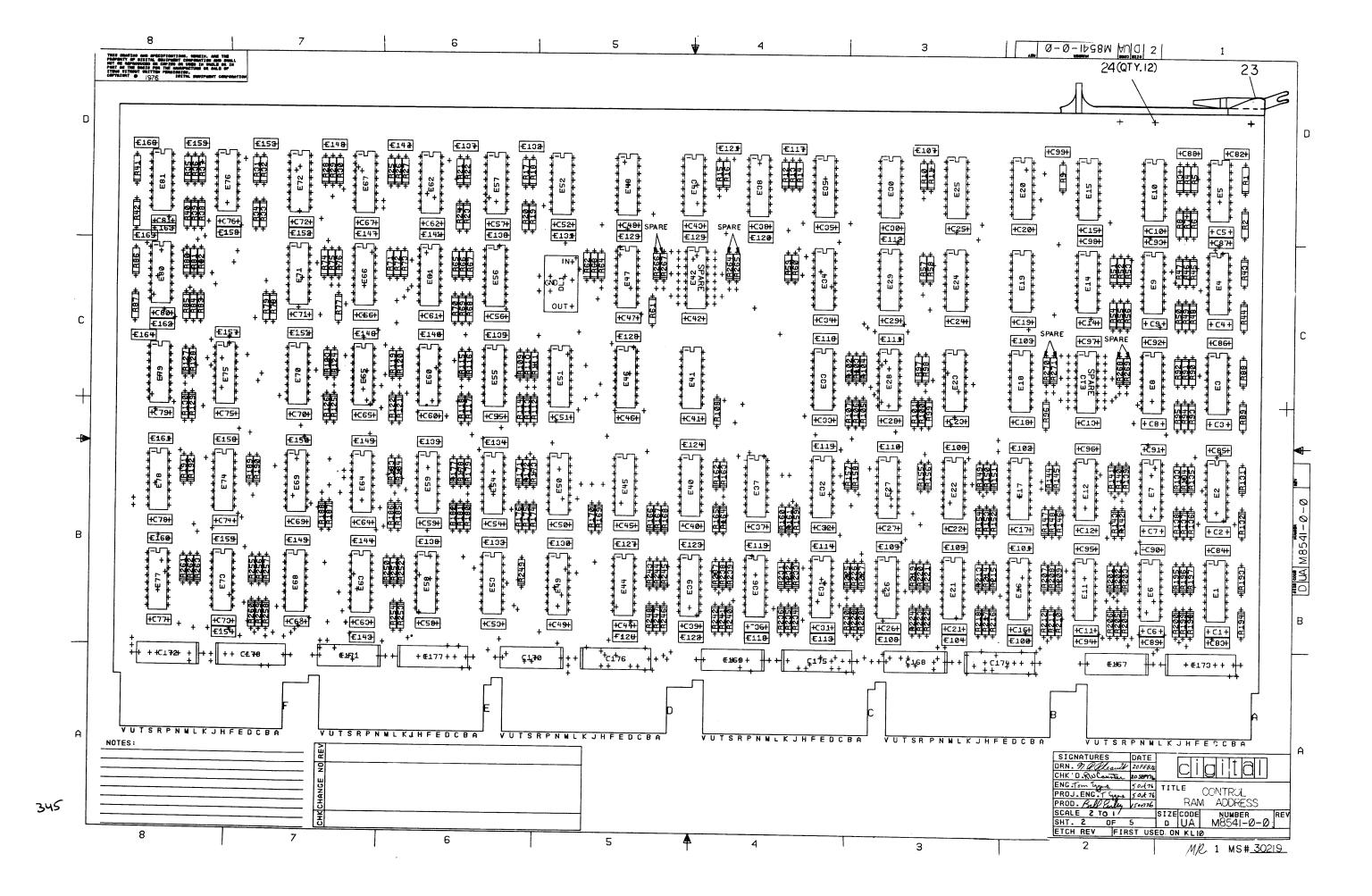
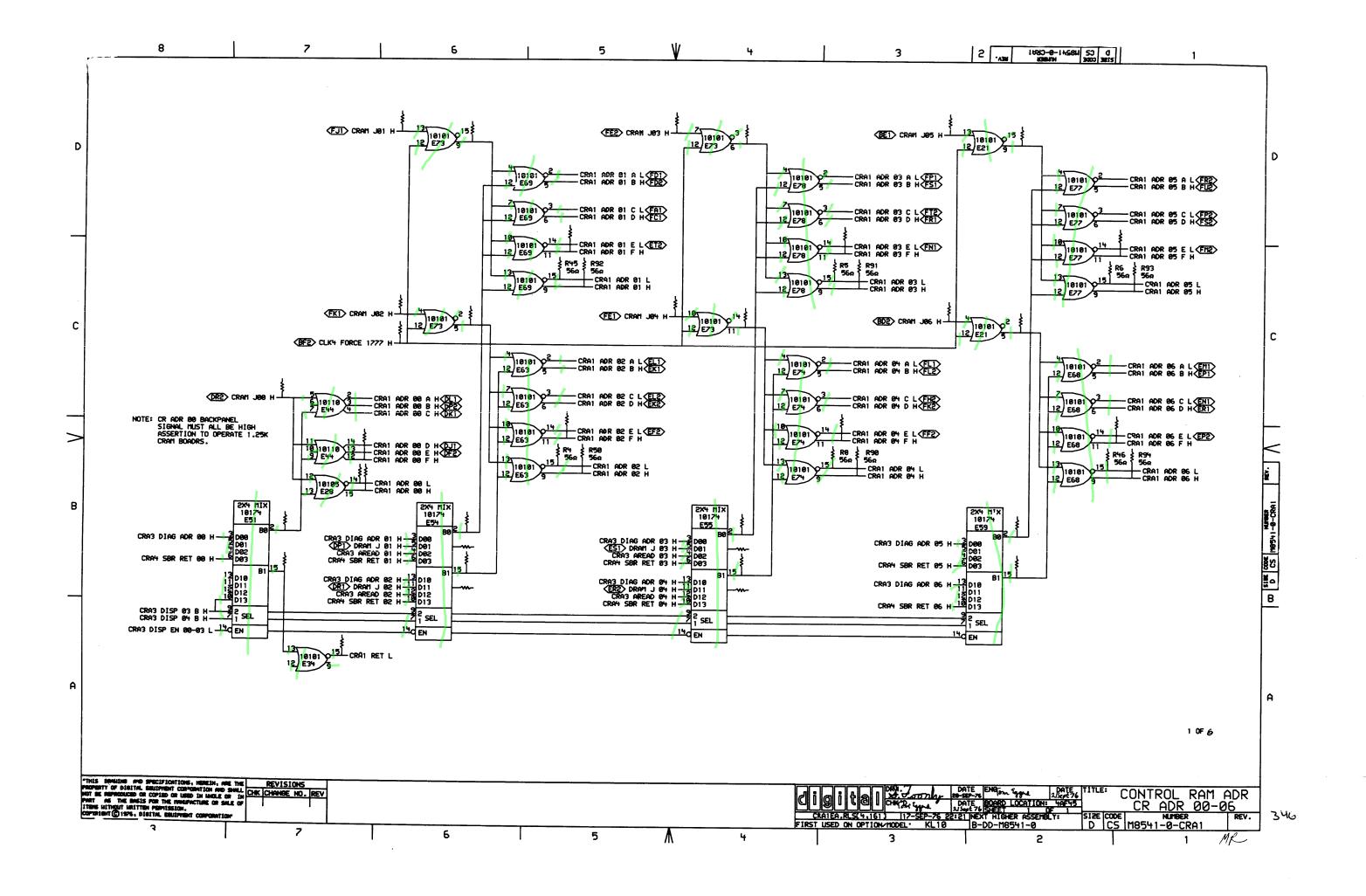
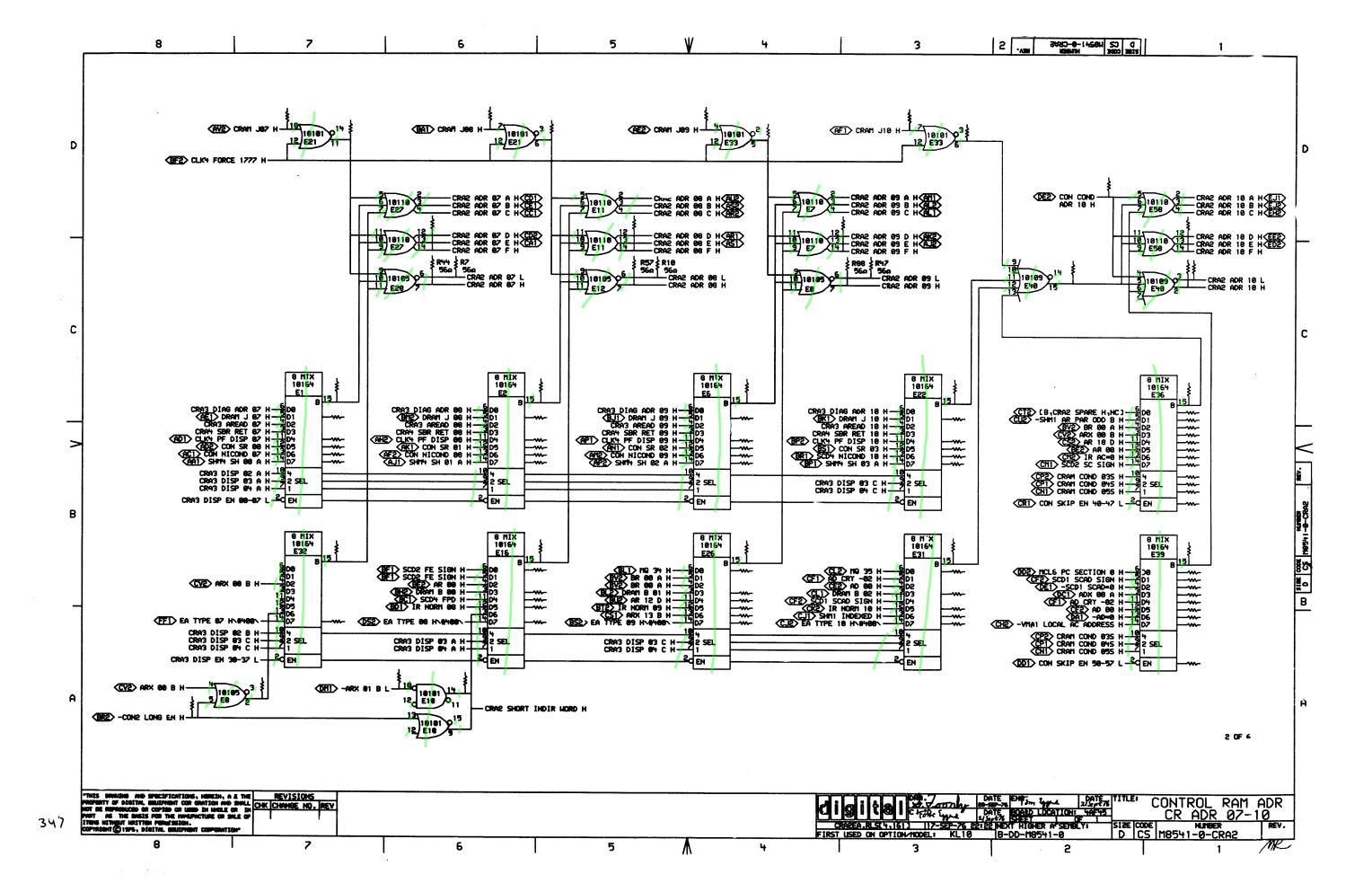
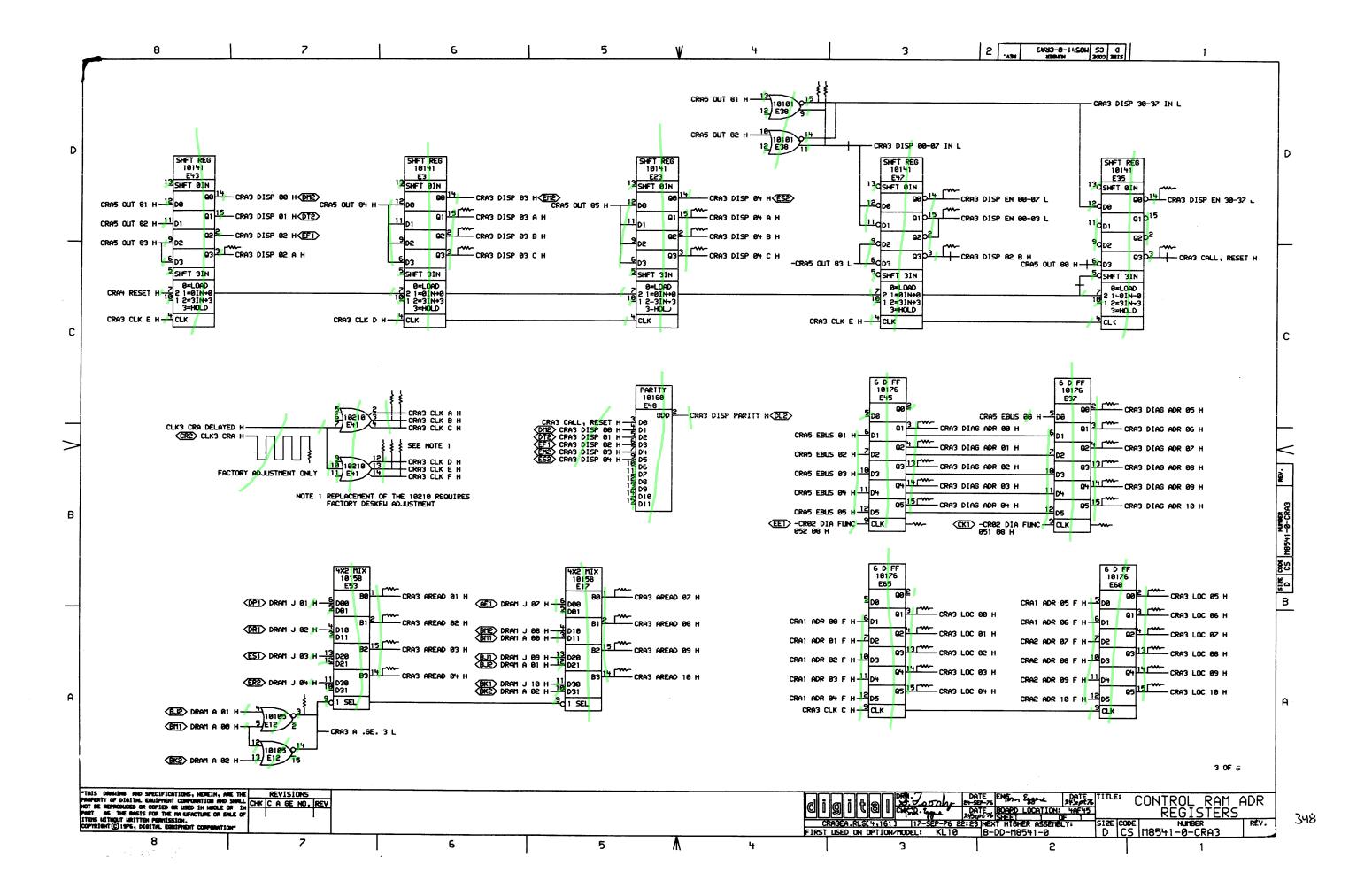
B D W8241-Q REV. NUMBER DRAWING NO. OF PART NO. DESCRIPTION **REVISIONS** MODULE REVISION Α D-UA-M8541-Ø-Ø CONTROL RAM ADDRESS D-CS-M8541-Ø-CRA1 CONTROL RAM ADR CR ADR ØØ-Ø6 D-CS-M8541-Ø-CRA2 1 CONTROL RAM ADR CR ADR Ø7-1Ø D-CS-M8541-Ø-CRA3 CONTROL RAM ADR REGISTERS D-CS-M8541-Ø-CRA4 1 CONTROL RAM ADR SBR STACK D-CS-M8541-Ø-CRA5 1 CONTROL RAM ADR 2K RAM & DIAG. D-CS-M8541-Ø-CRA6 1 CONTROL RAM ADR POWER, GND, CAPS D-CS-M8541-Ø-RES 2 CONTROL RAM ADR TERMINATORS D-AH-M8541-Ø-5 4 CONTROL RAM ADDRESS 5011887 ETCHED CIRCUIT BOARD В M8541-Ø-L P.C. DESIGN DATA BASE REF M8541-Ø-PL INSERTION P/L DATA BASE REF POO-M8541-ØØ PROCESS SHEETS REF NOTES: DATE "THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.

