

```

100 *****
110 *
120 * TITLE: B7700/B6800/B6700 GENERALIZED MESSAGE CONTROL SYSTEM *
130 * (GEMCOS) *
140 *
150 *
160 * FILE ID: GEMCOS/MCSDOC TAPE ID: MCT510 *
170 *
180 *****
190 ****
200 **** PROPRIETARY PROGRAM MATERIAL ****
210 ****
220 **** THIS MATERIAL IS PROPRIETARY TO BURROUGHS CORPORATION ***
230 **** AND IS NOT TO BE REPRODUCED, USED OR DISCLOSED EXCEPT ***
240 **** IN ACCORDANCE WITH PROGRAM LICENSE OR UPON WRITTEN ***
250 **** AUTHORIZATION OF THE PATENT DIVISION OF BURROUGHS ***
260 **** CORPORATION, DETROIT, MICHIGAN 48232. ***
270 ****
280 **** COPYRIGHT (C) 1976, 1979 BURROUGHS CORPORATION ***
290 ****
300 *****
310 ****
320 **** BURROUGHS BELIEVES THAT THE SOFTWARE FURNISHED ***
330 **** HERewith IS ACCURATE AND RELIABLE, AND MUCH CARE HAS ***
340 **** BEEN TAKEN IN ITS PREPARATION. HOWEVER, NO ***
350 **** RESPONSIBILITY, FINANCIAL OR OTHERWISE, CAN BE ***
360 **** ACCEPTED FOR ANY CONSEQUENCES ARISING OUT OF THE ***
370 **** USE OF THIS MATERIAL, INCLUDING LOSS OF PROFIT, ***
380 **** INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES. THERE ***
390 **** ARE NO WARRANTIES WHICH EXTEND BEYOND THE PROGRAM ***
400 **** SPECIFICATION. ***
410 ****
420 **** THE CUSTOMER SHOULD EXERCISE CARE TO ASSURE THAT ***
430 **** USE OF THE SOFTWARE WILL BE IN FULL COMPLIANCE WITH ***
440 **** LAWS, RULES AND REGULATIONS OF THE JURISDICTIONS ***
450 **** WITH RESPECT TO WHICH IT IS USED. ***
460 ****
470 *****
480 I. IDENTIFICATION
490
500
510
520
530 A. NAME - GENERALIZED MESSAGE CONTROL SYSTEM (GEMCOS)
540
550
560 B. STYLE NUMBERS -
570
580 THREE VERSIONS OF GEMCOS ARE AVAILABLE.
590
600 1. B7000/B6000/B5000 MCB (BASIC VERSION)
610 - MESSAGE CONTROL SYSTEM
620 - TRANSACTION CONTROL LANGUAGE
630 - ACCESS CONTROL
640 - MESSAGE ROUTING
650 - CHECKPOINT RECOVERY
660 - NETWORK CONTROL
670 - PORT PROGRAM INTERFACE AND PORT STATIONS
680 - CONTINUOUS PROCESSING
690 - CONVERSATIONAL
700 - ANY OTHER FEATURES DESCRIBED IN THE USER REFERENCE MANUAL

```

5800 AND NOT EXPLICITLY INCLUDED IN THE ADVANCED OR TOTAL
 5900 VERSIONS.
 6000
 6100 2. B7000/B6000/B5000 MCA (ADVANCED VERSION)
 6200 - ALL OF THE FEATURES OF THE BASIC VERSION.
 6300 - MESSAGE FORMATTING
 6400 - MESSAGE PAGING
 6500 - ADMINISTRATIVE MESSAGE SWITCHING BETWEEN STATIONS ON THE
 6600 NETWORK.
 6700 - RETRANSMISSION OF OUTPUT UPON REQUEST
 6800
 6900 3. B7000/B6000/B5000 MCT (TOTAL VERSION)
 7000 - ALL OF THE FEATURES OF THE BASIC AND ADVANCED VERSIONS
 7100 - DYNAMIC REENTRANCY
 7200 - SYNCRONIZED DATABASE, DATA COMMUNICATIONS RECOVERY
 7300
 7400 C. DATE OF RELEASE - MAY, 1981
 7500
 7600 D. LEVEL NUMBER - MCT510, RELEASE #5, PATCH LEVEL 00
 7700
 7800 E. RELATED DOCUMENTATION -
 7900
 8000 1. PRODUCT SPECIFICATION
 8100 MCT 1098217 2/80
 8200 MCA 1098209 2/80
 8300 MCB 1098191 2/80
 8400 2. GEMCOS CAPABILITIES MANUAL 1100211 2/77
 8500 3. GEMCOS USER REFERENCE MANUAL 1096567 12/79
 8600 4. GEMCOS FORMATTING GUIDE 1100344 1/77

