
IDENTIFICATION

PRODUCT CODE: AC-F063B-MC
PRODUCT NAME: CX8M80 B873-YF MODULE
PRODUCT DATE: SEPTEMBER 1978
MAINTAINER: DEC/X11 SUPPORT GROUP

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1.0 ABSTRACT

BME IS A BACKGROUND MODULE THAT EXERCISES A SINGLE BM873-YF BOOTSTRAP ROM OPTION. IT COMPARES THE CONTENTS OF EACH OF THE 256(10) LOCATIONS STORED IN THE ROM WITH THE CONTENTS OF A 256(10) WORD CORE MEMORY BUFFER TO VERIFY THAT EACH LOCATION IN THE ROM CAN BE UNIQUELY ADDRESSED AND CONTAINS THE CORRECT DATA. ALL ERRORS ARE REPORTED VIA THE CONSOLE DEVICE.

2.0 REQUIREMENTS

HARDWARE: A PDP11 COMPUTER WITH A BM873-YF OPTION

STORAGE:: BME REQUIRES:
1. DECIMAL WORDS: 368
2. OCTAL WORDS: 0560
3. OCTAL BYTES: 1340

3.0 PASS DEFINITION

THE INITIAL PASS CONSISTS OF EXECUTING THE BASIC TEST SEQUENCE ONE TIME BEFORE REPORTING END OF PASS. SUBSEQUENT PASSES OF THE BMDA MODULE CONSISTS OF 100(8) ITERATIONS OF THE BASIC TEST SEQUENCE DESCRIBED IN PARA. 7 BELOW.

4.0 EXECUTION TIME

PASS TIME VARIES DEPENDENT UPON CPU TYPE AND THE CONFIGURATION BEING EXERCISED. WHEN RUNNING ALONE ON A PDP11/40 THE FIRST PASS SHOULD TAKE LESS THAN 10 SECONDS AND SUBSEQUENT PASSES LESS THAN ONE MINUTE.

5.0 CONFIGURATION OPTIONS

DEFAULT PARAMETERS:

DVA: 173000

REQUIRED PARAMETERS:

NONE

DEVICE OPTION SFT0P

NONE REQUIRED

7.0 MODULE OPERATION

TEST SEQUENCE:

1. R1 IS SET UP TO POINT TO THE FIRST WORD IN THE ROM
2. R2 IS SET UP TO POINT TO THE CORRESPONDING WORD IN THE CORE MEMORY BUFFER.

THE ADDRESS IN R1 IS CHECKED FOR EQUALITY TO EITHER 173024 OR 173224 AND IF FOUND EQUAL GOES TO STEP (5) - IF NOT IT PROCEEDS WITH STEP (3). THESE TWO ADDRESSES ARE NOT CHECKED BECAUSE THEIR CONTENTS AS READ ON THE BUS WILL VARY DEPENDENT UPON WHICH PARTICULAR "LOAD" BUTTON HAD BEEN INITIALLY DEPRESSED TO LOAD THE PROGRAM.

3. R1 AND R2 ARE USED TO COMPARE A ROM WORD WITH ITS CORE IMAGE COUNTERPART. IF THE WORDS DON'T COMPARE A SUB-ROUTINE IS CALLED TO SET UP THE ERROR INFORMATION AND REPORT IT VIA A "DATA" CALL TO THE MONITOR.
4. STEP (3) IS REPEATED.
5. R1 AND R2 ARE UPDATED TO POINT TO THE NEXT WORD AND A TEST MADE ON R2 TO SEE IF 256(10) WORDS HAVE BEEN CHECKED. IF YES, GO TO STEP (6) IF NOT REPEAT (3) THRU (5).
6. A PASS COUNTER IS DECREMENTED AND TESTED TO SEE IF 100(8) ITERATIONS OF STEPS (1) THRU (5) HAVE OCCURRED - IF YES GO TO STEP (7) IF NOT REPEAT (1) THRU (5).
7. REPORT END OF PASS AND REPEAT (1) THRU (6).