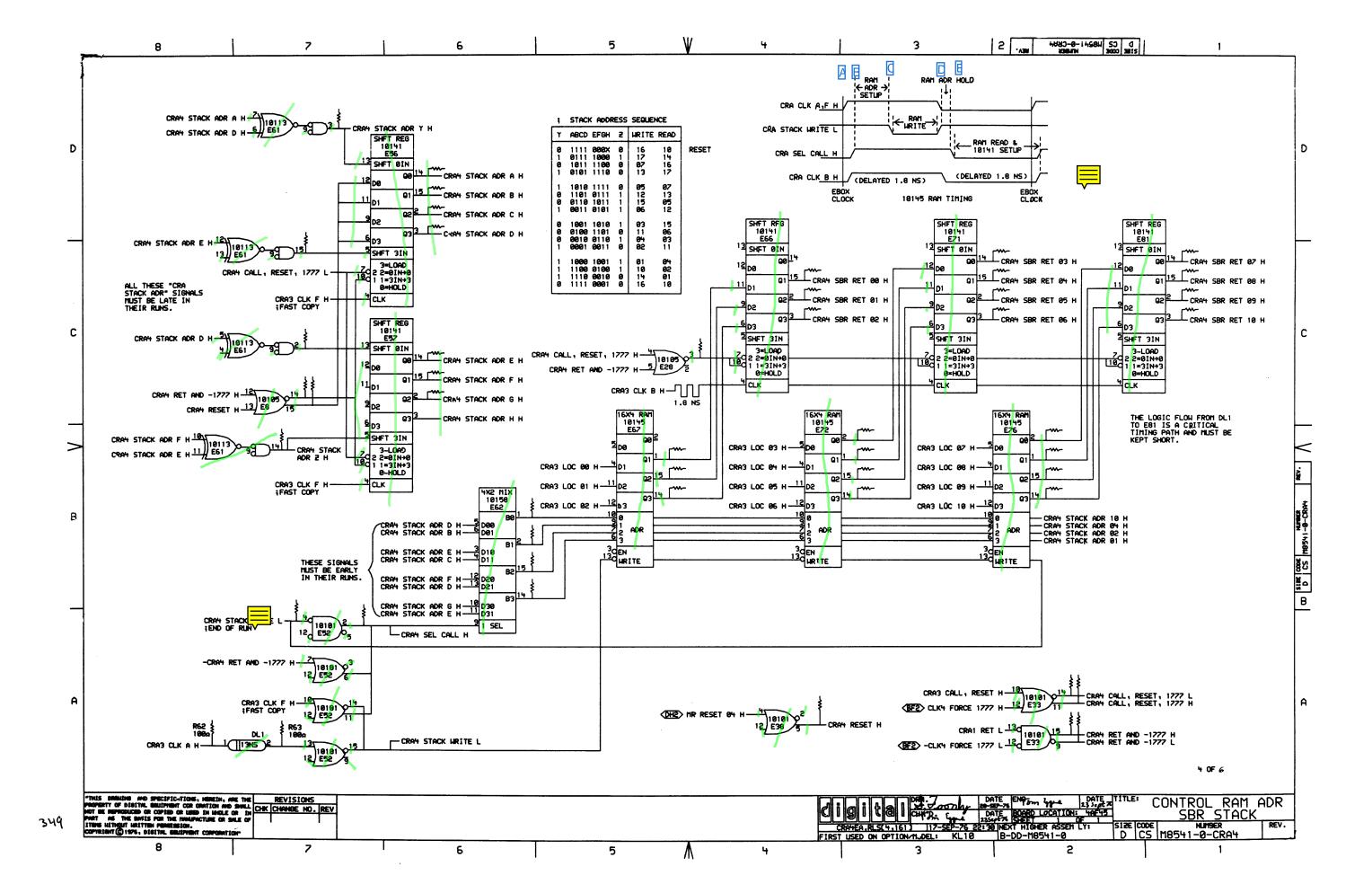
COPYRIGHT © 1976, DIGITAL EQUIPMENT CORPORATION" USED ON OPTION/MODEL DBN. TITLE 2 SEP 70 KL1Ø CHK'D. Courter CONTROL RAM ADDRESS NUMBER REV. M8541-Ø SOCT 76 SHEET 1 OF 1

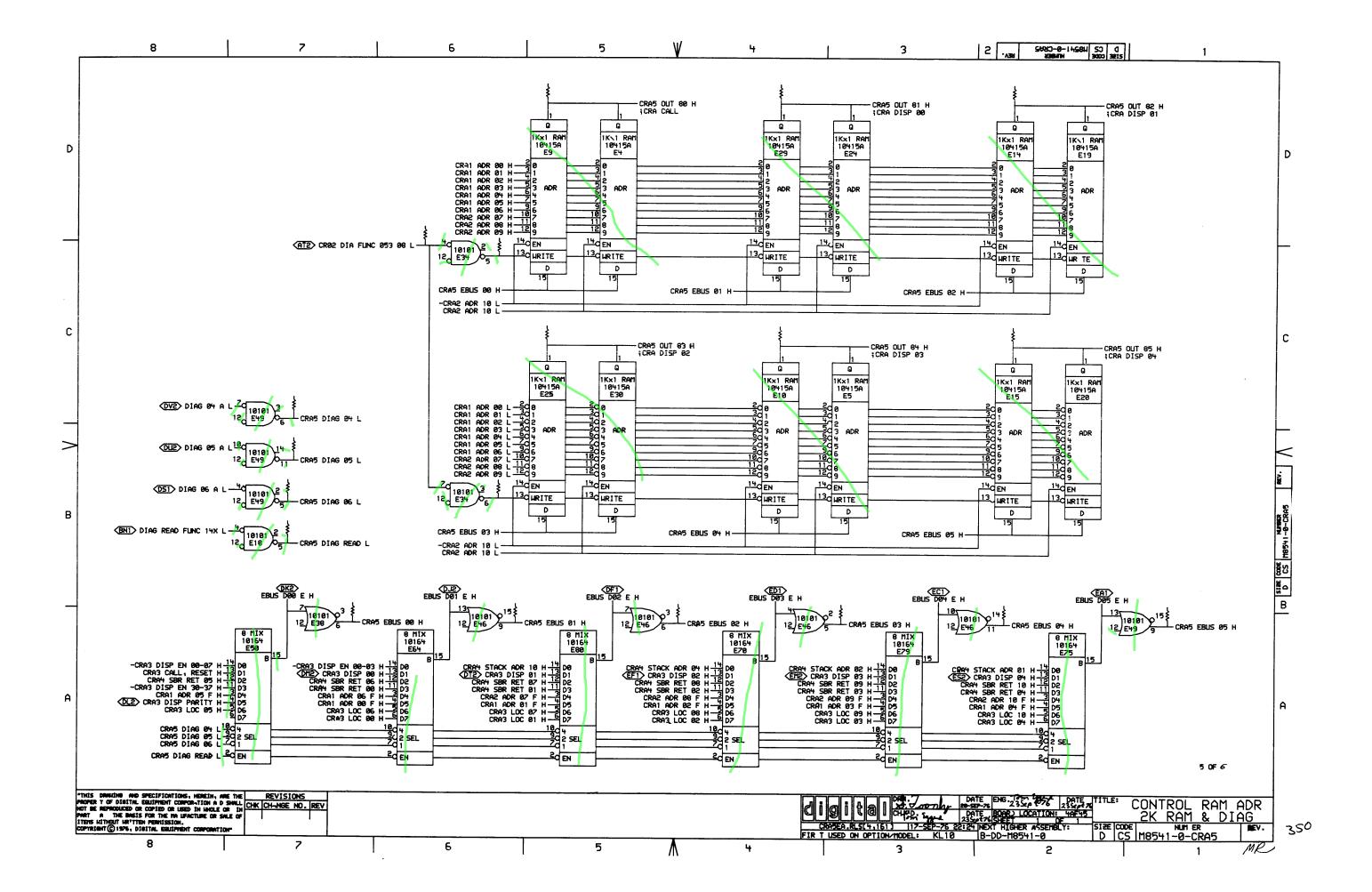


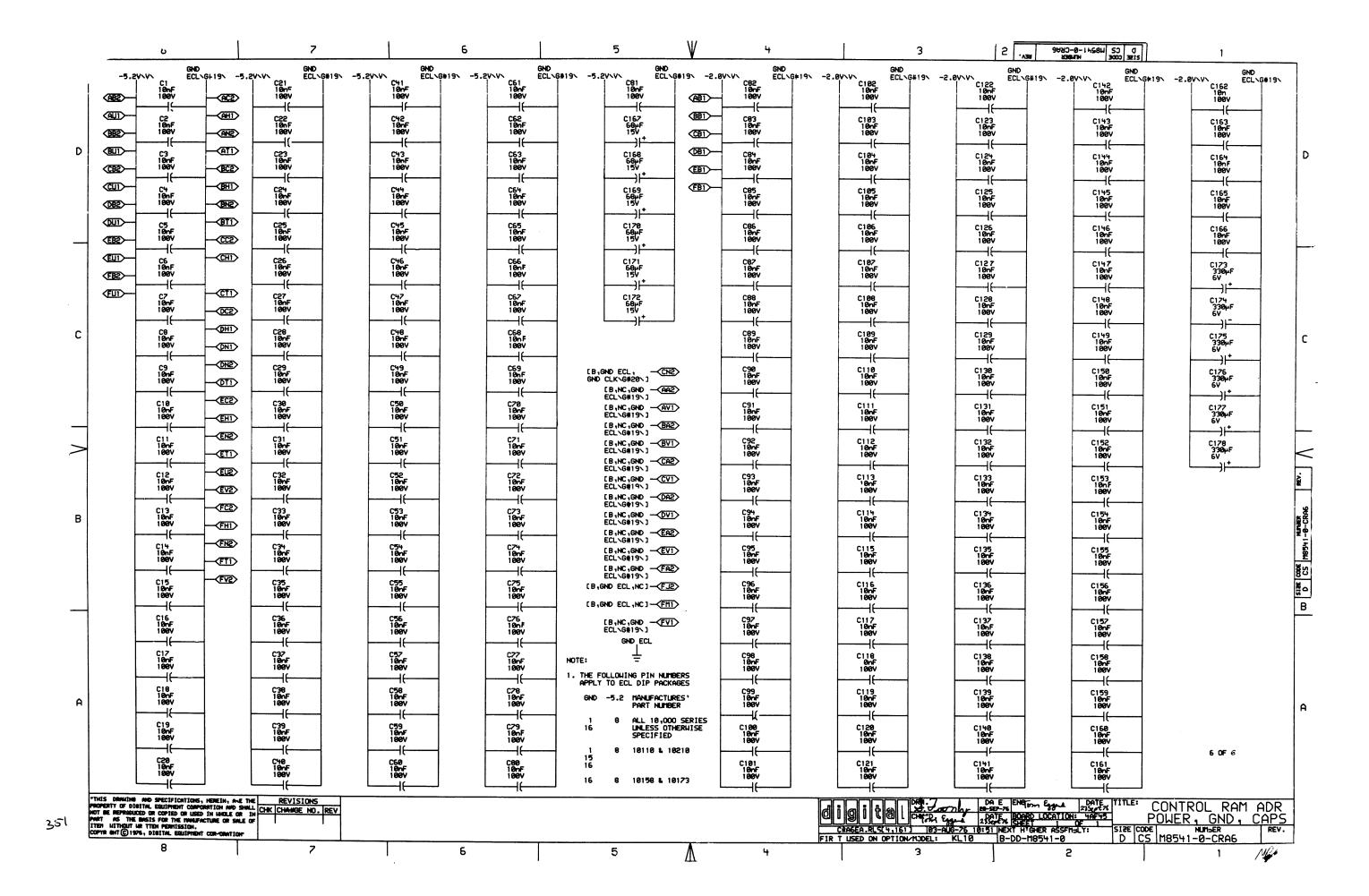












D CS HB2H1-BEE 3 7 5 6 8 RESISTOR SHOWN ON LOC(PIN) DRIM REF SHOUN ON D RESISTOR LOC(PIN) SHOUN ON DRIH REF PECISTOP TERMINATES RESISTOR TERMINATES TERMINATES D VALUE TERMINATES SHOUN ON VALLE VALUE SIGNAL **D4** %E73(6) R53(1) CRA1 ADR 88 R109(1) CRA3 AREAD 84 H AZ R192(1) CRA1 R63(1) CRA4 XDL1(2) R3(1) CRAI 87 -CRA1 ADR GG H R197(1) CRA3 85 CRAS AREAD 87 H **C**7 XEI(15) R166(1) CRAZ R101(1) R145(1) CRA2 85 XE16(15) R39(1) CR64 82 XE76(1) R125(1) CPG1 87 CRA1 AND BA F H R134(1) CRA3 85 CRA3 AREAD 88 H 680 CRAI C5 CRA1 ADR 81 H 05 680 CRA3 AREAD 89 H CRA2 C5 XE2(15) P42(1) CPO4 82 2F76(14) R92(1) 550 R299(1) CR43 R216(1) 680 %E76(15) R45(1) CRA1 C5 560 -CRA1 ADR 01 H R151(1) A5 680 CRA3 AREAD 18 H R38(1) CR94 82 CRA3 R100(1) CDGO DZ 680 2F21(11) CRAI C2 680 2E21(5) R35(1) CRA4 82 680 %E76(2) R81(1) CRA1 C5 CRA1 ADR 81 F H R197(1) CRA3 C1 CRA3 CALL, RESET H P256(1) C7 **XE8**(14) R58(1) CRA1 85 **5**6α CRA1 ADR 82 H R62(1) A8 CRA3 CLK A H 680 XE21(6) R29(1) CRAH R144(1) CRA2 05 R68(1) CR64 C7 680 %E8(15) R4(1) CPA1 85 560 -CRA1 ADR 82 H R41(1) CRA3 C6 68α CRA3 CLK B H R262(1) CRAI DS 680 %E21(9) R163(1) CRA2 C3 680 XE22(15) R157(1) CDDS 27 680 **XFR(2)** R126(1) CRA1 85 CRA1 ADR 82 F H R122(1) CRAS CS 680 CRA3 CLK C H C3 CRA1 ADR 83 H AD 88 H R91(1) CRA1 86 R237(1) CRA2 B1 680 560 R95(1) CRA3 680 CRA3 CLK D H R141(1) CRA2 84 680 2F26(15) C4 680 R241(1) CRA2 **B**1 AD CRY -82 R5(1) CRA1 C3 -CRA1 ADR 83 H R14(1) CRA3 CLK E H CR64 XE28(3) R49(1) R162(1) CRA2 83 %E31(15) R244(1) CRA2 -AD=9 H R129(1) CRA1 C3 CRA1 ADR 83 F H R76(1) **B6** CRA3 CLK F H 87 R166(1) CRA2 Bi ADX 88 A I R98(1) CPA1 **B3** 560 CRA1 ADR 84 H R111(1) CRA3 C3 CRA3 DIAG ADR 88 H R98(1) CRA2 **%E32(15)** 680 AR BA H CRA1 83 560 -CRA1 ADR 84 H R143(1) CRA2 D4 680 %E33(5) R231(1) CRAP R1 