II. SYSTEM REQUIREMENTS

- 8900 A. PRIMARY STORAGE -
 9000 REQUIREMENTS WILL VARY BASED UPON COMPLEXITY OF THE
 9100 PROCESSING ENVIRONMENT AND THE NETWORK.
 9200
 9300 B. SECONDARY STORAGE -
 9400 MINIMUM OF 1200K BYTES OF HPT OR PACK STORAGE FOR MCS RELATED
 9500 OBJECT CODE.
 9600 IF FORMATTING IS USED, ADD 180 BYTES PER FORMAT. ADD ANOTHER
 9700 180 BYTES FOR EACH "UPDATE" FORMAT.
 9800 THE DISK STORAGE REQUIRED TO HOLD INPUT/OUTPUT MESSAGES IS
 9900 VARIABLE, BASED ON TRANSACTION CHARACTERISTICS AND
 10000 THROUGHPUT REQUIREMENTS.
 10100
 10200 C. PERIPHERALS -
 10300 MAGNETIC TAPE DRIVE (1) FOR LOADING PRODUCT TAPE
 10400 CARD READER (1) AND LINE PRINTER (1) OPTIONAL FOR REMOTE
 10500 TERMINALS VARIOUS REMOTE TERMINALS AS REQUIRED BY THE DATACOM
 10600 ENVIRONMENT.
 10700
 10800 D. SYSTEM SOFTWARE
 10900
 11000 1. NORMAL USAGE:
 11100 MCP
 11200 NDL
 11300 COBOL, ALGOL, PL/1, BDMS COBOL, BDMS ALGOL, BDMS PL/1, DMALGOL
 11400
 11500
 11600
 11700

00005800
 00005900
 00006000
 00006100
 00006200
 00006300
 00006400
 00006500
 00006600
 00006700
 00006800
 00006900
 00007000
 00007100
 00007200
 00007300
 00007400
 00007500
 00007600
 00007700
 00007800
 00007900
 00008000
 00008100
 00008200
 00008300
 00008400
 00008500
 00008600
 00008700
 00008800
 00008900
 00009000
 00009100
 00009200
 00009300
 00009400
 00009500
 00009600
 00009700
 00009800
 00009900
 00010000
 00010100
 00010200
 00010300
 00010400
 00010500
 00010600
 00010700
 00010800
 00010900
 00011000
 00011100
 00011200
 00011300
 00011400
 00011500
 00011600
 00011700

(OR ANY COMBINATION)

**** NOTE **** THE GEMCOS PORTS INTERFACE IS ONLY COMPATIBLE WITH 3.2 MCP. THE 3.1 MCP IMPLEMENTATION OF PORTS AND SIGNALS IS NO LONGER AVAILABLE.

2. MAINTENANCE:

SOFTWARE RELEASE III.1 OR GREATER
DCALGOL
ALGOL

*** NOTES ON COMPATIBILITY -

1. RESTART PROGRAM - DUE TO CHANGES TO THE RESTART PROGRAM ON THE LAST 4 RELEASES, THE FOLLOWING RESTRICTIONS APPLY:

- A. A 4.00 GEMCOS MCS MUST USE A 4.00 RESTART PROGRAM (AVAILABLE ON THE 4.00 RELEASE TAPE).
- B. A 4.10 GEMCOS MCS MUST USE A 4.10 RESTART PROGRAM (AVAILABLE ON THE 4.10 RELEASE TAPE).
- C. A 5.00 GEMCOS MCS MUST USE A 5.00 RESTART PROGRAM (AVAILABLE ON THE 5.00 RELEASE TAPE).
- D. A 5.10 GEMCOS MCS MAY USE A 5.00 OR A 5.10 RESTART PROGRAM IF THE STANDARD RESTART DATA SET IS BEING USED. IF COBOL74 TP'S ARE BEING USED THEN THE 5.10 COBOL74 RESTART PROGRAM MUST BE USED. THIS IS BECAUSE THE RESTART DATA SET IS DIFFERENT FOR DATABASES USED BY COBOL74 TP'S. SEE THE SECTION ON THE PORT PROGRAM INTERFACE IN THE 5.10 DOCUMENTATION UPDATE.