8.0 OPERATOR OPTIONS

(NONE)

9.0 NON-STANDARD PRINTOUTS

(NONE)

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000000- BKMOD <BMEB >,173000,0,0,0,100,154
000000- MODULE 40020,BMEB,173000,0,0,0,100,154
; TITLE BMEB DEC/X11 SYSTEM EXERCISER MODULE
; DORCON VERSION 6 23-MAY-78
.LIST BIN
*****
000000- 041105 040
000000- ;*****
000005- ;MODNAME: -ASCII /BMEB / ;MODULE NAME.
000006- ;XFLAG: -BYTE OPEN ;USED TO KEEP TRACK OF WBPFF USAGE
000007- ;ADDR: 173000+0 ;1ST DEVICE ADDR.
000008- ;VECTOR: 0+0 ;1ST DEVICE VECTOR.
000009- ;R1: -BYTE PRTY0+0 ;1ST BR LEVEL.
000010- ;R2: -BYTE PRTY0+0 ;2ND BR LEVEL.
000011- ;DVID1: 0+1 ;DEVICE INDICATOR 1.
000012- ;SR1: OPEN ;SWITCH REGISTER 1
000013- ;SR2: OPEN ;SWITCH REGISTER 2
000014- ;SR3: OPEN ;SWITCH REGISTER 3
000015- ;SR4: OPEN ;SWITCH REGISTER 4
*****
000026- 040020 ;STAT: 40020 ;STATUS WORD
000030- 000224 ;INIT: START ;MODULE START ADDR.
000032- 000224 ;SPOINT: MODSP ;MODULE STACK POINTER.
000034- 000000 ;ICDWT: 0 ;PASS COUNTER.
000036- 000100 ;ICDUMT: 00 ;# OF ITERATIONS PER PASS=100
000040- 000000 ;SOPCMT: 0 ;LOC TO COUNT ITERATIONS
000042- 000000 ;HRDCMT: 0 ;LOC TO SAVE TOTAL SOFT ERRORS
000044- 000000 ;SOPPAS: 0 ;LOC TO SAVE TOTAL HARD ERRORS
000046- 000000 ;HRDPAS: 0 ;LOC TO SAVE SOFT ERRORS PER PASS
000050- 000000 ;SYSCMT: 0 ;LOC TO SAVE HARD ERRORS PER PASS
000052- 000000 ;RANNU: 0 ;# OF SYS ERRORS ACCUMULATED
000054- 000000 ;CONVIC: 0 ;HOLDS RANDOM # WHEN RAND MACRO IS CALLED
000056- 000000 ;RES1: 0 ;RESERVED FOR MONITOR USE
000060- 000000 ;RES2: 0 ;RESERVED FOR MONITOR USE
000062- 000000 ;SVR0: OPEN ;LOC TO SAVE R0.
000064- 000000 ;SVR1: OPEN ;LOC TO SAVE R1.
000066- 000000 ;SVR2: OPEN ;LOC TO SAVE R2.
000070- 000000 ;SVR3: OPEN ;LOC TO SAVE R3.
000072- 000000 ;SVR4: OPEN ;LOC TO SAVE R4.
000074- 000000 ;SVR5: OPEN ;LOC TO SAVE R5.
000076- 000000 ;SVR6: OPEN ;LOC TO SAVE R6.
000100- 000000 ;CSRA: OPEN ;ADDR OF CURRENT CSR.
000102- 000000 ;ASDR: OPEN ;ADDR OF GOOD DATA, OR
000104- 000000 ;WASADR: OPEN ;CONTENTS OF CSR.
000106- 000000 ;ASAT: OPEN ;ADDR OF BAD DATA, OR
000108- 000000 ;ERRTYP: OPEN ;STATUS REG CONTENTS.
000110- 000000 ;ASR: OPEN ;TYPE OF ERROR
000112- 000000 ;AWAS: OPEN ;EXPECTED DATA.
000114- 000230 ;RSPRT: RESTRT ;ACTUAL DATA.
000116- 000000 ;WDTO: OPEN ;RESTART ADDRESS AFTER END OF PASS
000120- 000000 ;WDR: OPEN ;WORDS TO MEMORY PER ITERATION
000122- 000154 ;WTR: OPEN ;WORDS FROM MEMORY PER ITERATION
;IDNUM: 154 ;# OF INTERRUPTS PER ITERATION
; -REPT SPSIZ ;MODULE IDENTIFICATION NUMBER=154
; -NLIST ;MODULE STACK STARTS HERE.