R8(1) R178(1) CRA3 R3 CRA3 DIAG ADR 81 H C AR 12 D H R119(1) CRA1 **B**3 CRA1 ADR 84 F H 03 680 R224(1) CRA2 84 680 R172(1) CRA3 **B3** CRA3 DIAG ADR 82 H R164(1) CRAS 2E33(6) 6**8**a R236(1) CRA2 AR 18 D H R93(1) CRA1 C1 CRA1 ADR 85 H R115(1) CRAS DIAG ADR 83 H CE XE34(5) R49(1) CRA5 R2(1) CRA5 680 %E34(6) R55(1) CRA2 B1 68α ARX 99 B H R6(1) CRA1 C2 56Ω -CRA1 ADR 05 H R110(1) **B3** CRA3 DIAG ADR 84 H R165(1) CRA2 C1 680 XE36(15) R96(1) CRA2 A6 680 ARX 01 B H R173(1) CRAI C1 680 CRA1 ADR RS F H R184(1) CRA3 CS 68α CRA3 DIAG ADR 85 H 81 CRA1 ADR 86 H ARX 13 B H CRA1 560 R122(1) C2 R253(1) CPA2 **B**1 680 XE39(15) R228(1) CRA2 64 680 R94(1) CRA3 680 CRA3 DIAG ADR 86 H CRA1 -CRA1 ADR 86 H CRA2 B1 680 BR 99 A H R46(1) 56Ω R196(1) B2 680 CRA3 DIAG ADR 87 H C2 680 **2E48(15)** R232(1) CRA3 R254(1) CRA2 CRA1 87 68Ω XE51(15) R108(1) CRA3 B7 CLK3 CRA H R121(1) CRA1 CRA1 ADR 86 F H R142(1) CRA3 DIAG ADR 88 H R59(1) 87 CRAI C6 CLK4 FORCE 1777 H R192(1) CRA A7 682 -CRA1 RET H R205(1) **B2** CRA3 DIAG ADR 89 H R97(1) CRA1 %E51(2) R255(1) R258(1) CRAI XE54(15) R198(1) CRA2 B7 CLK4 PF DISP 07 H R44(1) CRAP CS 560 CRA2 ADR 87 H R156(1) CRA3 B2 680 CRA3 DIAG ADR 18 H 680 CLK4 PF DISP 08 H R2(1) CRA2 CS 560 -CRA2 ADR 87 H D3 680 -CRA3 DISP 00-07 IN H R187(1) CRAI 86 680 %E54(2) R136(1) CRA2 86 R61(1) CRA3 68Ω CLK4 PF DISP 89 H CRA2 D6 CRA2 ADR 87 F H R132(1) C7 CRA3 DISP 02 A H CRA2 **B**4 R84(1) 680 R189(1) CRAI 84 XE55(15) R299(1) CRA3 R191(1) CRA1 XE55(2) R153(1) CRA2 **B3** 680 CLK4 PF DISP 10 H R57(1) CRA2 C5 CRA2 ADR 88 H R217(1) CRA3 C3 680 CRA3 DISP 82 B H R257(1) CRAI **B**2 6**8**a XE59(15) R252(1) CRA2 DS 68Ω CON COND ADR 18 H R18(1) CRA2 C5 56α -CRA2 ADR 88 H R211(1) CRA3 D6 68₽ CRA3 DISP 83 A H R261(1) CRAI 82 680 XE59(2) R194(1) CD-2 R2 680 CON NICOND 82 H R123(1) CRA2 05 680 CRAZ ADR RR F H R182(1) CRA3 D6 680 CRA3 DISP 83 B H C3 CRA2 B6 CON NICOND BB H R88(1) CRA2 CRA2 ADR 89 H R148(1) CRA2 C4 680 **XE6(15)** R131(1) 680 56e R229(1) CRA3 C6 68a CRA3 DISP 83 C H **C**7 680 R201(1) CRAZ 84 680 CON NICOND 89 H R47(1) CRA2 C3 56Ω -CRA2 ADR 09 H R216(1) D4 CRA3 