

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
3 *****
4 *****
5 *** PREREQUISITES ***
6 *****
7 NONE
8 *****
9 *****
10 *****
11 *****
12 *** MODIFICATIONS ***
13 *****
14 NONE
15 *****
16 *****
17 *****
18 *** REA'S INCORPORATED ***
19 *****
20 NONE
21 *****
22 *****
23 *** SPECIAL INSTRUCTIONS ***
24 *****
25 *****
26 *****
27 *****
28 *****
29 *****
30 *****
31 *****
32 *****
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117 *****

001800 F7C1C6F1
001800 0000
001804 1D3A
001808 1812
00180A 0000
00180C 0000
00180E 00000000
001812 C001
001814 0000
001816 0000000000000000
00181E 7A
001820 000F
001822 1830
001824 1886
001826 00C0
001828 1852
00182A 1830
00182C 000F
00182E 0000
001830 4040404040404040
001850 7AF1
001852 F4F9F6F340E2C5C3E
001884 00
001886 0000000000000000
00189E 1920
001890 0000
001892 4040404040404040
001912 0000
001914 0000
001916 0000
001918 0080
00191A 0000
00191C 7AF1
00191E 0000
001920 6908 1D2E
001924 0102
001926 CA55
001928 690D 191A
00192C 4020 1802 C6F2
001932 4724 191A
001936 6000
001938 0108
00193A CA25 1D2C
00193E 4424 0008
001942 CA55
001944 690D 191A
001948 4724 191A
00194C 6000
00194E 0128
001950 BCF8
001952 4020 1918 00C0
001958 4020 191A 191E
00195E 4724 191A
001962 6000
001964 6802 1BC6

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00000D 118 READ0 EQU 13
00000E 119 READ1 EQU 14
00000F 120 RSTAT EQU 15
000010 121 WRIT0 EQU 16
000011 122 WRIT1 EQU 17
000012 123 CTRL EQU 18
000013 124 RIBC EQU 19
000014 125 CIBC EQU 20
000015 126 HIO EQU 21
000016 127 REOSD EQU 22
000017 128 RELSD EQU 23
000018 129 HALT EQU 24
000019 130 ETOH EQU 25
00001A 131 HTOE EQU 26
00001B 132 ATOH EQU 27
00001C 133 HTOA EQU 28
00001D 134 ETOA EQU 29
00001E 135 ATOE EQU 30
00001F 136 READI EQU 31
000020 137 WRITI EQU 32
139 *****
140 *
141 * EQUATES USED BY TU'S AS CONSTANTS
142 *
143 *****
144 PLUS EQU C'+1 PLUS CHAR
145 MINUS EQU C'-1 MINUS CHAR
147 ZERO EQU 0
148 ONE EQU 1
149 TWO EQU 2
150 THREE EQU 3
151 FOUR EQU 4
152 FIVE EQU 5
153 SIX EQU 6
154 SEVEN EQU 7
155 EIGHT EQU 8
156 NINE EQU 9
158 TEN EQU 10
159 ELEVEN EQU 11
160 TWELVE EQU 12
161 THIRTEEN EQU 13
162 FOURTEEN EQU 14
163 FIFTEEN EQU 15
164 SIXTEEN EQU 16
165 SEVENTEEN EQU 17
166 EIGHTEEN EQU 18
167 NINETEEN EQU 19
168 TWENTY EQU 20
169 TWENTYONE EQU 21
170 TWENTYTWO EQU 22
171 TWENTYTHREE EQU 23
172 TWENTYFOUR EQU 24
173 TWENTYFIVE EQU 25
174 TWENTYSIX EQU 26
175 TWENTYSEVEN EQU 27
176 TWENTYEIGHT EQU 28
177 TWENTYNINE EQU 29
178 THIRTY EQU 30
179 THIRTYONE EQU 31
180 THIRTYTWO EQU 32
181 THIRTYTHREE EQU 33
182 THIRTYFOUR EQU 34
183 THIRTYFIVE EQU 35
184 THIRTYSIX EQU 36
185 THIRTYSEVEN EQU 37
186 THIRTYEIGHT EQU 38
187 THIRTYNINE EQU 39
188 FORTY EQU 40
189 FORTYONE EQU 41
190 FORTYTWO EQU 42
191 FORTYTHREE EQU 43
192 FORTYFOUR EQU 44
193 FORTYFIVE EQU 45
194 FORTYSIX EQU 46
195 FORTYSEVEN EQU 47
196 FORTYEIGHT EQU 48
197 FORTYNINE EQU 49
198 FIFTY EQU 50
199 *****
200 *
201 *
202 *****4/28/77*****
203 *
204 * DCB TABLES AND DC'S
205 *
206 *****
207 *
208 ***** READ SECTOR ID DCB *****
209 *
210 *
211 RSDCB DC X'201C' READ SECTOR ID NO AUTO SEEK
212 DC X'0000' FG/SEC
213 DC X'0000' HD/CYL
214 DC X'0000' NOT USED
215 DC A(RSBA) RSB ADDRESS
216 DC X'0000' CHAIN ADDRESS
217 DC X'0004' BYTE COUNT FOR READ SECTOR ID
218 DC A(SCTID) SECTOR ID DATA ADDRESS
219 *
220 ***** SEEK DCB *****
221 *
222 SKDCB DC X'0000' SEEK DCB
223 DC X'0000' FG/SEC
224 DC F'0' HD/CYL
225 DC F'0' NOT USED
226 DC A(RSBA) RSB ADDRESS
227 DC A(*-*) CHAIN ADDRESS
228 DC F'0' NOT USED
229 DC F'0' NOT USED
230 *
231 ***** CYCLE STEAL STATUS DCB *****
232 *
233 CSDCB DC X'2000' CONTROL WORD
234 DC F'0' NOT USED
235 DC F'0' NOT USED
236 DC F'0' NOT USED

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001990 0000 237 DC F'0' NOT USED
001992 0000 238 DC F'0' NOT USED
001994 001A 239 DC X'001A' 13 WORDS OF STATUS
001996 19DE 240 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
241 *
242 **** READ SECTOR ID SKEWED ****
243 *
244 RKDCB DC X'201D' CONTROL WORD - NO AUTO SEEK
245 DC X'0000' FG/SEC
246 DC X'0000' HD/CYL
247 DC X'0000' NOT USED
248 DC A(RSBA) CHAIN ADDRESS
249 DC A(*-*) CHAIN ADDRESS
250 DC X'0004' BYTE COUNT FOR READ SECTOR ID
251 DC A(SCTID) SECTOR ID DATA ADDRESS
252 *
253 **** READ MULTIPLE SECTOR IDS ****
254 *
255 RMDCB DC X'2014' CONTROL WORD - AUTO SEEK
256 DC F'0' FLAG/SECTOR
257 DC X'0000' HEAD/CYLINDER
258 DC X'0000' SCAN COUNT
259 DC A(RSBA) RSB ADDRESS
260 DC A(*-*) CHAIN ADDRESS
261 DC X'00B4' BYTE COUNT
262 DC A(ID00) DATA AREA ADDRESS
263 *
264 PDIT 00
266+OPTN1 DC X'0000' PROGRAM OPTION CONTROL WORD 1
267+**
268+OPTN2 DC X'0000' PROGRAM OPTION CONTROL WORD 2
269+** BIT HEX
270+B48 EQU 16 0 8
271+B49 EQU 17 1 4
272+B50 EQU 18 2 2
273+B51 EQU 19 3 1
274+B52 EQU 20 4 8
275+B53 EQU 21 5 4
276+B54 EQU 22 6 2
277+B55 EQU 23 7 1
278+B56 EQU 24 8 8
279+B57 EQU 25 9 4
280+B58 EQU 26 10 2
281+B59 EQU 27 11 1
282+B60 EQU 28 12 8
283+B61 EQU 29 13 4
284+B62 EQU 30 14 2
285+B63 EQU 31 15 1
286+CH EQU 30 14 2
287+CMP EQU 31 15 1
289+OPTN3 DC X'0000' PROGRAM OPTION CONTROL WORD 3
290+**
291+** 0 MYSTERY INTERRUPT MI 8 CS STATUS IN PROGRESS CS
292+** 1 ERROR INTERRUPT ER 9 CS AVAILABLE CSA
293+** 2 EXPECTED INTERRUPT XI 10 CS STATUS INTERRUPT ERR CE
294+** 3 INTERRUPT RECEIVED IN 11 ISB BITS ON (1-7) ISBON
295+**
296+** 4 EXPECTED ERR/ATTENT YE 12 TEST UNIT RESULTS VOID NG
297+** 5 HARD ERROR FOUND HE 13 OIO CC ERROR IOCC
298+** 6 WRONG INTR LEVEL ELE 14 NO INTERRUPT NOIN
299+** 7 NO INTR EXPECTED NI 15 INTERRUPT CC ERROR INCC
300+** BIT HEX
301+MI EQU 32 0 8 MYSTERY INTERRUPT HAPPENED
302+ER EQU 33 1 4 ERROR RECEIVED ON INTERRUPT
303+XI EQU 34 2 2 EXPECTED INTERRUPT CONTROL BIT
304+IN EQU 35 3 1 INTERRUPT RECEIVED CONTROL BIT
305+XE EQU 36 4 8 EXPECTED ERROR RESPONSE
306+HE EQU 37 5 4 HARD ERROR, 8 RETRIES
307+LE EQU 38 6 2 INTERRUPT ON WRONG LEVEL ERROR
308+NI EQU 39 7 1 NO INTERRUPT EXPECTED
309+CS EQU 40 8 8 CYCLE STEAL IN PROGRESS
310+CSA EQU 41 9 4 CYCLE STEAL AVAILABLE
311+CE EQU 42 10 2 CYCLE STEAL STATUS INTERRUPT ERROR
312+ISBON EQU 43 11 1 ISB BITS ON (1-7)
313+NG EQU 44 12 8 TEST UNIT RESULTS NO GOOD
314+IOCC EQU 45 13 4 OIO CC ERROR
315+NOIN EQU 46 14 2 NO INTERRUPT
316+INCC EQU 47 15 1 INTERRUPT CC ERROR
317+**
318+** COMMON BUFFER FOR PRINTING DATA
319+**
321+STUID DC A(*-*) TEST UNIT IDENTIFICATION
322+SIQIN DC A(*-*) I/O AND INTR CONDITION CODES
323+ISB DC A(*-*) R7, INTR STATUS BYTE & DEV ADRS
324+LSTIO DC A(*-*) ADRS OF LAST I/O + 4 BYTES
325+DEV1 DC A(*-*) DEVICE DEPENDENT DATA
326+DEV2 DC A(*-*) *
327+DEV3 DC A(*-*) *
328+DEV4 DC A(*-*) *
329+SCTID EQU DEV1 CS STATUS ERROR ISB & INTR CC
330+DCBUF EQU * READ ID BUFFER FOR IBIS & TERN
331+DCB1 DC A(*-*) DCB BUFFER FOR LAST DCB USED
332+DCB2 DC A(*-*) LAST DCB TABLE, CONTROL WORD
333+DCB3 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
334+DCB4 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
335+DCB5 DC A(*-*) LAST DCB TABLE, DEV DEP WORD
336+DCB6 DC A(*-*) LAST DCB TABLE, CHAIN ADRS
337+DCB7 DC A(*-*) LAST DCB TABLE, BYTE COUNT
338+DCB8 DC A(*-*) LAST DCB TABLE, BUFFER ADDRESS
339+**
340+CSBUF EQU * CYCLE STEAL DATA BUFFER
341+CSTL1 DC A(*-*) CS STATUS WD 0, RESIDUAL ADDRESS
342+CSTL2 DC A(*-*) CS STATUS WD 1, RESIDUAL COUNT
343+CSTL3 DC A(*-*) CS STATUS WD 2, RETRY CNT WD 1
344+CSTL4 DC A(*-*) CS STATUS WD 3, RETRY CNT WD 2
345+CSTL5 DC A(*-*) CS STATUS WD 4, ERROR STATUS WD 1
346+CSTL6 DC A(*-*) CS STATUS WD 5, ERROR STATUS WD 2
347+CSTL7 DC A(*-*) CS STATUS WD 6, LAST DCB ADDRESS
348+CSTL8 DC A(*-*) CS STATUS WD 7, PREVIOUS HD/CYL
349+CSTL9 DC A(*-*) CS STATUS WD 8, CURRENT HD/CYL
350+CSTL10 DC A(*-*) CS STATUS WD 9, FLAG/SECTOR
351+CSTL11 DC A(*-*) CS STATUS WD 10, HEAD/CYLINDER
352+CSTL12 DC A(*-*) CS STATUS WD 11, DIAG BYTES 1, 2
353+CSTL13 DC A(*-*) CS STATUS WD 12, AND 3 + WRAP BYTE