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000224- ;WORD 0
;LIST
;ENDR
;*****

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| | | | |
|-----|--------|--------|--------|
| 315 | 000560 | 000402 | 000402 |
| 316 | 000564 | 173000 | 173000 |
| 317 | 000568 | 001340 | 001340 |
| 318 | 000566 | 001772 | 001772 |
| 319 | 000570 | 100003 | 100003 |
| 320 | 000574 | 116124 | 116124 |
| 321 | 000578 | 000082 | 000082 |
| 322 | 000576 | 000766 | 000766 |
| 323 | 000600 | 122222 | 122222 |
| 324 | 000604 | 022704 | 022704 |
| 325 | 000608 | 001000 | 001000 |
| 326 | 000606 | 101337 | 101337 |
| 327 | 000610 | 005007 | 005007 |
| 328 | 000614 | 005202 | 005202 |
| 329 | 000618 | 122704 | 122704 |
| 330 | 000616 | 000032 | 000032 |
| 331 | 000620 | 103003 | 103003 |
| 332 | 000624 | 005002 | 005002 |
| 333 | 000628 | 062702 | 062702 |
| 334 | 000626 | 000401 | 000401 |
| 335 | 000630 | 022704 | 022704 |
| 336 | 000634 | 160000 | 160000 |
| 337 | 000638 | 000011 | 000011 |
| 338 | 000636 | 011711 | 011711 |
| 339 | 000640 | 000001 | 000001 |
| 340 | 000644 | 000740 | 000740 |
| 341 | 000648 | 001775 | 001775 |
| 342 | 000652 | 100316 | 100316 |
| 343 | 000656 | 000011 | 000011 |
| 344 | 000660 | 000002 | 000002 |
| 345 | 000664 | 000002 | 000002 |
| 346 | 000668 | 000771 | 000771 |
| 347 | 000672 | 012711 | 012711 |
| 348 | 000676 | 000017 | 000017 |
| 349 | 000680 | 000011 | 000011 |
| 350 | 000684 | 000040 | 000040 |
| 351 | 000688 | 001775 | 001775 |
| 352 | 000692 | 016100 | 016100 |
| 353 | 000696 | 000000 | 000000 |
| 354 | 000676 | 000476 | 000476 |
| 355 | 000700 | 012703 | 012703 |
| 356 | 000704 | 035401 | 035401 |
| 357 | 000708 | 012700 | 012700 |
| 358 | 000712 | 100005 | 100005 |
| 359 | 000716 | 005005 | 005005 |
| 360 | 000720 | 000655 | 000655 |
| 361 | 000724 | 000036 | 000036 |
| 362 | 000716 | 000056 | 000056 |
| 363 | 000720 | 012700 | 012700 |
| 364 | 000724 | 000056 | 000056 |
| 365 | 000728 | 010540 | 010540 |
| 366 | 000732 | 010440 | 010440 |
| 367 | 000736 | 010340 | 010340 |
| 368 | 000740 | 010240 | 010240 |
| 369 | 000734 | 010240 | 010240 |
| 370 | 000736 | 010140 | 010140 |