2. EDITOR PROGRAM - THE FOLLOWING RESTRICTIONS APPLY:
(SEE NOTE 6 UNDER C. NEW FEATURES - 4.10 RELEASE)

- A. A 4.00 GEMCOS MCS MUST USE A 4.00 EDITOR (AVAILABLE ON THE 4.00 RELEASE TAPE).
- B. A 4.10 GEMCOS MCS MUST USE A 4.10 EDITOR (AVAILABLE ON THE 4.10 RELEASE TAPE).
- C. A 5.00 GEMCOS MCS MAY USE A 4.10 EDITOR (AVAILABLE ON THE 4.10 RELEASE TAPE) OR A 5.00 EDITOR (AVAILABLE ON THE 5.00 RELEASE TAPE).
- C. A 5.10 GEMCOS MCS MUST USE A 5.10 EDITOR (AVAILABLE ON THE 5.10 RELEASE TAPE)

3. FORMATGENERATOR - THE FOLLOWING RESTRICTIONS APPLY TO THE USE OF THE FORMATGENERATOR PRODUCT:

- A. RELEASE 1.00 OF FORMATGENERATOR IS COMPATIBLE WITH GEMCOS RELEASES PRIOR TO THE 4.00 RELEASE.

00011800
00011900
00012000
00012100
00012200
00012300
00012400
00012500
00012600
00012700
00012800
00012900
00013000
00013100
00013200
00013300
00013400
00013500
00013600
00013700
00013800
00013900
00014000
00014100
00014200
00014300
00014400
00014500
00014600
00014700
00014800
00014900
00015000
00015100
00015200
00015300
00015400
00015500
00015600
00015700
00015800
00015900
00016000
00016100
00016200
00016300
00016400
00016500
00016600
00016700
00016800
00016900
00017000
00017100
00017200
00017300
00017400
00017500
00017600
00017700

- B. RELEASE 2.00 OF FORMATGENERATOR IS COMPATIBLE WITH GEMCOS RELEASE 4.00
- C. TO USE RELEASE 2.00 OF FORMATGENERATOR WITH GEMCOS RELEASE 4.10, THE PATCHES DETAILED IN SECTION C.3 BELOW MUST BE APPLIED TO THE 2.00 RELEASE.
- D. TO USE RELEASE 2.00 OF FORMATGENERATOR WITH GEMCOS RELEASE 5.00 OR 5.10 THE PATCHES DETAILED IN SECTIONS B.8 AND C.3 BELOW MUST BE APPLIED TO THE 2.00 RELEASE.
4. MCP - THE FOLLOWING RESTRICTIONS APPLY TO THE USE OF DIFFERENT MCP RELEASE FEATURES:
- A. PORTS - THE PORTS INTERFACE IN THIS 5.10 RELEASE IS ONLY COMPATIBLE WITH MCP RELEASE 3.2
- B. FORMAT LIBRARIES - LIBRARIES ARE AVAILABLE IN MCP RELEASE 3.1 AND HIGHER.

III. DOCUMENTATION UPDATE

SECTION A OF THIS DOCUMENTATION UPDATE DESCRIBES THE NEW FEATURES AVAILABLE IN THIS 5.10 RELEASE. SECTIONS B AND C DESCRIBE THE NEW FEATURES THAT WERE AVAILABLE IN THE 5.00 AND 4.10 RELEASES RESPECTIVELY. THESE LAST TWO SECTIONS ARE PROVIDED FOR THOSE USERS WHO DO NOT HAVE ACCESS TO THE 5.00 AND 4.10 RELEASE DOCUMENTATION.