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0019F8 0000 354+**
355+SUBN DC A(*-*) LAST SUBROUTINE ADDRESS USED
0019FA 00000000 356+SDATA DC 2A(*-*) OPTIONAL DATA
0019FE 0021 357+SINTL DC X'0021' INTERRUPT LEVEL REQUESTED
001A00 0000 358+TURN DC A(*-*) TEST UNIT RETURN ADRS TO MDI
001A02 00 359+SDVID DC X'00' DEVICE ID
001A04 1814 360+SVCAL DC A(DEVADD) ADRS OF DEVICE ADDRESS
001A06 0000 361+ DC A(*-*) IBIS CYLINDER ADDRESS
362+**
363+** THIS TEST UNIT WILL RETURN TO MDI WITHOUT DOING ANY PROGRAM
364+** FUNCTION. THE RESULTS THAT WERE SET UP IN THE RESULTS AREA ARE
365+** STILL VALID BUT A DIFFERENT TEST IS TO BE PERFORMED.
366+**
367+T7A02 MVHI X'7A02',STUID SET UP TEST UNIT ID
001A08 4020 19BE 7A02 368+ BXS (R7) RETURN TO MDI SUPVR
369+**
370+**
371+**
372+** EXECUTE INPUT & OUTPUT COMMANDS
373+** TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
374+** EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PARAMETER
375+** LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
376+** SUPVR CALL.
377+**
378+** THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
379+**
380+** 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
381+** 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
382+**
383+** THIS ROUTINE HAS THE FOLLOWING ENTRIES:
384+**
385+** 1 BAL \$RKEW,R6 READ SECTOR ID SKEWED
386+**
387+** 2 BAL \$WKW,R6 WRITE SECTOR ID SKEWED
388+**
389+** 3 BAL \$WSEC,R6 WRITE SECTOR ID
390+**
391+** 4 BAL \$DIAG,R6 DIAGNOSTIC
392+**
393+** 5 BAL \$XIOCS,R6 CYCLE STEAL STATUS
394+**
395+** 6 BAL \$SEEK,R6 SEEK
396+**
397+** 7 BAL \$RECL,R6 RECALIBRATE
398+**
399+** 8 BAL \$RDID,R6 READ SECTOR ID
400+**
401+** 9 BAL \$RD,R6 READ
402+**
403+** 10 BAL \$RDVY,R6 READ VERIFY
404+**
405+** 11 BAL \$WRT,R6 WRITE
406+**
407+** 12 BAL \$RDIM,R6 READ MULTI SECTOP IDS
408+**
409+** 13 BAL \$WRT0,R6 WRITE DPC COMMANDS
410+**
411+** \$SEEK MVA SKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
412+** J
413+**
414+**
415+** \$RDID MVA RSDCB,IODCB SET UP BLOCK FOR SVC CALL
416+** J XIO
417+**
418+** \$RDIM MVA RMDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
419+** MVHI 132,R7 SET BUFFER LENGTH
420+** MVA ID00,R5 SET BUFFER ADDRESS
421+** MVBI X'BB',R3 SET CLEAR CHARACTERS
422+** PFN R3,(R5) CLEAR THE BUFFER
423+** J XIO
424+**
425+** \$RKEW MVA RKDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
426+** J XIO
427+**
428+**
429+*****29JUL76**
430+**
431+** SUB-ROUTINE
432+**
433+** EXECUTE INPUT AND OUTPUT COMMANDS
434+**
435+** PURPOSE
436+**
437+** TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
438+** THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS:
439+**
440+** 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED
441+** THE I/O COMMAND.
442+** 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS
443+** ISSUED BY THIS SUBROUTINE.
444+** 3. CLEAR OUT THE CYCLE STEAL STATUS STORAGE UNLESS THE
445+** START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE.
446+** 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT
447+** SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND,
448+** MYSTERY INTERRUPT (MI) CONTROL BIT IS SET.
449+** 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7, SET THE
450+** EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC START'.
451+** 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING
452+** STARTS TO DETERMINE A LOST INTERRUPT.
453+** 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT
454+** WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL.
455+** 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL.
456+** 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN.
457+** 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN.
458+** 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED.
459+** 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS
460+** ISSUED BY THIS SUBROUTINE.
461+** 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A
462+** CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON,
463+** COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED.
464+**
465+** CALLING SEQUENCE
466+**
467+** THIS ROUTINE HAS THE FOLLOWING ENTRIES:
468+**

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469 * --> BAL XIO OR XEQ ANY CYCLE STEAL COMMAND, MOD=0
470 * --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD'
471 * --> BAL XIOCS,R6 OR XEQ START CYCLE STEAL STATUS, MOD=F
472 * --> BAL XIOCS-4,R6 AUTO CS STATUS (FOLLOWING OTHER XIO
473 * AND DOES NOT POST INTERRUPT STATUS)
474 *
475 * RETURN CONTROL
476 *
477 * BXS (R6,2) RETURN TO USER NO ERROR
478 * OR B (R6)* RETURN AND RETRY ON ERROR
479 *****
481 XIO MVWZ IOMOD,R3 SET MOP OF 0 FOR CYCLE STEAL OP
482 J XIO1 CS I/O'S ARE NOT RETRIED
483 *
484 XIODG MVWI X'000D',IOMOD SET MODIFIER FOR DIAGNOSTIC OPS
485 J XIO1 GO TO CS OPS
486 *
487 TBTR (R4,CE) RESET CS STATUS INTER ERROR INDICAT.
488 TBTS (R4,CS) SET 'CYCLE STEAL STATUS' IN PROGRESS
489 XIOCS MVA CSDCB,IODCB SET UP CONTROL BLOCK FOR SVC CALL
490 MVWI X'000F',IOMOD SET CYCLE STEAL MODIFIER
491 TBT (R4,CS) IS CS IN PROGRESS, ERROR CONDITION
492 JON XIO2 * YES, BYPASS SAVING I/O ADRS
493 XIO1 R6,LSTIO SAVE IAR FOR RETRY IF REQUESTED
494 MVA DCBUF,R3 SET UP TO ADPS TO MOVE DCB TABLE
495 MVW IODCB,R5 * AND THE FROM ADRS, ALONG WITH
496 MVBI 26,R7 * THE NUMBER OF MOVES
497 MVFN (R5),(R3) MOVE 1 STATUS WORD AND ADJUST
498 MVBI 255,R3 CLEAR CYCLE STATUS BUFFER
499 MVA CSBUF,R5 * TO ALL ONES *
500 MVBI 26,R7 *
501 FFN R3,(R5) *
502 MVWI X'0708',\$IOIN OVERLAY OLD CONDITION CODES
503 MVWZ \$ISB,R3 ZERO OUT OLD ISB VALUE
504 *
505 TBTR (R4,ER) RESET ANY ERROR BEFORE I/O COMMAND
506 XIO2 TBTR (R4,IN) CLEAR INTERRUPT RECEIVED CNTL BIT
507 MVA IOBLK,R7 SET UP CONTROL BLOCK FOR SUPVR
508 TBTR (R4,\$LE) RESET LEVEL ERROR INDICATOR
509 TBTS (R4,XI) SET EXPECTED INTR CONTROL BIT
510 SVC START CALL SUPVR FOR I/O COMMAND
511 *
512 TBTR (R4,NI) IS AN INTR EXPECTED
513 BN (R6,2) * NO, RETURN TO USER
514 *
515 * THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION
516 *
517 MVWI 0,R5 SET UP WORK REG FOR 'LOST INTR'
518 XIO8 TBTR (R4,IN) HAS INTERRUPT BEEN RECEIVED
519 JON XIOCK * YES, CHECK IF ALL WAS SATISFACTORY
520 SVC IDLE ALLOW ANOTHER PROGRAM A CHANCE TO RUN
521 * SUPVR WILL RETURN HERE
522 * ALLOW ANOTHER PROGRAM A CHANCE TO RUN
523 * SUPVR WILL RETURN HERE
524 * ADVANCE TIME OUT COUNT
525 ANI 1,R5 BCH IF TIME OUT NOT REACHED
526 JNZ XIO8 SET ON ERROR CONTROL BIT
527 TBTS (R4,ER) ERR 'NO INTERRUPT'
528 B (R6)*
529 *****03FEB76**
530 *
531 * SUBROUTINE
532 *
533 * I/O EXECUTE ERROR HANDLING ROUTINE
534 *
535 * PURPOSE
536 *
537 * THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE
538 * PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE
539 * SUPERVISOR AND IT WAS NOT ACCEPTED.
540 *
541 * CALLING SEQUENCE
542 *
543 * SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND
544 *
545 * RETURN CONTROL
546 *
547 * B (R6)* RETURN TO USERS ERROR HANDLER
548 *
549 *****
550 *
551 * CC 0= DEVICE NOT ATTACHED
552 * FOR 1= DEVICE BUSY
553 * I/O 2= DEVICE BUSY AFTER RESET
554 * 3= COMMAND REJECT
555 * 4= INTERVENTION REQUIRED
556 * 5= INTERFACE DATA CHECK
557 * 6= CONTROLLER BUSY
558 * 7= I/O COMMAND EXCEPTED
559 *
560 XIOER CPLSR R3 COPY STATUS ANY LEVEL INTO R3
561 SRL 13,R3 POSITION CC CODE TO BITS 13-15
562 MVB R3,\$IOIN * PUT IN LOG OUT AREA
563 B (R6)* RETURN TO USER ERROR HANDLER
564 *****14APR76**
565 *
566 * SUB-ROUTINE
567 *
568 * ERROR INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
569 *
570 * PURPOSE
571 *
572 * THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR
573 * OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE
574 * EXPECTED CODE.
575 *
576 * CALLING SEQUENCE
577 *
578 * SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT
579 *
580 * RETURN CONTROL
581 *
582 * SVC EXIT RETURN TO USER VIA SUPVR
583 *
584 *
585 *****IL

