWARE THAT IT WILL START GETTING DATA BACK AT IT'S RECIEVER WHEN THIS LOOP BACK PROGRAM IS RUNNING.

THE MD-11-DZVTK MUST BE RUNNING BEFORE THE KL8A DIAGNOSTIC IS STARTED IN THE DHSE.

4. LISTING


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45
46 001262 013700 001342      SERVO:  MOV DLCODE,RO      ;GET ADDR. OF INTERRUPTING DL11
47 001266 000416              BR LOOPBK
48 001270 013700 001342      SERV1:  MOV DLCODE,RO
49 001274 062700 000010      ADD #10,RO      ;ADD 10 TO OFFSET ADDR. TO
50 001300 000411              BR LOOPBK      ;INTERRUPTING DEVICE
51 001302 013700 001342      SERV2:  MOV DLCODE,RO
52 001306 062700 000020      ADD #20,RO      ;ADD 20 TO OFFSET ADDR.
53 001312 000404              BR LOOPBK
54 001314 013700 001342      SERV3:  MOV DLCODE,RO
55 001320 062700 000030      ADD #30,RO      ;ADD 30 TO OFFSET ADDR.
56 001324 105760 000004      LOOPBK: TSTB 4(RO)      ;WAIT FOR XMIT FLAG
57 001330 100375              SPL LOOPBK
58 001332 016060 000002 000006  MOV 2(RO),6(RO)      ;SEND THE DATA BACK
59 001340 000002              RTI
60 001342 175610      DLCODE: 175610      ;TO CHANGE DEVICE CODES CHANGE THIS LOCATION
61
62
63
64
65
66 000300 001262      SERVO      ;INTERUPT ADDRESS FOR DL11 17XX10
67 000302 000340      340      ;PRI LEVEL 7
68 000304 000306      .+2      ;NO INTERUPT ON TRANSMIT LINE
69 000306 000000      0      ;ACCEPTED
70 000310 001270      SERV1      ;INTERUPT ADDRESS FOR DL11 17XX20
71 000312 000340      340
72 000314 000316      .+2
73 000316 000300      0
74
75 000320 001302      SERV2      ;INTERUPT ADDRESS FOR DL11 17XX30
76 000322 000340      340
77 000324 000326      .+2
78 000326 000000      0
79 000330 001314      SERV3      ;INTERUPT ADDRESS FOR DL11 17XX40
80 000332 000340      340
81 000334 000336      .+2
82 000336 000000      0
83
84      001200      .END START

```

DLCCODE	001342	31	46	48	51	54	60*							
LOOPBK	001324	47	50	53	56*	57								
PSW	= 177776	19#												
RO	=%000000	17#	31*	33*	34*	46*	48*	49*	51*	52*	54*	55*	56	58*
RI	=%000001	32*	35*	36										
SERVO	001262	46#	66											
SERV1	001270	48#	70											
SERV2	001302	51#	75											
SERV3	001314	54#	79											
SP	=%000006	18#	29*	39*	40*									
START	001200	25	29#	84										
.	= 000340	20#	21	24#	27#	64#	68	72	77	81				

ADD	34	49	52	55							
BNE	52										
BPL	57										
BR	43	47	50	53							
CLR	32	39									
CMP	36										
INC	35										
JMP	35										
MOV	39	30	31	33	38	40	46	49	51	54	58
RTI	41	59									
TSTB	56										
WAIT	42										
.ENABL	15										
.END	84										
.TITLE	2										

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

*DZVTKA.DZVTKA/CRF+DZVTKA
RUN-TIME: .4 .4 .1 SECONDS
RUN-TIME RATIO: 9/1=8.5
CORE USED: 6K (11 PAGES)