A. NEW FEATURES - 5.10 RELEASE ::::::::::::::::::::::::::::::::::

1. PORT STATIONS.

A NEW TYPE GEMCOS TO GEMCOS OR GEMCOS TO PROCESS COMMUNICATION HAS BEEN IMPLEMENTED. THIS HAS BEEN DONE BY ALLOWING THE USER TO DECLARE "STATIONS" WHICH ARE PORTS RATHER THAN DATACOM STATIONS. BY DECLARING THESE STATIONS TO BE "TYPE = ROUTEHEADER.", GEMCOS ON ONE SYSTEM MAY COMMUNICATE WITH OTHER GEMCOS'S ON OTHER SYSTEMS IN A BNA NETWORK. ALTERNATIVELY, THE USER MAY WRITE A PROGRAM WHICH USES A PORT TO SIMULATE ONE OR MORE GEMCOS STATIONS.

THIS FEATURE IS ONLY AVAILABLE USING THE III.2 OR LATER IMPLEMENTATION OF PORTS. THE MCS AND THE UTILITY MUST BE COMPILED WITH THE PORTS \$ OPTION SET.

ONE NEW STATEMENT HAS BEEN ADDED TO THE GLOBAL SECTION OF THE TCL:

MYNAME = <IDENTIFIER>.

THE MYNAME ATTRIBUTE OF THE PORT FILE USED BY GEMCOS WILL BE SET TO <IDENTIFIER>. THE PROCESS WITH WHICH GEMCOS COMMUNICATES MUST SET THE YOURNAME ATTRIBUTE OF ITS PORT SUBFILE TO THE SAME <IDENTIFIER>. THE DEFAULT VALUE OF MYNAME IS NULL.

23800
 23900 FOUR NEW STATEMENTS HAVE BEEN ADDED TO THE STATION SECTION OF THE
 24000 TCL:
 24100
 24200 (A) PORTSTATION = <LOGICAL VALUE>.
 24300
 24400 WHEN PORTSTATION IS SET TRUE, THE STATION IS TREATED AS A PORT
 24500 RATHER THAN A DATACOM STATION. THE DEFAULT VALUE OF PORTSTATION
 24600 IS FALSE.
 24700
 24800 (B) STATIONHOSTNAME = <IDENTIFIER>.
 24900
 25000 THE HOSTNAME ATTRIBUTE OF THE PORT SUBFILE USED BY GEMCOS FOR THIS
 25100 STATION WILL BE SET TO <IDENTIFIER>. THE DEFAULT VALUE IS THE
 25200 STATION NAME.
 25300
 25400 (C) STATIONYOURNAME = <IDENTIFIER>.
 25500
 25600 THE YOURNAME ATTRIBUTE OF THE PORT SUBFILE USED BY GEMCOS FOR THIS
 25700 STATION WILL BE SET TO <IDENTIFIER>. THE DEFAULT VALUE IS NULL.
 25800
 25900 (D) PORTSIZE = <INTEGER>.
 26000
 26100 THE MAXRECSIZE ATTRIBUTE OF THE PORT SUBFILE USED BY GEMCOS FOR
 26200 THIS STATION IS SET TO <INTEGER> CHARACTERS. THE DEFAULT VALUE IS
 26300 2000 CHARACTERS AND THE MAXIMUM VALUE IS 3000 CHARACTERS.
 26400
 26500 THE PORT FILE USED BY GEMCOS HAS AN INTERNAL NAME OF HOSTPORT
 26600 AND A DEFAULT TITLE OF GEMPORT.
 26700
 26800
 28000 EXAMPLES:
 28100 -----
 28200
 28210 (1) THIS EXAMPLE ALLOWS A PROGRAM ON TO HOST NAMED OPOTIKI
 28220 TO OPEN A PORT AND ACT LIKE A GEMCOS STATION.
 28230
 28300 STATION ITSAPORT (1):
 28400 PORTSTATION = TRUE.
 28500 STATIONHOSTNAME = OPOTIKI.
 28600 NOTITLE = TRUE.
 28700
 28710 (2) THIS EXAMPLE SHOWS THE TCLS REQUIRED TO ALLOW A GEMCOS
 28720 ON HOST WHAKATANE TO COMMUNICATE WITH GEMCOS ON HOST
 28730 TANEATUA.
 28740 % TCL ON HOST TANEATUA
 28750
 28800 STATION WHAKATANE (2): % WHAKATANE IS HOSTNAME BY DEFAULT
 28900 PORTSTATION = TRUE.
 29000 TYPE = ROUTEHEADER.
 29100 STATIONYOURNAME = OHOPE.
 29200 NOTITLE = TRUE.
 29210 MKE = WHAKA1,WHAKA2.
 29220
 29230 % TCL ON HOST WHAKATANE
 29240
 29242 MYNAME = OHOPE. % MATCHES STATIONYOURNAME ABOVE
 29246 .
 29250 .
 29254 STATION X(1):