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586 *
587 * CC 0= CONTROLLER END ISB 0= ADD STATUS JL
588 * FOR 1= PROGRAM CONTROL INTERRUPT BITS 1= COMD REJECT IL
589 * INTR 2= EXCEPTION INTERRUPT POP 2= INCOM LENGTH IL
590 * 3= DEVICE END INTERRUPT INTR 3= DCB SPEC CK IL
591 * 4= ATTENTION INTERRUPT 4= STG DATA CK IL
592 * 5= ATTENTION / PROGRAM CNTL INTR 5= INV STG ADRS IL
593 * 6= ATTENTION / EXCEPTION INTR 6= PROTRCT CK IL
594 * 7= ATTENTION / DEVICE END INTR 7= I-FACT DATA IL
595 *
596 INTER CPLSR R3 COPY STATUS ANY LEVEL INTO R3
597 SRL 13,R3 POSITION INDICATORS IN R3
598 MVA OPTN1,R4 SET UP BASE ADPS
599 TBT (R4,CS) IS 'CS IN PROGRESS'
600 JOFF INTES * NO
601 TBTS (R4,CE) TURN ON CYCLE STEAL INTER ERROR
602 MVW R7,DEV4 SAVE CS ERR ISB VALUE, BITS 0-7
603 MVB R3,DEV4+1 * AND THE COND CODE
604 J INTR1
605 INTES TBT (R4,XE) TEST EXPECTED ATTN / ERROR IND
606 JOFF INTET BCH IF NOT EXPECTED
607 CBI 4,R3 IS THIS AN 'ATTENTION' INTR
608 JE INTR1 * YES, BCH TO END INTR SEQUENCE
609 INTET TBTS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
610 J INTR1
611 *
612 * THE ERROR INTERRUPT USES THE SAME
613 * SEQUENCE AS THE NORMAL INTR
614 *****14APR76**
615 *
616 * SOUBROUTINE
617 *
618 * OKAY INTERRUPT RUNS ON INTERRUPT LEVEL '\$INTL'
619 *
620 * PURPOSE
621 *
622 * TO CHECK THE INTERRUPT AND CONTINUE THE TEST
623 *
624 * CALLING SEQUENCE
625 *
626 * SUPERVISOR WILL ENTER HERE IF INTR CC IS AS REQUESTED
627 * THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE
628 * AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE
629 * COMMON SECTION IS HANDLED HERE.
630 *
631 * RETURN CONTROL
632 *
633 * SVC EXIT RETURN TO USER VIA SUPVR
634 *
635 *****
636 INTOK CPLSR R3 COPY STATUS ANY LEVEL INTO R3
637 SRL 13,R3 POSITION INDICATORS IN R3
638 MVA OPTN1,R4 SET UP BASE ADPS
639 INTR1 TBTS (R4,IN) SET INTERRUPT RECEIVED
640 TBT (R4,CS) IS 'CS IN PROGRESS' ON
641 JON INTR2 * YES, BCH AROUND UPDATE
642 MVB R3,\$IOIN+1 SAVE INTERRUPTING CC CODE
643 MVW R7,\$ISB SAVE INTR STATUS AND DEV ADRS
644 INTR2 EQU *
645 *
646 * CPLL R5 CURRENT LEVEL COPIED BY DCP
647 SLL 4,R5 POSITION INTR LEVEL AND PUT
648 ABI 1,R5 * IN 'I' BIT
649 CW \$INTL,R5 IS THIS THE CORRECT INTR LEVEL
650 INTR3 JE INTR * YES, GO EXIT THIS LEVEL
651 TBTS (R4,\$LE) SET INTR LEVEL ERROR CONTROL BIT
652 TBTS (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT
653 INTR3 TBTR (R4,XI) WAS INTERRUPT EXPECTED
654 JON INTRX * YES, EXIT OFF THIS INTR LEVEL
655 TBTS (R4,MI) * NO, SET MYSTERY INTR CONTROL BIT
656 CBI 4,R3 ATTENTION INTERRUPT?
657 JE INTRX YES
658 TBTS (R4,NG) ERROR,UNEXPECTED INTERRUPT
659 INTRX SVC EXIT EXIT THIS LEVEL VIA SUPVR TO PGM
660 *****03FEB76**
661 *
662 * THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT
663 * HAS BEEN SERVICED THE EXERCISER FINDS AN INTERRUPT HAS BEEN
664 * RECEIVED AND BRANCHES HERE TO CHECK FOR ANY ERROR CONDITIONS.
665 *
666 *
667 XIOCK TBTR (R4,XE) WAS AN ERROR EXPECTED
668 BN (R6,2) * YES, EXIT THIS ROUTINE
669 TBTR (R4,CS) WAS AUTO CS IN PROGRESS
670 JOFF XIOCV * NO, CONTINUE CHECKING
671 TBT (R4,CE) IS CS IN AN ERR CONDITION
672 JOFF XIOCO * NO, BCH
673 B (R6)* CS ERROR
674 XIOCO TBTS (R6,CSA) TURN ON CS STATS AVAIL FLAG
675 BXS (R6,2) GO TO USER
676 XIOCV TBT (R4,ER) WAS ERROR INTR CONTROL BIT ON
677 JOFF XIOCX * NO, EXIT THIS ROUTINE
678 *
679 MVB \$IOIN+1,R5 GET LAST INTR CC CODE
680 CBI 2,R5 IS THIS CC=2
681 JE XIOCO YES
682 CBI 6,R5 IS THIS CC=6
683 BNE (R6)* * NO, BCH TO ERROR HANDLER
684 XIOCV MVB \$ISB,R5 GET LAST ISB DATA BYTE AND IF CS
685 BN XIOCS-4 * AVAILABLE, GO AND GET IT
686 B ERROR
687 XIOCV MVWZ OPTN3,R3 CLEAR OUT OPTION 3 CNTL BITS
688 BXS (R6,2) RETURN TO USER VIA REG 6
689 *
690 * I/O PARAMETER LIST
691 *
692 IOBLK DC A (DEVADD) ADRS OF DEVICE ADRS
693 IOER DC A (XIOER) ERROR ROUTINE ADRS
694 IODCB DC A (*-*) DCB ADRS OR LEVEL & INTR
695 IOMOD DC A (*-*) MODIFIER
696 IOER DC A (*-*) ADRS OF LAST SVC CALL
697 IORSP DC A (*-*) SECOND WORD OF LAST IDCB
698 *
699 * INTERRUPT CONTROL BLOCK FOR I/O COMMANDS
700 *
701 INTBL DC A (DEVADD) ADRS OF DEVICE ADRS

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
001B58 1ADE 702 DC A(INTOK) INTERRUPT OK RETURN ADRS
001B5A 1ABA 703 DC A(INTER) INTERRUPT ERROR ADRS
001B5C 0003 704 INTCC DC X'0003' INTERRUPT CODE EXPECTED
*****11MAY76**
707 * SUBROUTINE
708 *
709 *
710 * CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE
711 *
712 * PURPOSE
713 *
714 * TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
715 * PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE
716 * TO INTERRUPT.
717 *
718 * CALLING SEQUENCE
719 *
720 * THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
721 *
722 * --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK
723 * --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT
724 *
725 * RETURN CONTROL
726 *
727 * BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY
728 * OR B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
729 *
730 *****
731 \$CONC MVA INTBL,R7 SET R7 TO CONTROL BLOCK AND
732 SVC CIBC * CONNECT IT TO THIS DEVICE
733 BN (R6)* ERROR RETURN TO USER
734 MVA INTBL,IODCB SET IN LEVEL & INTR PARAMETER
735 MVA INTBL,R7 SET R7 TO CONTROL BLOCK
736 SVC PREP PREPARE
737 BXS (R6,2) RETURN TO USER
738 *
739 *****06APR76**
740 * SUBROUTINE
741 *
742 * DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS
743 *
744 * PURPOSE
745 *
746 * DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND
747 * SET THE 'NO GOOD' CONTROL BIT THEN LOG THE DATA THAT HAS
748 * BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION.
749 *
750 * CALLING SEQUENCE
751 *
752 * THIS SUBROUTINE HAS THE FOLLOWING ENTRIES:
753 *
754 * --> B \$ERR\$ SET 'NG' BIT AND CONVERT DATA TO LOG
755 * --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS
756 *
757 * RETURN CONTROL
758 *
759 * B TURTN* RETURN TO MDI
760 * OR B (R6)* IF THE DEVICE COULD NOT BE CONNECTED
761 *
762 *****
763 \$ERR\$ MVI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT
764 MVA HEBLK,R7 GET ADRS OF CONTROL BLOCK
765 SVC HTOE CONVERT HEX TO EBC VIS DCP
766 \$PRNT MVI 4,R5 SET UP BUFFER STORAGE
767 MVA TWORK,R3
768 MVA R3,BUFPT
769 MVA LINE1,R1
770 MVI 8,R6
771 MVBFN (R3),(R1)
772 MVI 4,R7
773 MVB R2,(R1)+
774 JCT MVB,R6
775 MVI 8,R6
776 AWI 44,R1
777 JCT MVB,R5
778 MVI 783
779 MVA PMSG10,PID+2
780 MVA FACTG,ADCADD1
781 MVA DC2PT,ADCADD2
782 OWI BIT0080,SUPSTAT
783 MVA \$TUID,R3 SET UP BUFFER STORAGE
784 BAL TUMSGWTR*,R7 GO TO MESSAGE WRITER
785 *
786 \$CONX EQU *
787 MVB DEVADD,R7 GET DEVICE ADDRESS FROM MDI
788 SVC RICB RELEASE INTERRUPT CONTROL BLOCK
789 B TURTN* RETURN TO MDI SUPERVISOR
790 *
791 * BEGIN
792 DC A(0009) NUMBER OF LINES TO PRINT
793 DC A(0008) LINE LENGTH = 8 CHAR
794 DC C'***ABORT'
795 DC A(0040)
796 DC C'TUID IOIN ISB INST LINE LENGTH = 40 CHAR
797 DC A(0040)
798 DC C'DEV1 DEV2 DEV3 DEV4 '
799 DC A(0040)
800 DC C' LINE1 DC
801 DC A(0040)
802 DC C'CNTRL DCB2 DCB3 DCB4 LINE LENGTH = 40 CHAR
803 DC A(0040)
804 DC C' LINE2 DC
805 DC A(0040)
806 DC C' LINE LENGTH = 40 CHAR
807 DC C'CSID CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 '
808 DC A(0040)
809 DC C' LINE3 DC
810 DC A(0040)
811 DC C'CS-9 CS-A CS-B CS-C LINE LENGTH = 40 CHAR
812 DC A(0040)
813 DC C' LINE4 DC
814 DC A(*-*)
815 DC2PT DC A(BEGIN)
816 FIXTU DC X'0101'
817 FAKETU DC X'0101'

