Title:

RC36-00822.00

DISC RELIABILITY

OPERATING INSTRUCTION

A/S REGNECENTRALEN

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RCSL No: 44 - RT 1849
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0065 !                                                  RC36-00822 PAGE 01
0066
0067 TITLE:            DISC RELIABILITY PROGRAM
0068
0069 ABSTRACT:         THIS PROGRAM TESTS  DISC UNITS BY WRITING
0070                   AND CHECK-READING DATA WITHIN A DISCFILE.
0071
0072
0073 SIZE:             10666 BYTES
0074
0075 DATE:             78.03.29
0076
0077
0078 SPECIAL REQUIREMENTS:
0079 (AT COMPILE-TIME)
0080
0081                   CODEPROCEDURE P0001 (TIME)       RCSL: 43-GL182
0082                   CODEPROCEDURE P0023 (DELAY)      RCSL: 43-GL1409
0083                   CODEPROCEDURE P0061 (RANDOM)     RCSL: 43-GL2763
0084                   CODEPROCEDURE CHANGETABLE        RCSL: 43-GL1519
0085
0086
0087 GENERAL INFORMATION:
0088
0089                   THIS PROGRAM ACTS IN THE FOLLOWING WAY:
0090                   AFTER ALL PARAMETERS HAVE BEEN INITIALIZED AND A START
0091                   COMMAND HAS BEEN GIVEN THE PROGRAM STARTS WRITING
0092                   AND READING A FILE ON A  DISC   (FOR MORE
0093                   DETAILED DESCRIPTION SEE SPECIFICATION PAGE 06).
0094                   IF STATUS ERRORS OCCUR THEY ARE ACCUMULATED. IF ERRORS
0095                   IN THE DATA OCCUR THEY ARE LOGGED IMMEDIATLY. WHEN THE
0096                   PROGRAM HAS BEEN RUNNING FOR A  SPECIFIED TIME OR A HARD
0097                   ERROR OCCURS, THE PROGRAM IS STOPPED, AND A STATISTIC
0098                   IS LOGGED ON THE SELECTED LOG-DEVICE.
0099
0100
0101 DRIVERS FOR THE PROGRAM:
0102
0103                   INTERPRETER, DRIVER FOR THE SELECTED LOG-DEVICE,
0104                   (CONVERSION TABLE IF LOG DEVICE IS PRINTER),
0105                   THE PROGRAM TIME, CAT76 AND DRIVERS FOR THE SPECIFIED
0106                   DRIVE.
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0108 !
0109
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0111
0112 RUNTIME PARAMETERS:
0113
0114
0115                    DRIVENO
0116
0117                            TYPE THE DRIVE-NUMBER THAT IS GOING TO BE
0118                            TESTED.
0119
0120                    USE EXISTING FILE (OLD) OR CREATE A NEW FILE (NEW)
0121
0122                            TYPE OLD OR NEW. IF NEW SPECIFIED TYPE THE
0123                            SIZE ( IN SECTORS ) AND THE EXTENSION (BIG OR
0124                            SMALL) OF THE FILE.
0125
0126                    FILENAME
0127
0128                            TYPE THE FILENAME TO BE USED FOR THE TEST.
0129                            ( AT!! ALL EXISTING DATA IN THE FILE ARE LOST ).
0130
0131                    OUTPUT LOGDEVICE, (TTY), (LPT), (CPT), (SP)
0132
0133                            TYPE THE DEVICE WHERE STATISTICS ARE GOING
0134                            TO BE LOGGED.
0135
0136                            TTY = TELETYPE
0137                            LPT = LINEPRINTER
0138                            CPT = CHARABAND PRINTER
0139                            SP  = SERIAL PRINTER
0140
0141                    TESTPERIOD, (HOURS,MINUTES)
0142
0143                            EFFECTIVE TIME THE TEST SHOULD RUN.
0144
0145                    STOP ON ERROR (YES) OR WAIT UNTIL STATISTIC (NO)
0146
0147                            IF ANSWER = YES THEN TEST WILL STOP AT THE
0148                            FIRST OCCURRED ERROR
0149
0150                            IF ANSWER = NO THEN TEST WILL STOP WHEN RUNTIME
0151                            IS REACHED OR HARD ERROR OCCURS.
0152
0153                    AUTOMATIC DATAGENERATING (AUTO) OR SPECIAL DATA (SPEC).
0154
0155                            IF ANSWER = AUTO THEN RANDOM AND SKEWPATTERN
0156                            DATA IS AUTOMATICALLY GENERATED BY THE PROGRAM.
0157
0158                            IF ANSWER = SPEC THEN DATA IS SELECTED BY
0159                            THE OPERATOR.
0160
0161                    DATA BYTE NN
0162
0163                            ONLY WHEN SPECIAL DATA. GIVE THE DECIMAL
0164                            VALUE (0-225) FOR BYTE NN. IT IS POSSIBLE
0165                            TO SPECIFY MAX 25 BYTES. IF 16 DATA BYTES
0166                            ARE SPECIFIED THEN EACH BLOCK WILL CONTAIN
0167                            THE 16 DATA BYTES 32 TIMES.
0168
0169                    TO SEE THE COMMANDS TYPE HELP ELSE NL
0170
0171                            IF ANSWER = HELP THEN ALL POSSIBLE COMMANDS
0172                            AND THE MEANING OF THEM WILL BE DISPLAYED.
0173 !
0174
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0175 !
0176
0177
0178 INPUT MESSAGES:
0179
0180                    START  :        STARTS EXECUTION WRITING:
0181                                    EXECUTION STARTED HH.MM.SS
0182                                    AFTER LOG DEVICE ERROR START MEANS
0183                                    REAPEAT THE LOG-OUTPUT.
0184
0185                    STOP   :        STOPS EXECUTION WRITING:
0186                                    EXECUTION STOPPED HH.MM.SS
0187                                    AFTER LOG DEVICE ERROR STOP MEANS