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|-----|--------|--------|--------|
| 371 | 000740 | 014000 | 014000 |
| 372 | 000744 | 000177 | 000177 |
| 373 | 000748 | 000446 | 000446 |
| 374 | 000746 | 005002 | 005002 |
| 375 | 000750 | 005003 | 005003 |
| 376 | 000754 | 034700 | 034700 |
| 377 | 000758 | 052700 | 052700 |
| 378 | 000756 | 012704 | 012704 |
| 379 | 000760 | 177400 | 177400 |
| 380 | 000764 | 000007 | 000007 |
| 381 | 000768 | 000007 | 000007 |
| 382 | 000766 | 012701 | 012701 |
| 383 | 000770 | 176700 | 176700 |
| 384 | 000774 | 005705 | 005705 |
| 385 | 000778 | 100340 | 100340 |
| 386 | 000776 | 005306 | 005306 |
| 387 | 001000 | 002437 | 002437 |
| 388 | 001004 | 110065 | 110065 |
| 389 | 001008 | 000005 | 000005 |
| 390 | 001006 | 000010 | 000010 |
| 391 | 001010 | 032711 | 032711 |
| 392 | 001012 | 004000 | 004000 |
| 393 | 001014 | 001760 | 001760 |
| 394 | 001016 | 012711 | 012711 |
| 395 | 001020 | 000021 | 000021 |
| 396 | 001024 | 010261 | 010261 |
| 397 | 001028 | 000034 | 000034 |
| 398 | 001026 | 010361 | 010361 |
| 399 | 001030 | 000006 | 000006 |
| 400 | 001034 | 000022 | 000022 |
| 401 | 001038 | 000002 | 000002 |
| 402 | 001036 | 000300 | 000300 |
| 403 | 001040 | 110011 | 110011 |
| 404 | 001042 | 000300 | 000300 |
| 405 | 001044 | 100300 | 100300 |
| 406 | 001046 | 100376 | 100376 |
| 407 | 001050 | 032711 | 032711 |
| 408 | 001054 | 060000 | 060000 |
| 409 | 001058 | 001346 | 001346 |
| 410 | 001056 | 032761 | 032761 |
| 411 | 001060 | 140000 | 140000 |
| 412 | 001064 | 000042 | 000042 |
| 413 | 001068 | 000012 | 000012 |
| 414 | 001066 | 005700 | 005700 |
| 415 | 001070 | 100247 | 100247 |
| 416 | 001074 | 005000 | 005000 |
| 417 | 001078 | 000000 | 000000 |
| 418 | 001082 | 000776 | 000776 |
| 419 | 001100 | 016100 | 016100 |
| 420 | 001104 | 000012 | 000012 |
| 421 | 001108 | 000773 | 000773 |
| 422 | 001106 | 012702 | 012702 |
| 423 | 001110 | 000631 | 000631 |
| 424 | 001114 | 012703 | 012703 |
| 425 | 001118 | 006410 | 006410 |
| 426 | 001116 | 012700 | 012700 |