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
818 PIDMSG10 EQU X'F1F0'
819 BIT0080 EQU X'0080'
820 *
821 * DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC
822 *
823 HEBLK DC A(58) NUMBER OF BYTES TO CONVERT
824 DC A(\$TUID) FROM ADRS
825 DC A(TWORK) AND THE TO ADRS
826 *****
827 * PHYSICAL LOGICAL SECTOR AND RECORD NUMBERS
828 * SECTOR# AS * (SEE NOTE 2 BELOW FOR EXPLANATION OF COLS)
829 * CODED IN *
830 * WRITE/READ ***** MOVEABLE HEADS ***** FIXED ***
831 * ID DCBS * * * * * HEADS *
832 * (HEX) * 0,4,8 * 1,5,9 * 2,6,A * 3,7 * 0-7 *
833 *****
834 *****
835 * 20 * 40 (1) * 40 (1) * 40 (1) * 40 (1) * 40 (1) *
836 * INDEX * INDEX * INDEX * INDEX * INDEX * INDEX *
837 * 00 * 00 00 20 * 30 18 38 * 20 10 30 * 10 08 28 * 00 00 20 *
838 * 01 * 02 01 21 * 32 19 39 * 22 11 31 * 12 09 29 * 02 01 21 *
839 * 02 * 04 02 22 * 34 1A 3A * 24 12 32 * 14 0A 2A * 04 02 22 *
840 * 03 * 06 03 23 * 36 1B 3B * 26 13 33 * 16 0B 2B * 06 03 23 *
841 * 04 * 08 04 24 * 38 1C 3C * 28 14 34 * 18 0C 2C * 08 04 24 *
842 * 05 * 0A 05 25 * 3A 1D 3D * 2A 15 35 * 1A 0D 2D * 0A 05 25 *
843 * 06 * 0C 06 26 * 3C 1E 3E * 2C 16 36 * 1C 0E 2E * 0C 06 26 *
844 * 07 * 0E 07 27 * 3E 1F 3F * 2E 17 37 * 1E 0F 2F * 0E 07 27 *
845 * 08 * 10 08 28 * 00 00 20 * 30 18 38 * 20 10 30 * 10 08 28 *
846 * 09 * 12 09 29 * 02 01 21 * 32 19 39 * 22 11 31 * 12 09 29 *
847 * 0A * 14 0A 2A * 04 02 22 * 34 1A 3A * 24 12 32 * 14 0A 2A *
848 * 0B * 16 0B 2B * 06 03 23 * 36 1B 3B * 26 13 33 * 16 0B 2B *
849 * 0C * 18 0C 2C * 08 04 24 * 38 1C 3C * 28 14 34 * 18 0C 2C *
850 * 0D * 1A 0D 2D * 0A 05 25 * 3A 1D 3D * 2A 15 35 * 1A 0D 2D *
851 * 0E * 1C 0E 2E * 0C 06 26 * 3C 1E 3E * 2C 16 36 * 1C 0E 2E *
852 * 0F * 1E 0F 2F * 0E 07 27 * 3E 1F 3F * 2E 17 37 * 1E 0F 2F *
853 * 10 * 20 10 30 * 10 08 28 * 02 01 21 * 30 18 38 * 20 10 30 *
854 * 11 * 22 11 31 * 12 09 29 * 04 02 22 * 32 19 39 * 22 11 31 *
855 * 12 * 24 12 32 * 14 0A 2A * 06 03 23 * 34 1A 3A * 24 12 32 *
856 * 13 * 26 13 33 * 16 0B 2B * 08 04 24 * 36 1B 3B * 26 13 33 *
857 * 14 * 28 14 34 * 18 0C 2C * 0A 05 25 * 38 1C 3C * 28 14 34 *
858 * 15 * 2A 15 35 * 1A 0D 2D * 0C 06 26 * 3A 1D 3D * 2A 15 35 *
859 * 16 * 2C 16 36 * 1C 0E 2E * 0E 07 27 * 3C 1E 3E * 2C 16 36 *
860 * 17 * 2E 17 37 * 1E 0F 2F * 0E 07 27 * 3E 1F 3F * 2E 17 37 *
861 * 18 * 30 18 38 * 20 10 30 * 10 08 28 * 00 00 20 * 30 18 38 *
862 * 19 * 32 19 39 * 22 11 31 * 12 09 29 * 02 01 21 * 32 19 39 *
863 * 1A * 34 1A 3A * 24 12 32 * 14 0A 2A * 04 02 22 * 34 1A 3A *
864 * 1B * 36 1B 3B * 26 13 33 * 16 0B 2B * 06 03 23 * 36 1B 3B *
865 * 1C * 38 1C 3C * 28 14 34 * 18 0C 2C * 08 04 24 * 38 1C 3C *
866 * 1D * 3A 1D 3D * 2A 15 35 * 1A 0D 2D * 0A 05 25 * 3A 1D 3D *
867 * 1E * 3C 1E 3E * 2C 16 36 * 1C 0E 2E * 0C 06 26 * 3C 1E 3E *
868 * 1F * 3E 1F 3F * 2E 17 37 * 1E 0F 2F * 0E 07 27 * 3E 1F 3F *
869 * 20 * 40 (1) * 40 (1) * 40 (1) * 40 (1) * 40 (1) *
870 * INDEX * INDEX * INDEX * INDEX * INDEX * INDEX *
871 *****
872 * NOTE (1) - SECTOR 32 (/40) IS RESERVED AS AN ALTERNATE SECTOR AND IS *
873 * ALWAYS THE SECTOR BEFORE INDEX.
874 * NOTE 2 - COL 1 = ACTUAL SECTOR# OF ID ON FILE
875 * COL 2 = RECORD# 1 AS CODED IN DCB FOR WRITE/READ/SCAN OPS *
876 * COL 3 = RECORD# 2 AS CODED IN DCB FOR WRITE/READ/SCAN OPS *
877 *****
878 *
879 * 4963 DISK -SAVE SECTOR ID'S 8/28/78
880 * THIS ROUTINE READS ALL THE SECTOR ID'S ON THE 4963.
881 * FLAGGED AND/OR ALTERNATE SECTORS WILL BE SAVED ON THE
882 * DIAGNOSTIC DISKETTE.
883 *
884 * THE PROGRAM PERFORMS AS FOLLOWS:
885 *
886 *
887 * READ AND LIST VTOC FOR ALL LISTS THAT RESIDE ON THE DISKETTE.
888 * VTOC=(DE ID AND DATE LIST WAS GENERATED.) LIST INFO STARTS
889 * IN PHYSICAL LOCATION X'2500' AND ENDS IN LOCATION '3FFE'
890 *
891 * REQUEST INPUT FROM USER. (DEVICE ADDRESS,DE ID AND TODAYS DATE)
892 *
893 * VALIDATE DEVICE ADDR AND DE ID AS LISTED IN CONFIGURATION
894 * TABLE.
895 *
896 * FIND LIST IN DISKETTE THAT MATCHES DE ID OR IF NONE IS FOUND,
897 * FIND FIRST AVAILABLE LIST.
898 *
899 * READ ALL SECTOR ID'S AND SAVE ALL FLAGGED ID'S (EXCLUDE
900 * DISPLACED FLAG EXCEPT PRIMARY ALTERNATE SECTOR)
901 *
902 * SAVE FORMAT IS AS FOLLOWS:
903 * FIRST FOUR WORDS-VTOC(EX: DE-ID=1234567 DATE=12/25/78
904 * 1ST WORD - 0012
905 * 2ND WORD - 3456
906 * 3RD WORD - 7012
907 * 4TH WORD - 2578
908 * EACH ID THAT IS SAVED REQUIRES 4 WORDS.
909 * 1ST WORD - HEAD/CYL BEING TESTED
910 * 2ND WORD - PHYSICAL SECTOR BEING TESTED
911 * 3RD WORD - ACTUAL FLAG/SECTOR READ IN ID ***
912 * 4TH WORD - ACTUAL HEAD/CYL READ IN ID
913 * *** IF SECTOR IS WRITTEN SKEWED, THE HIGH ORDER BIT OF THE
914 * SECTOR NUMBER (BIT 8) WILL BE TURNED ON FOR IDENTIFICATION
915 * PURPOSES.
916 * UNUSED WORDS IN SAVE LIST WILL CONTAIN 'FFFF'.
917 *
918 *
919 *
920 *
921 *
922 * FLAGS
923 * BIT FUNCTION
924 * 0 DEFECTIVE DATA FIELD 2
925 * 1 DEFECTIVE DATA FIELD 1
926 * 2 USER ASSIGNED DEFECT
927 * 3 WRITE PROTECTED DATA AREA
928 * 4 SECTOR DISPLACED
929 * 5 SECTOR REASSIGNED TO ALTERNATE CYL
930 * 6 MANUFACTURING ASSIGNED DEFECT
931 * 7 ASSIGNED ALTERNATE SECTOR
932 *
933 *

Table with columns: LOCTR, OBJECT TEXT, STMT SOURCE STATEMENT, COPYRIGHT IBM CORP 1976. Contains assembly code for disk save sector ID program.

Table with columns: LOCTR, OBJECT TEXT, STMT SOURCE STATEMENT, COPYRIGHT IBM CORP 1976. Contains assembly code for disk save sector ID program (continued).