0188                                    SKIP THE LOG-OUTPUT, AND RESTART THE
0189                                    PROGRAM AT INIT-PHASE.
0190
0191                    CONT   :        EXECUTION IS CONTINUED WITHOUT CHANGING
0192                                    STATUS, WRITING:
0193                                    EXECUTION CONTINUED HH.MM.SS
0194
0195                    INIT   :        DISPLAY RUNTIME PARAMETERS.
0196
0197                    RELEASE:        ONLY WHEN EXECUTION IS STOPPED.
0198                                    FORCES THE PROGRAM IN END JOB ,
0199                                    RELEASES DRIVERS AND REMOVES THE FILE-
0200                                    AREAPROCESS AS IF HOURS.MINUTES HAS GONE.
0201
0202
0203 OUTPUT MESSAGES:
0204
0205                    EXECUTION STARTED HH.MM.SS
0206
0207                            WRITTEN AS ACCEPT OF COMMAND START
0208
0209                    EXECUTION STOPPED HH.MM.SS .
0210
0211                            WRITTEN AS ACCEPT OF COMMAND STOP
0212
0213                    EXECUTION CONTINUED HH.MM.SS
0214
0215                            WRITTEN AS ACCEPT OF COMMAND CONT
0216
0217                    LOG DEVICE ERROR NNNNN
0218
0219                            CONSULT THE RC3600 OPERATING GUIDE
0220
0221                    TEST STATISTIC AND ERROR STATISTIC
0222
0223                            USER INFORMATION TO SEE THE RESULT OF
0224                            THE TEST (SEE NEXT PAGE).
0225 !
0226
0227
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0228
0229 !
0230
0231
0232          WHEN AN ERROR OCCURS THE FOLLOWING IS OUTPUT:
0233
0234          DRIVE: NNN   FILE: XXXXX   BLOCK: YYYYY   MODE: AAAAAAAAA   <STATE
0235
0236          WHERE NNN    = DRIVE NUMBER
0237                XXXXX  = FILE  IN WHICH THE ERROR OCCURRED.
0238                YYYYY  = BLOCK NUMBER IN WHICH THE ERROR OCCURRED.
0239                AAAAAAAA = SEQUENTIAL OR RANDOM POSITIONING.
0240
0241                <STATE> IS ONE OF THE FOLLOWING TEXTS
0242
0243                WRITE RANDOM : THE UNIT WAS WRITING RANDOM DATA
0244                               WHEN THE ERROR OCCURRED.
0245                WRITE FLOAT1 : THE UNIT WAS WRITING FLOATING ONE DATA
0246                               WHEN THE ERROR OCCURRED.
0247                WRITE 1'S    : THE UNIT WAS WRITING ALL 1'S
0248                               WHEN THE ERROR OCUCURRED.
0249                WRITE 0'S    : THE UNIT WAS WRITING ALL 0'S
0250                               WHEN THE ERROR OCCURRED.
0251                WRITE 8'333  : THE UNIT WAS WRITING 8'333
0252                                WHEN THE ERROR OCCURRED.
0253                WRITE SPECIAL: THE UNIT WAS WRITING OPERATOR-
0254                               SPECIFIED DATA WHEN THE ERROR OCCURRED.
0255                READ RANDOM  : THE UNIT WAS READING AND CHECKING
0256                               RANDOM DATA WHEN THE ERROR OCCURRED.
0257                READ FLOAT1  : THE UNIT WAS READING AND CHECKING
0258                               FLOATING ONE DATA WHEN THE ERROR OCCURRED.
0259                READ 1'S     : THE UNIT WAS READING AND CHECKING
0260                               ALL 1'S DATA   WHEN THE ERROR OCCURRED.
0261                READ 0'S     : THE UNIT WAS READING AND CHECKING
0262                               ALL 0'S DATA WHEN THE ERROR OCCURRED.
0263                READ 8'333   : THE UNIT WAS READING AND CHECKING
0264                               8'333 DATA WHEN THE ERROR OCCURRED.
0265                READ SPECIAL : THE UNIT WAS READING AND CHECKING
0266                               OPERATOR-SPECIFIED DATA WHEN THE
0267                               ERROR OCCURRED.
0268
0269          DEPENDING ON THE ERROR THE NEXT LINE WILL BE:
0270
0271          PARITY ERROR
0272          SEEK ERROR
0273          POSITION ERROR                          READ BLOCK: ZZZZZ
0274          LENGTH ERROR   GOOD: XXXXX   BAD: YYYYY
0275          DATA ERROR     GOOD: 8'NNN   BAD: 8'MMM   CHARACTERNO: VVVVV
0276
0277          PARITY AND SEEK ERROR NEED NO EXPLANATION.
0278
0279          LENGTH ERROR          MEANS THAT THE BLOCKSIZE WHEN READING IS
0280                                NOT EQUAL TO THE EXPECTED ONE.
0281                                XXXXX = CORRECT BLOCKSIZE, YYYYY = READ
0282                                BLOCKSIZE.
0283
0284          DATA ERROR            MEANS THAT THE READING AND CHECKING DATA,
0285                                FILE XXXXX BLOCK YYYYY BYTE VVVVV DOES
0286                                NOT CORRESPOND TO WHAT IT SHOULD BE
0287                                WRITTEN IN IT. NNN IS THE CORRECT VALUE
0288                                IN OCTAL, AND MMM IS THE READ VALUE IN OCTAL.
0289                                IF 3 DATA ERRORS HAVE OCCURRED IN 1 BLOCK,
0290                                IT IS REGARDED AS A BAD BLOCK, AND THE
0291                                REST OF IT IS NOT CHECKED.
0292
0293          POSITION ERROR        MEANS THAT A WRONG BLOCK WAS READ.
0294                                THE READ BLOCK WAS ZZZZZ.
0295 !
0296
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TEST STATISTIC AND ERROR STATISTIC:

THE TEST STATISTIC AND ERROR STATISTIC IS LOGGED ON THE SELECTED LOG-DEVICE WHEN THE TEST HAS BEEN RUNNING FOR THE SPECIFIED TIME OR WHEN THE COMMAND STOP IS GIVEN.

THE TEST STATISTIC SHOWS THE TIME FOR START, STOP AND THE EFFECTIVE RUN-TIME. FURTHERMORE IT SHOWS THE DRIVE-NUMBER, THE FILE NAME, HOW MANY BLOCKS THAT HAVE BEEN WRITTEN AND READ AND HOW MANY ERRORS THAT HAVE OCCURRED.

THE ERROR STATISTIC SHOWS THE STATUS-ERRORS THAT HAVE OCCURRED.

ERROR NN: NNNNN EXPLANATION.
NN IS THE ERRORNUMBER
NNNNN IS THE NUMBER OF TIMES THE ERROR OCCURRED.
EXPLANATION IS AN EXPLANATION OF THE STATUS-ERROR.

SPECIFICATION:

THE FUNCTION OF THE DISC RELIABILITY PROGRAM IS:

NOTE: ALL BLOCKS (SECTORS) CONTAIN THE BLOCKNUMBER IN THE FIRST 5 BYTES OF THE BLOCK.

1. POSITION TO BLOCKNO 0 WITHIN THE SPECIFIED FILE.

2. IF SPECIAL DATA SPECIFIED GOTO 12.

3. SET MODE TO SEQUENTIAL MODE.

4. WRITE A BLOCK OF RANDOM DATA.

5. WRITE A BLOCK OF FLOATING ONE DATA:
   8'200 8'100 8'040 8'020 8'010 8'004 8'002 8'001 8'200 ETC.

6. WRITE A BLOCK OF ALL 1'S.

7. WRITE A BLOCK OF ALL 0'S.

8. WRITE A BLOCK WHERE ALL THE BYTES ARE 8'333.

9. POSITION TO LAST BLOCK OF RANDOM DATA. READ AND CHECK THE NEXT 5 BLOCKS OF DATA (RANDOM DATA, FLOATING ONE DATA, ALL 1'S, ALL 0'S, ALL 8'33).

10. SET MODE TO OPPOSITE OF CURRENT MODE (SEQUENTIAL/RANDOM).

11. GO TO 4.

12. SET MODE TO SEQUENTIAL MODE.

13. WRITE 5 BLOCKS WITH THE SPECIFIED DATA.

14. POSITION TO THE FIRST BLOCK WITHIN THE 5 BLOCKS.
    READ AND CHECK THE 5 BLOCKS.

14. SET MODE TO OPPOSITE OF CURRENT MODE (SEQUENTIAL/RANDOM).

16. GO TO 13.

THIS WILL CONTINUE UNTIL THE PROGRAM HAS RUN HOURS.MINUTES UNLESS IT IS INTERRUPTED BY THE OPERATOR OR HARD ERROR OCCURS