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|-----|--------|---|--------|--------|
| 427 | 001120 | - | 130400 | 130400 |
| 428 | 001122 | - | 012704 | 012704 |
| 429 | 001144 | - | 110000 | 110000 |
| 430 | 001144 | - | 005005 | 005005 |
| 431 | 001130 | - | 000714 | 000714 |
| 432 | 001132 | - | 010037 | 010037 |
| 433 | 001134 | - | 000040 | 000040 |
| 434 | 001120 | - | 012700 | 012700 |
| 435 | 001120 | - | 142706 | 142706 |
| 436 | 001142 | - | 000664 | 000664 |
| 437 | 001144 | - | 005005 | 005005 |
| 438 | 001146 | - | 012704 | 012704 |
| 439 | 001150 | - | 012501 | 012501 |
| 440 | 001152 | - | 011502 | 011502 |
| 441 | 001154 | - | 012704 | 012704 |
| 442 | 001156 | - | 173634 | 173634 |
| 443 | 001160 | - | 011503 | 011503 |
| 444 | 001162 | - | 012715 | 012715 |
| 445 | 001164 | - | 000340 | 000340 |
| 446 | 001166 | - | 012704 | 012704 |
| 447 | 001190 | - | 142704 | 142704 |
| 448 | 001172 | - | 012706 | 012706 |
| 449 | 001174 | - | 000004 | 000004 |
| 450 | 001176 | - | 002704 | 002704 |
| 451 | 001200 | - | 000640 | 000640 |
| 452 | 001202 | - | 105704 | 105704 |
| 453 | 001204 | - | 100770 | 100770 |
| 454 | 001206 | - | 032764 | 032764 |
| 455 | 001210 | - | 004000 | 004000 |
| 456 | 001212 | - | 000034 | 000034 |
| 457 | 001214 | - | 001770 | 001770 |
| 458 | 001216 | - | 062704 | 062704 |
| 459 | 001240 | - | 000014 | 000014 |
| 460 | 001222 | - | 001365 | 001365 |
| 461 | 001224 | - | 010312 | 010312 |
| 462 | 001226 | - | 010142 | 010142 |
| 463 | 001230 | - | 010142 | 010142 |
| 464 | 001232 | - | 010045 | 010045 |
| 465 | 001234 | - | 012700 | 012700 |
| 466 | 001236 | - | 000130 | 000130 |
| 467 | 001240 | - | 012420 | 012420 |
| 468 | 001242 | - | 022700 | 022700 |
| 469 | 001244 | - | 000156 | 000156 |
| 470 | 001246 | - | 102704 | 102704 |
| 471 | 001250 | - | 002724 | 002724 |
| 472 | 001252 | - | 010401 | 010401 |
| 473 | 001254 | - | 012700 | 012700 |
| 474 | 001256 | - | 000100 | 000100 |
| 475 | 001260 | - | 010021 | 010021 |
| 476 | 001262 | - | 005061 | 005061 |
| 477 | 001264 | - | 177744 | 177744 |
| 478 | 001266 | - | 005061 | 005061 |
| 479 | 001270 | - | 177764 | 177764 |
| 480 | 001272 | - | 032711 | 032711 |
| 481 | 001274 | - | 004000 | 004000 |
| 482 | 001276 | - | 001775 | 001775 |

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|-----|--------|---|--------|--------|
| 483 | 001300 | - | 010014 | 010014 |
| 484 | 001302 | - | 005061 | 005061 |
| 485 | 001304 | - | 177766 | 177766 |
| 486 | 001306 | - | 012761 | 012761 |
| 487 | 001310 | - | 107400 | 107400 |
| 488 | 001312 | - | 177762 | 177762 |
| 489 | 001314 | - | 032711 | 032711 |
| 490 | 001316 | - | 004000 | 004000 |
| 491 | 001320 | - | 001775 | 001775 |
| 492 | 001322 | - | 010014 | 010014 |
| 493 | 001324 | - | 012705 | 012705 |
| 494 | 001326 | - | 100000 | 100000 |
| 495 | 001330 | - | 005000 | 005000 |
| 496 | 001332 | - | 000000 | 000000 |
| 497 | 001334 | - | 000000 | 000000 |
| 498 | 001336 | - | 177777 | 177777 |
| 499 | 000001 | - | 000001 | 000001 |

TABEND: 177777
-END

BMEB DEC/K11 SYSTEM EXERCISER MODULE
XBMEBO.F11 12-OCT-78 11:49

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CROSS REFERENCE TABLE -- USER SYMBOLS

SEQ 0014

. ABS. 000000 000
001340 001

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

XBMEBO, XBMEBO/SOL/CRF:SYM=DDXCOM, XBMEBO
RUN-TIME: 1 1 .2 SECONDS
RUN-TIME RATIO: 18/3=5.8
CORE USED: 7K (13 PAGES)