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
00209E	4029 2246 000A	1162	AWI X'000A',PRNT	
0020A4	882B 2248 2236	1163	I7A1 CW RDFF,RDCTL	BEYOND END OF READI BUFFERS?
0020A5	102F	1164	JE IWR2	YES
0020A6	6F08 2236	1165	MVW RDCTL,R7	ADDR OF READI CONTROL BLOCK
0020B0	601F	1166	SVC R8A1	READ DISKETTE
0020B2	7D06 0000	1167	CWI 0,R5	ANY ERROR
0020B6	1004	1168	JE I7A5	YES
0020B8	4020 19C4 20A8	1169	MVA I7A1+4,LSTIO	ADDR OF LAST IO
0020BE	5068	1170	J MSG1	
0020C0	802B 1887 2501	1171	I7A5 CB SERIAL+1,SBUFF+1	DOES DE ID MATCH BUFFER DE ID?
0020C6	1024	1172	JE I7A2	YES
0020C8	402F 2500 0000	1173	CWI 0,SBUFF	IS BUFFER UNUSED?
0020CE	1033	1174	JE IMPTJ	YES
0020D0	4029 2236 0008	1175	I7A7 AWI 8,RDCTL	INCREMENT ADDR OF CONTROL BLOCK
0020D6	4029 2234 0006	1176	AWI 6,SAVE7	UPDATE WRITE CONTROL BLOCK POINTER
0020DC	4029 2246 000A	1177	AWI X'000A',PRNT	UPDATE PRINT POINTER
0020E2	50E0	1178	I7A1	
0020E4	4020 2500 0000	1179	IWRT1 MVWI 0,SBUFF	CLEAR SBUFF
0020EA	4020 2502 0000	1180	MVWI 0,SBUFF+2	*
0020F0	4020 2504 0000	1181	MVWI 0,SBUFF+4	*
0020F6	4020 2506 0000	1182	MVWI 0,SBUFF+6	*
0020FC	4224 2508	1183	MVWI X'2508',R2	CLEAR OLD SAVE BUFFER TO FF'S
002100	09FF	1184	MVBI X'FF',R1	*
002102	4724 1AF8	1185	MVWI 6904,R7	*
002106	294C	1186	FFN R1,(R2)	*
002108	50BB	1187	J I7A3	
00210A	4C1B	1188	TBT (R4,B59)	END OF DEF LIST?
00210C	1038	1189	J JOFF	NO
00210E	5038	1190	J IWR2	
002110	882B 1888 2502	1191	I7A2 CW SERIAL+2,SBUFF+2	DOES DE ID MATCH BUFFER DE ID?
002116	18DC	1192	JNE I7A4	NO
002118	402D 2504 0FFF	1193	RBTWI X'0FFF',SBUFF+4	CLEAR DATE
00211E	8828 188A 221E	1194	MVW SERIAL+4,TEMP2	
002124	402D 221E 0FFF	1195	RBTWI X'0FFF',TEMP2	CLEAR DATE
00212A	802B 221E 2504	1196	CB TEMP2,SBUFF+4	DOES DE ID MATCH BUFFER DE ID?
002130	18CF	1197	JNE I7A2	NO
002132	4C1B	1198	TBT (R4,B59)	END OF DEF LIST?
002134	12D7	1199	JON IWR2	YES
002136	4C1B	1200	TBT (R4,B59)	END OF DEF LIST?
002138	1038	1201	J IWR1	YES
00213A	4224 2508	1202	MVWI X'2508',R2	CLEAR OLD SAVE BUFFER TO FF'S
00213C	09FF	1203	MVBI X'FF',R1	*
002140	4724 1AF8	1204	MVWI 6904,R7	*
002144	294C	1205	FFN R1,(R2)	*
002146	8028 2238 1886	1206	MVB ZER00,SERIAL	ZERO DEVICE ADDRESS
00214C	8828 1886 2500	1207	MVW SERIAL,SBUFF	ADJ DE ID AND DATE AND HOVE
002152	8828 1888 2502	1208	MVW SERIAL+2,SBUFF+2	*IN LIST BUFFER
002158	D120 188A	1209	MVD SERIAL+4,R1	*
00215C	3126	1210	SRLD 4,R1	*
00215E	D128 2504	1211	MVD R1,SBUFF+4	*
002160	882D 2504 0F00	1212	RBTWI X'0F00',SBUFF+4	*
002162	882D 188A 2220	1213	MVW SERIAL+4,TEMP3	*
002164	402D 2220 0FFF	1214	RBTWI X'0FFF',TEMP3	*
002166	8829 2220 2504	1215	ON TEMP3,SBUFF+4	*
002174	8829 2220 2504	1215	ON TEMP3,SBUFF+4	*
00217A	4020 2222 2508	1216	MVWI X'2508',WRIBS	STARTING ADDR OF BUFFER
002180	6802 0000	1217	B *-*	RETURN
002184	4724 21A6	1218	* IWR2	
002188	5005	1219	MSG2 MVA SCTER,R7	ADDR OF MESSAGE CONTROL BLOCK
00218A	4724 21E0	1220	J HSGS	
00218E	5002	1221	MSG3 MVA NOLST,R7	ADDR OF MESSAGE CONTROL BLOCK
002190	4724 21BE	1222	J HSGS	
002194	6000	1223	MSG1 MVA IBERR,R7	ADDR OF MEGGAGE CONTROL BLOCK
002196	4924 1B7C	1224	MSG2 MVA SVC OUT	PRINT MESSAGE
002198	6000	1225	E \$ERR\$	
00219A	4724 21FC	1226	MSG4 MVA DEID,R7	ADDR OF MEGGAGE CONTROL BLOCK
00219E	6000	1227	SVC OUT	PRINT MESSAGE
0021A0	6802 1D70	1228	B T7A53	RETRY QUESTION
0021A4	0000	1229	* DC	
0021A6	21A8	1230	DC X'0000'	
0021A8	E2C3E340C9C440C5D	1231	SCTER DC A(STER)	
0021BA	00	1232	STER DC C'SCT ID ERR-REWRITE ID'	
0021BD	00	1233	DC X'00'	
0021BE	21C0	1234	IBERR DC A(IBER)	
0021C0	E2C3E340D3C9E2E3E	1235	IBER DC C'SCT LISTS ASSIGNED OR INPUT ERR'	
0021C2	00	1236	DC X'00'	
0021C4	21E2	1237	NOLST DC A(NLST)	
0021C6	D3C9E2E3E240C1E2E	1238	NLST DC C'LISTS ASSIGNED-SAVE TERM.'	
0021C8	00	1239	DC X'00'	
0021CA	21FE	1240	DEID DC A(DEID1)	
0021CE	C4C540C9C440C4D6C	1241	DEID1 DC C'DE ID DOES NOT MATCH CONFIG TAB'	
0021D0	00	1242	DC X'00'	
0021D2	00	1243	* DC	
0021D4	0000	1244	TEMP2 DC A(*-*)	
0021D6	0000	1245	TEMP3 DC A(*-*)	
0021D8	0000	1246	WRIBS DC A(*-*)	ADDR OF SAVE ID'S BUFFER
0021DA	0000	1247	MSCID DC A(*-*)	ADDR OF SECTOR ID BUFFER
0021DC	0000	1248	THRE DC X'0300'	CYL ONE ERROR FLAG
0021DE	0300	1249	W02 DC X'0200'	ERROR FLAG
0021E0	0000	1250	HEADS DC A(*-*)	HEADS PER CYLINDER
0021E2	0000	1251	FGSEC DC A(*-*)	FLAG/SECTOR FIELD
0021E4	0000	1252	HDCYL DC A(*-*)	HEAD/CYLINDER FIELD
0021E6	0000	1253	SEC33 DC X'2000'	SECTOR 33 CONSTANT
0021E8	2100	1254	SEC34 DC X'2100'	CONSTANT
0021EA	24A0	1255	SAVE7 DC A(WRTO)	SAVE AREA
0021EC	2421	1256	RDCTL DC A(RDO)	ADDR OF READI CONTROL BLOCK
0021EE	0000	1257	ZERO DC X'0000'	ZERO
0021F0	000000000000000000	1258	RSBA DC 6A(*-*)	RSB AREA
0021F2	0000	1259	PRNT DC A(*-*)	PRINT POINTER
0021F4	24A1	1260	RDFF DC A(RDF+8)	END OF READI BUFFERS
0021F6	00	1261	* DC	
0021F8	D625 1812	1262	EXIT1 MVDZ DEVTAB,R6	PRINT DE ID AND DATE FROM
0021FA	CF25 1816	1263	MVWZ ASSIGN,R7	*EACH DEF SECTOR LIST
0021FC	6007	1264	SVC TERM	
0021FE	00	1265	* DC	
002200	6E0D 22BE	1266	PHDD MVW R6,PHD2+2	PRINT DE ID AND DATE FROM
002202	4724 2362	1267	HVA HEAD,R7	*EACH DEF SECTOR LIST
002204	6000	1268	SVC OUT	
002206	4020 2246 22C0	1269	MVA PRINT,PRNT	
002208	4024 0010	1270	MVWI 16,R0	
00220A	4724 2396	1271	MVA BLK,R7	
00220C	8028 2346 2398	1272	MVWI 2,BLK	
00220E	4020 239A 2380	1273	MVW PRINT,BLK+2	
002210	4020 239A 2380	1274	MVA FILL#2,BLK+4	
002212	601A	1275	SVC HTOE	

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
002280	4020 2396 0004	1276	MVWI 4,BLK	*
002286	4029 2398 0003	1277	AWI 3,BLK+2	*
002288	4029 239A 0006	1278	AWI 6,BLK+4	*
002292	601A	1279	SVC HTOE	*
002294	4029 2396 0003	1280	MVWI 3,BLK	*
002296	4029 2398 0004	1281	AWI 4,BLK+2	*
0022A0	4029 239A 0009	1282	AWI 9,BLK+4	*
0022A6	601A	1283	SVC HTOE	*
0022A8	4724 237C	1284	MVA DATA,R7	*
0022AC	8028 237E 238D	1285	MVB FILL,FILL+15	*
0022B2	4029 2246 000A	1286	AWI 10,PRNT	*
0022B8	6000	1287	SVC OUT	*
0022BA	B8D6	1288	JCT PHD,R0	*
0022BC	6802 0000	1289	B *-*	*
0022C0	7AD000000000000000	1290	PRINT DC X'7AD000000000000000'	PRINT BUFFER TO PRINT
0022CA	7AD100000000000000	1291	DC X'7AD100000000000000'	*DEF SCT ID'S
0022D4	7AD200000000000000	1292	DC X'7AD200000000000000'	
0022DE	7AD300000000000000	1293	DC X'7AD300000000000000'	
0022E8	7AD400000000000000	1294	DC X'7AD400000000000000'	
0022F2	7AD500000000000000	1295	DC X'7AD500000000000000'	
0022FC	7AD600000000000000	1296	DC X'7AD600000000000000'	
002306	7AD700000000000000	1297	DC X'7AD700000000000000'	
002310	7AD800000000000000	1298	DC X'7AD800000000000000'	
00231A	7AD900000000000000	1299	DC X'7AD900000000000000'	
002324	7ADA00000000000000	1300	DC X'7ADA00000000000000'	
00232E	7ADB00000000000000	1301	DC X'7ADB00000000000000'	
002338	7ADC00000000000000	1302	DC X'7ADC00000000000000'	
002342	7ADD00000000000000	1303	DC X'7ADD00000000000000'	
00234C	7ADE00000000000000	1304	DC X'7ADE00000000000000'	
002356	7ADF00000000000000	1305	DC X'7ADF00000000000000'	
002360	0080	1306	DC X'0080'	
002362	2364	1307	DC A(HEAD4)	
002364	40C4C5C660D3E2E34	1308	DC C' DEF-LST DE-ID DATE'	
002370	00	1309	DC X'00'	
00237A	0080	1310	DC X'0080'	
00237C	237E	1311	DC A(FILL)	
00237E	4040404040404040	1312	DC C'00000000	
002395	00	1313	DC X'00'	
002396	0002	1314	DC X'0002'	
002398	0000	1315	DC A(*-*)	
00239A	0000	1316	DC A(*-*)	'FROM'
00239C	00000000	1317	DC A(*-*)	'TO'
0023A0	00000000	1318	DC X'00000000'	
0023A4	00000000	1319	DC X'00000000'	
0023A8	00000000	1320	DC X'00000000'	
0023AC	00000000	1321	DC X'00000000'	
0023B0	00000000	1322	DC X'00000000'	
0023B4	00000000	1323	DC X'00000000'	
0023B8	00000000	1324	DC X'00000000'	
0023BC	00000000	1325	DC X'00000000'	
0023C0	00000000	1326	DC X'00000000'	
0023C4	00000000	1327	DC X'00000000'	
0023C8	00000000	1328	DC X'00000000'	
0023CC	00000000	1329	DC X'00000000'	
0023D0	00000000	1330	DC X'00000000'	
0023D4	00000000	1331	DC X'00000000'	
0023D8	00000000	1332	DC X'00000000'	
0023DC	00000000	1333	DC X'00000000'	
0023E0	00000000	1334	DC X'00000000'	
0023E4	00000000	1335	DC X'00000000'	
0023E8	00000000	1336	DC X'00000000'	
0023EC	00000000	1337	DC X'00000000'	
0023F0	00000000	1338	DC X'00000000'	
0023F4	00000000	1339	DC X'00000000'	
0023F8	00000000	1340	DC X'00000000'	
0023FC	00000000	1341	DC X'00000000'	
002400	00000000	1342	DC X'00000000'	
002404	00000000	1343	DC X'00000000'	
002408	00000000	1344	DC X'00000000'	
00240C	00000000	1345	DC X'00	