DISP 84 A H R67(1) CRA4 XE61(15) CRA3 68e **C**7 R17(1) CRA4 %E61(2) R238(1) CRA2 **B**1 -CON SKIP EN 40-47 R139(1) D3 CRA2 ADR 09 F H R185(1) D4 CRA3 DISP 84 B H R71(1) CRA4 85 XE67(1) R167(1) CRA2 -CON SKIP EN 50-57 H R51(1) CPA2 C1 CRAZ ADR 18 H CRA3 DISP 84 C H A1 R228(1) C4 R77(1) CR04 B5 680 2F67(14) R199(1) CDGS R7 CON CD RO H R43(1) CPA2 C1 -CP02 00P 18 H R12(1) CRA3 D4 680 -CRA3 DISP 30-37 IN H D1 CRAZ ADR 10 F H R72(1) CRA4 85 680 **XE67(15)** R138(1) CRA2 86 680 CON SR 81 H R127(1) C<A2 R183(1) CRA3 **D3** 580 -CRAS DISP EN AR-AS H 6**8**9 680 CON SR 82 H R148(1) CRA2 A6 CRA2 SHORT INDIR HORD H R25(1) **B3** XE72(1) CRA2 84 R202(1) D3 -CRA3 DISP EN 88-87 H CRAY R204(1) CRA3 R79(1) CRAH 83 XE72(14) R149(1) CRA2 **B3** CON SR 03 H R248(1) CR42 C1 CRA2 SPARE H R179(1) D1 -CRA3 DISP EN 30-37 H R78(1) CRAH **B**3 XE72(15) CRA2 88 680 -CONS LONG EN H R249(1) CRA3 97 68α -CRA3 A .GE. 3 H R39(1) CRA3 **B3** CRA3 LOC 00 H 680 R56(1) В R74(1) CR94 **B3** 680 %E72(2) R159(1) CDD3 B2 680 -CR02 DIA FUNC 051 08 H R181(1) CRA3 86 680 CRA3 AREAD 81 H R86(1) CRA3 A3 68α CRA3 LOC 81 H CRAI CR93 R3 68o -CROS DIA FUNC 052 88 H R171(1) CRA3 A6 CRA3 AREAD 82 H CRA3 A3 68o R199(1) C4 680 2F73(11) R159(1) 680 R25(1) CRA3 LOC 82 H C6 68Ω %E73(5) CRAS C6 68Ω -CR02 DIA FUNC 053 08 H R117(1) CRA3 A6 CRA3 AREAD 03 H A3 R251(1) CRA1 R69(1) R33(1) CRA3 68Ω CRA3 LOC 83 H NOTE: 1. ALL TERMINATORS HAVE PIN THO CONNECTED TO -2.0V AND ARE 5% 1/4HATT UNLESS OTHERHISE SPECIFIED

ENTRIES ARE SORTED BY SIGNAL NAME

1. X INDICATES OUTPUT OF DIP LOC AND

() INDICATES PIN NUMBER A DATE ENGINE STATE "THIS CONLING AND SPECIFICATIONS, MEREIN, ARE THE REVISIONS PROPERTY OF DIGITAL EQUIPMENT COMPONATION AND SHALL CHK CHANGE NO. REV DATE TITLE: CONTROL RAM ADR **TERMINATORS** HATT BE REPRODUCED OR COPED OR ISSED IN MAGE OR IN-PART AT THE BASIS FOR THE HAMIFACTURE OR SALE OF ITEMS MITHOUT MRITTEN PERMISSION. COPYR*ONT © 1976, DIGITAL EQUIPMENT CORPORATION* NI MREE D CS M8541-0-RES FIRST USED ON OPTION/MODEL: KL10 B-DD-M8541-0 MR 7 6 5 3