LOCTR	OBJECT TEXT	STMT	SOURCE STATEMENT	COPYRIGHT IBM CORP 1976
002466	0000	1390	DC A(*-*)	
002468	00	1391	* DC X'00'	ALIGN BLOCK
002469	D6F7C1C4F9	1392	RD9 DC C'07AD9'	READI CONTROL BLOCK
00246E	0000	1393	DC A(*-*)	
002470	00	1394	* DC X'00'	ALIGN BLOCK
002471	D6F7C1C4C1	1395	RD9 DC C'07ADA'	READI CONTROL BLOCK
002476	0000	1396	DC A(*-*)	
002478	00	1397	* DC X'00'	ALIGN BLOCK
002479	D6F7C1C4C2	1398	RDB DC C'07ADB'	READI CONTROL BLOCK
00247E	0000	1399	DC A(*-*)	
002480	00	1400	* DC X'00'	ALIGN BLOCK
002481	D6F7C1C4C3	1401	RDC DC C'07ADC'	READI CONTROL BLOCK
002486	0000	1402	DC A(*-*)	
002488	00	1403	* DC X'00'	ALIGN BLOCK
002489	D6F7C1C4C4	1404	RDD DC C'07ADD'	READI CONTROL BLOCK
00248E	0000	1405	DC A(*-*)	
002490	00	1406	* DC X'00'	ALIGN BLOCK
002491	D6F7C1C4C5	1407	RDE DC C'07ADE'	READI CONTROL BLOCK
002496	0000	1408	DC A(*-*)	
002498	00	1409	* DC X'00'	ALIGN BLOCK
002499	D6F7C1C4C6	1410	RDF DC C'07ADF'	READI CONTROL BLOCK
00249E	0000	1411	DC A(*-*)	
0024A0	2422	1412	* DC X'00'	ALIGN BLOCK
0024A2	2500	1413	RDE DC C'07ADE'	READI CONTROL BLOCK
0024A4	1000	1414	DC A(*-*)	
0024A6	242A	1415	* DC X'00'	ALIGN BLOCK
0024A8	2500	1416	RDF DC C'07ADF'	READI CONTROL BLOCK
0024AA	1000	1417	DC A(*-*)	
0024AC	2432	1418	* DC X'00'	ALIGN BLOCK
0024AE	2500	1419	RDF DC C'07ADF'	READI CONTROL BLOCK
0024B0	1000	1420	DC A(*-*)	
0024B2	243A	1421	* DC X'00'	ALIGN BLOCK
0024B4	2500	1422	RDE DC C'07ADE'	READI CONTROL BLOCK
0024B6	1000	1423	DC A(*-*)	
0024B8	2442	1424	* DC X'00'	ALIGN BLOCK
0024BA	2500	1425	RDE DC C'07ADE'	READI CONTROL BLOCK
0024BC	1000	1426	DC A(*-*)	
0024BE	244A	1427	* DC X'00'	ALIGN BLOCK
0024C0	2500	1428	RDE DC C'07ADE'	READI CONTROL BLOCK
0024C2	1000	1429	DC A(*-*)	
0024C4	2452	1430	* DC X'00'	ALIGN BLOCK
0024C6	2500	1431	RDE DC C'07ADE'	READI CONTROL BLOCK
0024C8	1000	1432	DC A(*-*)	
0024CA	245A	1433	* DC X'00'	ALIGN BLOCK
0024CC	2500	1434	RDE DC C'07ADE'	READI CONTROL BLOCK
0024CE	1000	1435	DC A(*-*)	
0024D0	2462	1436	* DC X'00'	ALIGN BLOCK
0024D2	2500	1437	RDE DC C'07ADE'	READI CONTROL BLOCK
0024D4	1000	1438	DC A(*-*)	
0024D6	246A	1439	* DC X'00'	ALIGN BLOCK
0024D8	2500	1440	RDE DC C'07ADE'	READI CONTROL BLOCK
0024DA	1000	1441	DC A(*-*)	
0024DC	2472	1442	* DC X'00'	ALIGN BLOCK
0024DE	2500	1443	RDE DC C'07ADE'	READI CONTROL BLOCK
0024E0	1000	1444	DC A(*-*)	
0024E2	247A	1445	* DC X'00'	ALIGN BLOCK
0024E4	2500	1446	RDE DC C'07ADE'	READI CONTROL BLOCK
0024E6	1000	1447	DC A(*-*)	
0024E8	2482	1448	* DC X'00'	ALIGN BLOCK
0024EA	2500	1449	RDE DC C'07ADE'	READI CONTROL BLOCK
0024EC	1000	1450	DC A(*-*)	
0024EE	248A	1451	* DC X'00'	ALIGN BLOCK
0024F0	2500	1452	RDE DC C'07ADE'	READI CONTROL BLOCK
0024F2	1000	1453	DC A(*-*)	
0024F4	2492	1454	* DC X'00'	ALIGN BLOCK
0024F6	2500	1455	RDE DC C'07ADE'	READI CONTROL BLOCK
0024F8	1000	1456	DC A(*-*)	
0024FA	249A	1457	* DC X'00'	ALIGN BLOCK
0024FC	2500	1458	RDE DC C'07ADE'	READI CONTROL BLOCK
0024FE	1000	1459	DC A(*-*)	
000000		1460	* DC X'00'	ALIGN BLOCK
		1461	RDE DC C'07ADE'	READI CONTROL BLOCK
		1462	DC A(*-*)	
		1463	* DC X'00'	ALIGN BLOCK
		1464	RDE DC C'07ADE'	READI CONTROL BLOCK
		1465	DC A(*-*)	
		1466	* DC X'00'	ALIGN BLOCK
		1467	RDE DC C'07ADE'	READI CONTROL BLOCK
		1468	DC A(*-*)	
		1469	* DC X'00'	ALIGN BLOCK
		1470	RDE DC C'07ADE'	READI CONTROL BLOCK
		1471	DC A(*-*)	
		1472	* DC X'00'	ALIGN BLOCK
		1473	RDE DC C'07ADE'	READI CONTROL BLOCK
		1474	DC A(*-*)	
		1475	* DC X'00'	ALIGN BLOCK
		1476	RDE DC C'07ADE'	READI CONTROL BLOCK
		1477	DC A(*-*)	
		1478	* DC X'00'	ALIGN BLOCK
		1479	RDE DC C'07ADE'	READI CONTROL BLOCK
		1480	DC A(*-*)	
		1481	* DC X'00'	ALIGN BLOCK
		1482	RDE DC C'07ADE'	READI CONTROL BLOCK
		1483	DC A(*-*)	
		1484	* DC X'00'	ALIGN BLOCK
		1485	RDE DC C'07ADE'	READI CONTROL BLOCK
		1486	DC A(*-*)	
			END	

DECLARED	NAME	ATTRIBUTES AND REFERENCES	COPYRIGHT IBM CORP 1976
731	\$CONC	ADDRESS. HEX LOCATION(00001B5E) IN CSECT(U7AF1) LENGTH(4)	
789	\$CONX	ADDRESS. HEX LOCATION(00001BC6) IN CSECT(U7AF1) LENGTH(1)	
765	\$ERR\$	ADDRESS. HEX LOCATION(00001B76) IN CSECT(U7AF1) LENGTH(6)	
357	\$INTL	ADDRESS. HEX LOCATION(000019FE) IN CSECT(U7AF1) LENGTH(2)	
322	\$IOIN	ADDRESS. HEX LOCATION(000019C0) IN CSECT(U7AF1) LENGTH(2)	
323	\$ISB	ADDRESS. HEX LOCATION(000019C2) IN CSECT(U7AF1) LENGTH(2)	
307	\$LE	ABSOLUTE. HEX VALUE(00000026)	
415	\$RDI	ADDRESS. HEX LOCATION(00001A18) IN CSECT(U7AF1) LENGTH(6)	
418	\$RDI	ADDRESS. HEX LOCATION(00001A20) IN CSECT(U7AF1) LENGTH(6)	
425	\$RKEW	ADDRESS. HEX LOCATION(00001A34) IN CSECT(U7AF1) LENGTH(6)	
321	\$TUID	ADDRESS. HEX LOCATION(000019BE) IN CSECT(U7AF1) LENGTH(2)	
68	@DCADD1	ADDRESS. HEX LOCATION(00001912) IN CSECT(U7AF1) LENGTH(2)	
69	@DCADD2	ADDRESS. HEX LOCATION(00001914) IN CSECT(U7AF1) LENGTH(2)	
51	@ETOH	ADDRESS. HEX LOCATION(00001820) IN CSECT(U7AF1) LENGTH(2)	
78	@MSGWTR	ADDRESS. HEX LOCATION(00001920) IN CSECT(U7AF1) LENGTH(4)	
72	@OUT	ADDRESS. HEX LOCATION(0000191A) IN CSECT(U7AF1) LENGTH(2)	
55	@OUTIN	ADDRESS. HEX LOCATION(00001828) IN CSECT(U7AF1) LENGTH(2)	
71	@OUT1	ADDRESS. HEX LOCATION(00001918) IN CSECT(U7AF1) LENGTH(2)	
74	ABMSG	ADDRESS. HEX LOCATION(0000191E) IN CSECT(U7AF1) LENGTH(2)	
49	ASSIGN	ADDRESS. HEX LOCATION(00001816) IN CSECT(U7AF1) LENGTH(8)	
794	BEGIN	ADDRESS. HEX LOCATION(00001BD0) IN CSECT(U7AF1) LENGTH(2)	
1044	BIGF	ADDRESS. HEX LOCATION(00001EF6) IN CSECT(U7AF1) LENGTH(6)	
1048	BIGH	ADDRESS. HEX LOCATION(00001F06) IN CSECT(U7AF1) LENGTH(6)	
819	BIT0080	ABSOLUTE. HEX VALUE(00000080)	
1317	BLK	ADDRESS. HEX LOCATION(00002396) IN CSECT(U7AF1) LENGTH(2)	
814	BUFFT	ADDRESS. HEX LOCATION(00001D2C) IN CSECT(U7AF1) LENGTH(2)	
278	B56	ABSOLUTE. HEX VALUE(00000018)	
281	B59	ABSOLUTE. HEX VALUE(0000001B)	
311	CE	ABSOLUTE. HEX VALUE(0000002A)	
125	CICB	ABSOLUTE. HEX VALUE(00000014)	
309	CS	ABSOLUTE. HEX VALUE(00000028)	
310	CSA	ABSOLUTE. HEX VALUE(00000029)	
340	CSBUF	ADDRESS. HEX LOCATION(000019DE) IN CSECT(U7AF1) LENGTH(1)	
233	CSDCB	ADDRESS. HEX LOCATION(00001988) IN CSECT(U7AF1) LENGTH(2)	
345	CSTL5	ADDRESS. HEX LOCATION(000019E6) IN CSECT(U7AF1) LENGTH(2)	
1313	DATAA	ADDRESS. HEX LOCATION(0000237C) IN CSECT(U7AF1) LENGTH(2)	
330	DCBUF	ADDRESS. HEX LOCATION(000019CE) IN CSECT(U7AF1) LENGTH(1)	
815	DC2PT	ADDRESS. HEX LOCATION(00001D2E) IN CSECT(U7AF1) LENGTH(2)	
1240	DEID	ADDRESS. HEX LOCATION(000021FC) IN CSECT(U7AF1) LENGTH(2)	
1241	DEID1	ADDRESS. HEX LOCATION(000021FE) IN CSECT(U7AF1) LENGTH(31)	
48	DEVADD	ADDRESS. HEX LOCATION(00001814) IN CSECT(U7AF1) LENGTH(2)	
47	DEVTAB	ADDRESS. HEX LOCATION(00001812) IN CSECT(U7AF1) LENGTH(2)	
325	DEV1	ADDRESS. HEX LOCATION(000019C6) IN CSECT(U7AF1) LENGTH(2)	
328	DEV4	ADDRESS. HEX LOCATION(000019CC) IN CSECT(U7AF1) LENGTH(2)	
155	EIGHT	ABSOLUTE. HEX VALUE(00000008)	
1015	EMPTY	ADDRESS. HEX LOCATION(00001E82) IN CSECT(U7AF1) LENGTH(4)	
302	ER	ABSOLUTE. HEX VALUE(00000021)	
130	ETOH	ABSOLUTE. HEX VALUE(00000019)	
111	EXIT	ABSOLUTE. HEX VALUE(00000006)	
1262	EXIT1	ADDRESS. HEX LOCATION(0000224A) IN CSECT(U7AF1) LENGTH(4)	
817	FAKETU	ADDRESS. HEX LOCATION(00001D32) IN CSECT(U7AF1) LENGTH(2)	
1251	FGSEC	ADDRESS. HEX LOCATION(0000222C) IN CSECT(U7AF1) LENGTH(2)	
1314	FILL	ADDRESS. HEX LOCATION(0000237E) IN CSECT(U7AF1) LENGTH(23)	
976	FXD	ABSOLUTE. HEX VALUE(00000018)	
1252	HDCYL	ADDRESS. HEX LOCATION(0000222E) IN CSECT(U7AF1) LENGTH(2)	

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1309	HEAD	1054 1056 1057 1065 1069 1075 1078 1086 1096 ADDRESS. HEX LOCATION(00002362) IN CSECT(U7AF1) LENGTH(2)
1250	HEADS	1267 ADDRESS. HEX LOCATION(0000222A) IN CSECT(U7AF1) LENGTH(2)
1310	HEAD4	1044 1046 1048 1050 1067 ADDRESS. HEX LOCATION(00002364) IN CSECT(U7AF1) LENGTH(21)
823	HEBLK	1309 ADDRESS. HEX LOCATION(00001D34) IN CSECT(U7AF1) LENGTH(2)
131	HTEO	766 ABSOLUTE. HEX VALUE(0000001A)
1235	IBER	767 1275 1279 1283 ADDRESS. HEX LOCATION(000021C0) IN CSECT(U7AF1) LENGTH(31)
1234	IBERR	1234 ADDRESS. HEX LOCATION(000021BE) IN CSECT(U7AF1) LENGTH(2)
1154	IBWRT	1223 ADDRESS. HEX LOCATION(0000207C) IN CSECT(U7AF1) LENGTH(4)
107	IDLE	1083 1116 ABSOLUTE. HEX VALUE(00000002)
1322	ID00	520 522 ADDRESS. HEX LOCATION(0000239C) IN CSECT(U7AF1) LENGTH(4)
1200	IMPTY	262 420 1105 1129 ADDRESS. HEX LOCATION(00002136) IN CSECT(U7AF1) LENGTH(2)
304	IN	1174 ABSOLUTE. HEX VALUE(00000023)
59	INAREA	506 518 639 ADDRESS. HEX LOCATION(00001830) IN CSECT(U7AF1) LENGTH(2)
701	INTBL	52 56 ADDRESS. HEX LOCATION(00001B56) IN CSECT(U7AF1) LENGTH(2)
596	INTER	731 ADDRESS. HEX LOCATION(00001ABA) IN CSECT(U7AF1) LENGTH(2)
605	INTES	703 ADDRESS. HEX LOCATION(00001AD2) IN CSECT(U7AF1) LENGTH(2)
609	INTET	600 ADDRESS. HEX LOCATION(00001ADA) IN CSECT(U7AF1) LENGTH(2)
636	INTOK	606 ADDRESS. HEX LOCATION(00001ADE) IN CSECT(U7AF1) LENGTH(2)
658	INTRX	702 ADDRESS. HEX LOCATION(00001B0E) IN CSECT(U7AF1) LENGTH(2)
639	INTR1	653 656 ADDRESS. HEX LOCATION(00001AE6) IN CSECT(U7AF1) LENGTH(2)
644	INTR2	604 608 610 ADDRESS. HEX LOCATION(00001AF4) IN CSECT(U7AF1) LENGTH(1)
652	INTR3	641 ADDRESS. HEX LOCATION(00001B02) IN CSECT(U7AF1) LENGTH(2)
692	IOBLK	649 ADDRESS. HEX LOCATION(00001B4A) IN CSECT(U7AF1) LENGTH(2)
694	IODCB	507 735 ADDRESS. HEX LOCATION(00001B4E) IN CSECT(U7AF1) LENGTH(2)
695	IOMOD	411 415 418 425 489 495 734 ADDRESS. HEX LOCATION(00001B50) IN CSECT(U7AF1) LENGTH(2)
1217	IWRT	481 484 490 ADDRESS. HEX LOCATION(00002180) IN CSECT(U7AF1) LENGTH(4)
1179	IWRT1	1154 1190 ADDRESS. HEX LOCATION(000020E4) IN CSECT(U7AF1) LENGTH(6)
1188	IWRT2	1199 ADDRESS. HEX LOCATION(0000210A) IN CSECT(U7AF1) LENGTH(2)
1175	I7AA	1164 ADDRESS. HEX LOCATION(000020D0) IN CSECT(U7AF1) LENGTH(6)
1163	I7A1	1192 1197 1201 ADDRESS. HEX LOCATION(000020A4) IN CSECT(U7AF1) LENGTH(6)
1191	I7A2	1169 1178 ADDRESS. HEX LOCATION(00002110) IN CSECT(U7AF1) LENGTH(6)
1155	I7A3	1172 ADDRESS. HEX LOCATION(00002080) IN CSECT(U7AF1) LENGTH(4)
1171	I7A5	1187 ADDRESS. HEX LOCATION(000020C0) IN CSECT(U7AF1) LENGTH(6)
800	LINE1	1168 ADDRESS. HEX LOCATION(00001C08) IN CSECT(U7AF1) LENGTH(40)
324	LSTIO	771 ADDRESS. HEX LOCATION(000019C4) IN CSECT(U7AF1) LENGTH(2)
301	MI	493 942 985 1000 1169 ABSOLUTE. HEX VALUE(00000020)
1247	MSCID	654 ADDRESS. HEX LOCATION(00002224) IN CSECT(U7AF1) LENGTH(2)
61	MSG	1105 1106 1112 1120 ADDRESS. HEX LOCATION(00001852) IN CSECT(U7AF1) LENGTH(50)
1224	MSG5	55 ADDRESS. HEX LOCATION(00002194) IN CSECT(U7AF1) LENGTH(2)
88	MSGWTR1	1220 1222 ADDRESS. HEX LOCATION(00001942) IN CSECT(U7AF1) LENGTH(2)
1223	MSG1	93 ADDRESS. HEX LOCATION(00002190) IN CSECT(U7AF1) LENGTH(4)
1001	MSG11	1001 1170 ADDRESS. HEX LOCATION(00001E40) IN CSECT(U7AF1) LENGTH(4)
1219	MSG2	943 986 ADDRESS. HEX LOCATION(00002184) IN CSECT(U7AF1) LENGTH(4)
1221	MSG3	1144 ADDRESS. HEX LOCATION(0000218A) IN CSECT(U7AF1) LENGTH(4)
1226	MSG4	1189 ADDRESS. HEX LOCATION(0000219A) IN CSECT(U7AF1) LENGTH(4)
971	MSSG1	971 ADDRESS. HEX LOCATION(00001DC4) IN CSECT(U7AF1) LENGTH(4)
774	MVBUF	962 964 966 ADDRESS. HEX LOCATION(00001B94) IN CSECT(U7AF1) LENGTH(2)
313	NG	778 781 ABSOLUTE. HEX VALUE(0000002C)
308	NI	657 ABSOLUTE. HEX VALUE(00000027)
1238	NLST	512 ADDRESS. HEX LOCATION(000021E2) IN CSECT(U7AF1) LENGTH(25)
1237	NOLST	1237 ADDRESS. HEX LOCATION(000021E0) IN CSECT(U7AF1) LENGTH(2)
266	OPTN1	1221 ADDRESS. HEX LOCATION(000019B8) IN CSECT(U7AF1) LENGTH(2)
289	OPTN3	598 638 973 ADDRESS. HEX LOCATION(000019BC) IN CSECT(U7AF1) LENGTH(2)
105	OUT	687 ABSOLUTE. HEX VALUE(00000000)
106	OUTIN	84 91 97 1224 1227 1268 1287 ABSOLUTE. HEX VALUE(00000001)

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1271	PHD	951 ADDRESS. HEX LOCATION(00002268) IN CSECT(U7AF1) LENGTH(4)
1266	PHDD	1288 ADDRESS. HEX LOCATION(00002254) IN CSECT(U7AF1) LENGTH(4)
1289	PHD2	945 1084 ADDRESS. HEX LOCATION(000022BC) IN CSECT(U7AF1) LENGTH(4)
40	PID	1266 ADDRESS. HEX LOCATION(00001800) IN CSECT(U7AF1) LENGTH(4)
818	PIDMSG10	82 782 ABSOLUTE. HEX VALUE(0000F1F0)
117	PREP	782 ABSOLUTE. HEX VALUE(0000000C)
1291	PRINT	736 ADDRESS. HEX LOCATION(000022C0) IN CSECT(U7AF1) LENGTH(10)
1259	PRNT	936 980 994 1269 ADDRESS. HEX LOCATION(00002246) IN CSECT(U7AF1) LENGTH(2)
1397	RDA	980 991 994 1006 1155 1162 1177 1269 1273 ADDRESS. HEX LOCATION(00002471) IN CSECT(U7AF1) LENGTH(5)
1401	RDB	1286 ADDRESS. HEX LOCATION(00002479) IN CSECT(U7AF1) LENGTH(5)
1405	RDC	1460 ADDRESS. HEX LOCATION(00002481) IN CSECT(U7AF1) LENGTH(5)
1256	RDCTL	1464 ADDRESS. HEX LOCATION(0000236) IN CSECT(U7AF1) LENGTH(2)
1409	RDD	1468 ADDRESS. HEX LOCATION(00002489) IN CSECT(U7AF1) LENGTH(5)
1413	RDE	936 947 979 981 989 993 996 1004 1161 ADDRESS. HEX LOCATION(00002491) IN CSECT(U7AF1) LENGTH(5)
1417	RDF	1472 ADDRESS. HEX LOCATION(00002499) IN CSECT(U7AF1) LENGTH(5)
1357	RD0	1476 ADDRESS. HEX LOCATION(00002421) IN CSECT(U7AF1) LENGTH(5)
1361	RD1	1260 1480 ADDRESS. HEX LOCATION(00002429) IN CSECT(U7AF1) LENGTH(5)
1365	RD2	979 993 1256 1420 ADDRESS. HEX LOCATION(00002431) IN CSECT(U7AF1) LENGTH(5)
1369	RD3	1425 ADDRESS. HEX LOCATION(00002439) IN CSECT(U7AF1) LENGTH(5)
1373	RD4	1428 ADDRESS. HEX LOCATION(00002441) IN CSECT(U7AF1) LENGTH(5)
1377	RD5	1432 ADDRESS. HEX LOCATION(00002449) IN CSECT(U7AF1) LENGTH(5)
1381	RD6	1436 ADDRESS. HEX LOCATION(00002451) IN CSECT(U7AF1) LENGTH(5)
1385	RD7	1440 ADDRESS. HEX LOCATION(00002459) IN CSECT(U7AF1) LENGTH(5)
1389	RD8	1444 ADDRESS. HEX LOCATION(00002461) IN CSECT(U7AF1) LENGTH(5)
1393	RD9	1448 ADDRESS. HEX LOCATION(00002469) IN CSECT(U7AF1) LENGTH(5)
136	READI	1452 ABSOLUTE. HEX VALUE(0000001F)
124	RICB	939 982 997 1166 ABSOLUTE. HEX VALUE(00000013)
244	RKDCB	791 ADDRESS. HEX LOCATION(00001998) IN CSECT(U7AF1) LENGTH(2)
255	RHDCB	425 1138 1139 1140 ADDRESS. HEX LOCATION(000019A8) IN CSECT(U7AF1) LENGTH(2)
1260	RRDF	418 1057 1058 1087 1088 1095 1097 1110 1117 ADDRESS. HEX LOCATION(00002248) IN CSECT(U7AF1) LENGTH(2)
1258	RSBA	1163 ADDRESS. HEX LOCATION(0000223A) IN CSECT(U7AF1) LENGTH(2)
211	RSDCB	215 226 248 259 ADDRESS. HEX LOCATION(00001968) IN CSECT(U7AF1) LENGTH(2)
0	R0	415 1129 1130 1131 1132 1138 1139 1140 1145 REGISTER. HEX VALUE(00000000)
0	R1	1146 1147 REGISTER. HEX VALUE(00000001)
0	R2	1270 1288 REGISTER. HEX VALUE(00000002)
0	R3	76 79 80 81 86 88 89 92 771 774 777 780 937 948 958 959 976 992 1016 1018 1022 1023 1024 1184 1186 1203 1205 1209 1210 1211 REGISTER. HEX VALUE(00000003)
0	R4	80 86 88 776 777 936 944 945 946 1015 1018 1155 1156 1157 1183 1186 1202 1205 REGISTER. HEX VALUE(00000004)
0	R5	421 422 481 494 497 498 501 503 560 561 562 596 597 603 607 636 637 642 655 687 769 770 774 786 1065 1066 1067 1069 1070 1071 1072 1074 1075 REGISTER. HEX VALUE(00000005)
0	R6	87 93 487 488 491 505 506 508 509 512 518 526 598 599 601 605 609 638 639 640 650 651 652 654 657 667 669 671 674 676 973 1029 1030 1033 1045 1049 1052 1061 1076 1080 1082 1091 1136 1143 1188 1198 1200 REGISTER. HEX VALUE(00000006)
0	R7	420 422 495 497 499 501 517 524 646 647 648 679 680 682 684 768 781 940 983 998 1167 REGISTER. HEX VALUE(00000007)
1255	SAVE7	493 513 563 658 673 675 683 686 688 733 737 773 778 779 949 974 1031 1059 1063 1064 1083 1084 1089 1093 1094 1104 1116 1128 1134 1141 1154 1262 1266 REGISTER. HEX VALUE(00000008)
935	SBUFF	83 90 96 368 419 496 500 507 602 643 731 735 766 772 775 787 790 938 950 952 981 996 1017 1158 1165 1185 1204 1219 1221 1223 1226 1263 1267 1271 1284 ADDRESS. HEX LOCATION(00002234) IN CSECT(U7AF1) LENGTH(2)
		930 935 1005 1158 1160 1176 ABSOLUTE. HEX VALUE(00002500)
		944 945 987 1002 1008 1010 1013 1020 1021 1024 1025 1028 1156 1157 1171 1173 1179 1180 1181 1182 1191 1193 1196 1207 1208 1211 1212 1215 1421 1425 1429 1433 1437 1441 1445 1449