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D CZ HB2H1-0-6EZ 2 3 5 6 7 8 D SHOUN ON DRUM REF TERMINATES SIGNAL RESISTOR SHOUN ON DRUM REF TERMINATES SHOUN ON TERMINATES RESISTOR VALUE VALUE RESISTOR D LOC(PIN) SIGNAL LOC(PIN) EA TYPE 88 H-#488 CRAS A6 R87(1) CRA5 **B**7 -CRAS DIAG 06 H R147(1) CRA3 A3 CRA3 LOC 84 H R32(1) EA TYPE 89 H-#480 84 -CRAS DIAG READ H R219(1) CRA2 B7 CRA3 LOC 05 H R89(1) R29(1) CRA3 81 680 EA TYPE 10 H-#400 CRAS FRUS 88 H R225(1) CRA2 A3 R48(1) CRAS A7 CRA3 LOC 06 H **B1** 68a R28(1) CRA3 CRAS EBUS 81 H CRA2 81 IR AC=0 H CRA3 LOC 07 H R58(1) CRAS A1 R37(1) CRA3 CRAS EBUS 02 H R207(1) CRA2 86 68a IR NORM 08 H CRA5 A4 CRA3 LOC 08 H R52(1) CRA3 R36(1) 84 IR NORM 09 H A3 58Ω CRAS EBUS 03 H R223(1) CRAZ R11(1) CRA5 CRA3 LDC 09 H R34(1) CRA3 AI **B3** IR NORM 10 H R1(1) CRA5 A2 68Ω CRAS EBUS 84 H R235(1) CRA2 CRA3 LCC 10 H R31(1) CRA3 Δ1 81 MCL6 PC SECTION 8 H R248(1) CRAS EBUS 05 H CRA4 CALL, RESET, 1777 H R9(1) CRA5 A1 680 R104(1) CRA4 05 CRAS OUT 80 H CRAZ MQ 34 H CRA5 68Ω -CRA4 CALL, RESET, 1777 H R13(1) R23(1) CRAY MQ 35 H R15(1) CRA5 D4 CRAS OUT 81 H R234(1) CRAZ 83 CRAY 6**8**0 CRA4 RESET H R139(1) SCD1 SCAD SIGN H CRA2 B1 R16(1) CRA5 DS 6**8**0 CRAS OUT 82 H R245(1) CRA4 RET AND -1777 H R54(1) CRAY A2 -SCD1 SCAD=0 H R243(1) CRA2 B1 CRAS DUT 83 H R64(1) CR95 C5 68a -CRA4 RET AND -1777 H P19(1) CRAY 82 CRA2 86 6**8**0 SCD2 FE SIGN H CRAS OUT 84 H CRA5 C4 68a CRA4 SBR RET 00 H R89(1) CRA4 C4 R112(1) CRAS OUT 85 H R168(1) CRA2 **B**1 680 SCD2 SC SIGN H CRA5 C5 68Ω R99(1) CRAY SBR RET 01 H R189(1) CRA2 81 CRAM COND 035 H R212(1) CRA2 86 68Ω SCD4 FPD H R242(1) 68n CRAY SBR RET 02 H R176(1) CRA4 C4 С B3 SCD4 NICOND 18 H CRA2 CRA4 SBR RET 03 H R247(1) CRA2 B1 680 CRAM COND 845 H R159(1) CS R118(1) CRA4 C1 -SHM1 AR PAR 000 B H R239(1) CRA2 B1 CRAM COND 055 H CR94 CS CRA4 SBR RET 84 H R246(1) CRA2 680 R114(1) C7 CRAM JOO H R226(1) CRA2 A3 SHM1 INDEXED H CRA4 SBR RET 85 H R105(1) CRA1 68₽ CS 68Ω R174(1) CRA4 CRAM JØ1 H R193(1) CRA2 BZ SHIPS SH AR A H R258(1) CRA1 D6 CRA4 cs 68n CRA4 SBR RET 06 H SHITH SH 01 A H CRA2 B6 CRAI C6 68Ω CROM JR2 H R137(1) CRA4 SBR RET 07 H R263(1) R195(1) CR94 