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1231	SCTER	1453 1457 1461 1465 1469 1473 1477 1481 ADDRESS. HEX LOCATION(000021A6) IN CSECT(U7AF1) LENGTH(2)
329	SCTID	1219 ADDRESS. HEX LOCATION(000019C6) IN CSECT(U7AF1) LENGTH(2)
1253	SEC33	218 251 ADDRESS. HEX LOCATION(00002230) IN CSECT(U7AF1) LENGTH(2)
1254	SEC34	1132 ADDRESS. HEX LOCATION(00002232) IN CSECT(U7AF1) LENGTH(2)
63	SERIAL	1118 ADDRESS. HEX LOCATION(00001886) IN CSECT(U7AF1) LENGTH(2)
222	SKDCB	53 956 961 962 965 967 987 1008 1011 1019 1020 1021 1022 1026 1171 1191 1194 1206 1207 1208 1209 1213 ADDRESS. HEX LOCATION(00001978) IN CSECT(U7AF1) LENGTH(2)
1045	SMLF	411 ADDRESS. HEX LOCATION(00001EFC) IN CSECT(U7AF1) LENGTH(2)
1049	SMLM	1038 ADDRESS. HEX LOCATION(00001F0C) IN CSECT(U7AF1) LENGTH(2)
115	START	1042 ABSOLUTE. HEX VALUE(0000000A)
1232	STER	510 ADDRESS. HEX LOCATION(000021A8) IN CSECT(U7AF1) LENGTH(21)
70	SUPSTAT	1231 ADDRESS. HEX LOCATION(00001916) IN CSECT(U7AF1) LENGTH(2)
1080	TCQ0	785 ADDRESS. HEX LOCATION(00001F76) IN CSECT(U7AF1) LENGTH(2)
1244	TEMP2	1073 ADDRESS. HEX LOCATION(0000221E) IN CSECT(U7AF1) LENGTH(2)
1245	TEMP3	967 968 969 1011 1012 1013 1194 1195 1196 ADDRESS. HEX LOCATION(00002220) IN CSECT(U7AF1) LENGTH(2)
112	TERM	1026 1027 1028 1213 1214 1215 ABSOLUTE. HEX VALUE(00000007)
1104	TFLG	957 1264 ADDRESS. HEX LOCATION(00001FC2) IN CSECT(U7AF1) LENGTH(4)
1117	TFLG5	1064 1094 ADDRESS. HEX LOCATION(00002004) IN CSECT(U7AF1) LENGTH(6)
1106	TFLG6	1107 1115 ADDRESS. HEX LOCATION(00001FCC) IN CSECT(U7AF1) LENGTH(6)
1122	TFLG9	1121 ADDRESS. HEX LOCATION(0000201A) IN CSECT(U7AF1) LENGTH(4)
1051	TSF3A	1104 1119 ADDRESS. HEX LOCATION(00001F14) IN CSECT(U7AF1) LENGTH(6)
1056	TSF3B	1047 ADDRESS. HEX LOCATION(00001F26) IN CSECT(U7AF1) LENGTH(6)
1088	TS69A	1053 ADDRESS. HEX LOCATION(00001F94) IN CSECT(U7AF1) LENGTH(6)
1057	TS69C	1099 ADDRESS. HEX LOCATION(00001F2C) IN CSECT(U7AF1) LENGTH(6)
1082	TS69F	1055 1077 1079 ADDRESS. HEX LOCATION(00001F7A) IN CSECT(U7AF1) LENGTH(2)
1064	TS69G	1098 ADDRESS. HEX LOCATION(00001F46) IN CSECT(U7AF1) LENGTH(4)
1086	TS69X	1062 ADDRESS. HEX LOCATION(00001F88) IN CSECT(U7AF1) LENGTH(6)
1094	TS69Y	1081 ADDRESS. HEX LOCATION(00001FA8) IN CSECT(U7AF1) LENGTH(4)
1128	TT69	1092 ADDRESS. HEX LOCATION(0000201E) IN CSECT(U7AF1) LENGTH(4)
1146	TT69A	1063 1093 ADDRESS. HEX LOCATION(0000206A) IN CSECT(U7AF1) LENGTH(6)
1132	TT69L	1137 ADDRESS. HEX LOCATION(00002034) IN CSECT(U7AF1) LENGTH(6)
1149	TT69Z	1148 ADDRESS. HEX LOCATION(00002078) IN CSECT(U7AF1) LENGTH(4)
65	TUMSGWTR	1128 1133 ADDRESS. HEX LOCATION(0000188E) IN CSECT(U7AF1) LENGTH(2)
358	TURTN	787 ADDRESS. HEX LOCATION(00001A00) IN CSECT(U7AF1) LENGTH(2)
66	TUSTATUS	792 972 ADDRESS. HEX LOCATION(00001890) IN CSECT(U7AF1) LENGTH(2)
67	TUWORK	765 ADDRESS. HEX LOCATION(00001892) IN CSECT(U7AF1) LENGTH(1)
149	TWO	769 825 ABSOLUTE. HEX VALUE(00000002)
50	TYP7A	79 ADDRESS. HEX LOCATION(0000181E) IN CSECT(U7AF1) LENGTH(1)
989	T7AA	954 ADDRESS. HEX LOCATION(00001E08) IN CSECT(U7AF1) LENGTH(6)
938	T7AB	1009 1014 ADDRESS. HEX LOCATION(00001D44) IN CSECT(U7AF1) LENGTH(4)
944	T7ABB	942 948 ADDRESS. HEX LOCATION(00001D58) IN CSECT(U7AF1) LENGTH(4)
981	T7A1	941 ADDRESS. HEX LOCATION(00001DEC) IN CSECT(U7AF1) LENGTH(4)
1008	T7A2	992 ADDRESS. HEX LOCATION(00001E60) IN CSECT(U7AF1) LENGTH(6)
996	T7A4	988 ADDRESS. HEX LOCATION(00001E2E) IN CSECT(U7AF1) LENGTH(4)
1002	T7A5	985 1000 1007 ADDRESS. HEX LOCATION(00001E44) IN CSECT(U7AF1) LENGTH(6)
936	T7A51	999 ADDRESS. HEX LOCATION(00001D3E) IN CSECT(U7AF1) LENGTH(4)
958	T7A52	934 ADDRESS. HEX LOCATION(00001D90) IN CSECT(U7AF1) LENGTH(4)
950	T7A53	955 ADDRESS. HEX LOCATION(00001D70) IN CSECT(U7AF1) LENGTH(4)
972	T7A55	960 1228 ADDRESS. HEX LOCATION(00001DC8) IN CSECT(U7AF1) LENGTH(6)
934	T7A95	970 ADDRESS. HEX LOCATION(00001D3A) IN CSECT(U7AF1) LENGTH(4)
987	T7771	42 955 ADDRESS. HEX LOCATION(00001E00) IN CSECT(U7AF1) LENGTH(6)
1078	UPD05	984 ADDRESS. HEX LOCATION(00001F6E) IN CSECT(U7AF1) LENGTH(6)
39	U7AF1	1068 CSECT. START(00001800) LENGTH(3328) ESDID(1)
1246	WRIBS	39 ADDRESS. HEX LOCATION(00002222) IN CSECT(U7AF1) LENGTH(2)
137	WRITI	977 1108 1109 1110 1111 1112 1113 1114 1216 ABSOLUTE. HEX VALUE(00000020)

DECLARED	NAME	ATTRIBUTES AND REFERENCES
1420	WRTO	ADDRESS. HEX LOCATION(000024A0) IN CSECT(U7AF1) LENGTH(2)
305	XE	995 1255 ABSOLUTE. HEX VALUE(00000024)
303	XI	605 667 ABSOLUTE. HEX VALUE(00000022)
481	XIO	509 652 ADDRESS. HEX LOCATION(00001A3C) IN CSECT(U7AF1) LENGTH(4)
667	XIOCK	412 416 423 426 ADDRESS. HEX LOCATION(00001B10) IN CSECT(U7AF1) LENGTH(2)
674	XIOCO	519 ADDRESS. HEX LOCATION(00001B22) IN CSECT(U7AF1) LENGTH(2)
684	XIOCQ	672 ADDRESS. HEX LOCATION(00001B38) IN CSECT(U7AF1) LENGTH(4)
489	XIOCS	681 ADDRESS. HEX LOCATION(00001A4E) IN CSECT(U7AF1) LENGTH(6)
676	XIOCV	685 1031 ADDRESS. HEX LOCATION(00001B26) IN CSECT(U7AF1) LENGTH(2)
687	XIOCX	670 ADDRESS. HEX LOCATION(00001B44) IN CSECT(U7AF1) LENGTH(4)
560	XIOER	677 ADDRESS. HEX LOCATION(00001AAE) IN CSECT(U7AF1) LENGTH(2)
493	XIO1	693 ADDRESS. HEX LOCATION(00001A5E) IN CSECT(U7AF1) LENGTH(4)
506	XIO2	482 485 ADDRESS. HEX LOCATION(00001A84) IN CSECT(U7AF1) LENGTH(2)
518	XIO8	492 ADDRESS. HEX LOCATION(00001A9A) IN CSECT(U7AF1) LENGTH(2)
1257	ZERO0	525 ADDRESS. HEX LOCATION(00002238) IN CSECT(U7AF1) LENGTH(2)

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