CI 68Ω SHITH SH 02 A H CRAM JØ3 H R206(1) CRA2 B4 68a R259(1) CRAI D4 680 CRA4 SBR RET 08 H R133(1) CRA4 C1 CRA2 B3 68Ω SHITH SH 03 A H R154(1) CRA4 SBR RET 89 H R268(1) CRAI C4 68a CRAM JOH H C1 R298(1) CRA4 R168(1) CRA2 A1 68Ω -VMA1 LOCAL AC ADDRESS H CRA1 D3 689 CRAM JOS H R155(1) CRAY SBR RET 10 H R213(1) C3 CRAM JØ6 H R221(1) CRAI A7 CRA4 SEL CALL H R218(1) CRAZ 07 6**8**n CRAM JRZ H CRAY STACK ADR 01 H R128(1) CR64 B5 R222(1) CEAS D6 680 CRAM MAR H 85 CRAY STACK ADR 82 H R129(1) CRA4 R103(1) CRA2 D4 680 CRAM JØ9 H CRAY STACK ADR 84 H B5 R124(1) CRA2 D3 CRAM J18 H 85 68₽ CRAY STACK ADR 10 H R106(1) R82(1) DRAM B 00 H R214(1) R69(1) CRA4 06 68α CRAY STACK ADR A H R227(1) CRA2 84 68a DRAM B 01 H CRAH STACK ADR B H R26(1) CRA4 06 68α R233(1) CRA2 B3 DRAM B 82 H CRA4 STACK ADR C H D6 68Ω R27(1) CRA4 CRAI 86 DRAM J 81 H P179(1) R73(1) CRA4 STACK ADR D H DRAM J 82 H CRA1 86 R125(1) C6 680 CRAY STACK ADR E H R65(1) SINE CODE R116(1) CRAI 84 68α DRAM J 03 H CROY STACK ADR F H R79(1) CRR4 C6 680 R113(1) CRA1 B4 680 DRAM J 84 H C6 68a CRAY STACK AJR G H R21(1) CRA4 DROM J 87 H C7 D7 CRA4 STACK ADR Y H R146(1) CRA2 680 R66(1) CRA4 В DRAM J 08 H R135(1) CRA2 C6 68n **B**7 680 CRAY STACK ADR Z H R22(1) DRAM J 89 H R203(1) CRA2 C4 R18(1) CR94 A7 680 -CROY STACK URITE H R152(1) CRA2 C3 680 DRAM J 10 H CZ -CRAS DIAG 84 H 680 R85(1) CRAS -CRAS DIAG 05 H R158(1) CRA2 A7 680 EA TYPE 07 H-#400 CRAS B7 R83(1) NOTE: 1. ALL TER INATORS HAVE PIN THO CONNECTED TO -2.8V AND 1. ALL IER INHIUER HAVE FIN HOU COMMERCIEV TO ARE 5% 1/MIATT UNLESS OTHERHISE SPECIFIED 2. ENTRIES ARE SORTED BY SIGNAL NAME 3. % INDICATES OUTPUT OF DIP LOC AND () INDICATES PIN NUMBER DATE ENPON GOLD 17-SEP-76 2214 NEXT HIGHER ASSEMBLY:
FIRST USED ON OPTION THE DEL: KL10 B-DD-HB541-0 CONTROL RAM ADR "THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF DISITAL EQUIPMENT CORPORATION AND SHALL CHK CHA RGE NO. REV NOT BE REPRODUCED OR COPIED OR USED IN HAUGE OR IN PART AS THE BASIS FOR THE HAUFACTURE OR SALE OF ITEM HITDOLT MULTIPE PERMISSION.

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