00023800
 00023900
 00024000
 00024100
 00024200
 00024300
 00024400
 00024500
 00024600
 00024700
 00024800
 00024900
 00025000
 00025100
 00025200
 00025300
 00025400
 00025500
 00025600
 00025700
 00025800
 00025900
 00026000
 00026100
 00026200
 00026300
 00026400
 00026500
 00026600
 00026700
 00027900
 00028000
 00028100
 00028200
 00028210
 00028220
 00028230
 00028300
 00028400
 00028500
 00028600
 00028700
 00028710
 00028720
 00028730
 00028740
 00028750
 00028800
 00028900
 00029000
 00029100
 00029200
 00029210
 00029220
 00029230
 00029240
 00029242
 00029246
 00029250
 00029254

29258	PORTSTATION	= TRUE.	00029258
29260	TYPE	= ROUTEHEADER.	00029260
29262	STATIONHOSTNAME	= TANEATUA.	00029262
29266	NOTITLE	= TRUE.	00029266
29270	MKE	= TANE1,TANE2.	00029270
29280			00029280
29300			00029300
29310	TWO ADDITIONS HAVE BEEN MADE TO THE CHANGE NETWORK CONTROL COMMAND		00029310
29312	<STATION CHANGE OBJECT>.		00029312
29314			00029314
29316	(A) <STATIONHOSTNAME OBJECT> ::= STATIONHOSTNAME		00029316
29318		<TO> <HOST IDENTIFIER>.	00029318
29320			00029320
29322	(B) <STATIONYOURNAME OBJECT> ::= STATIONYOURNAME		00029322
29324		<TO> <HOST IDENTIFIER>.	00029324
29326			00029326
29328	WHERE <HOST IDENTIFIER> ::= <IDENTIFIER> / .		00029328
29330			00029330
29332	THE STATION MUST BE DISABLED BEFORE THESE CHANGES CAN BE DONE.		00029332
29334	CHANGING STATIONHOSTNAME OR STATIONYOURNAME TO "." SETS THEM TO NULL.		00029334
29338			00029338
29340	EXAMPLES:		00029340
29350			00029350
29360	? CHANGE S (1) STATIONYOURNAME = ASB		00029360
29370	? CHANGE S WHAKATANE STATIONHOSTNAME = .		00029370
29380			00029380
29390			00029390
29400	2. PORT PROGRAM INTERFACE		00029400
29500	-----		00029500
29600			00029600
29700			00029700
29800	A. GENERAL INFORMATION FOR PORT PROGRAMS (UPDATE		00029800
29900	TO MANUAL PAGES 4-8 THROUGH 4-9 AND SECTION 5)		00029900
30000			00030000
30100	A PORT-TYPE PROGRAM INTERFACE ENABLES TRANSACTION		00030100
30200	PROCESSORS TO INTERFACE TO THE NETWORK USING THE		00030200
30300	"PORTS" FEATURE OF MCP 3.2 B5000/B6000/B7000 SYSTEMS.		00030300
30400	THE PORT PROGRAM MAY BE WRITTEN IN ALGOL,COBOL68,		00030400
30500	OR COBOL74. TO ALLOW USE OF THIS INTERFACE, BOTH		00030500
30600	THE MCS AND UTILITY MUST BE COMPILED WITH THE		00030600
30700	"PORTS" OPTION SET. THE PRESENCE OF A PORT-TYPE		00030700
30800	INTERFACE PROGRAM IN THE TCL GENERATION WILL		00030800
30900	CAUSE THE MCS TO VERIFY THAT THE MCS HAS BEEN		00030900
31000	COMPILED WITH THE "PORTS" OPTION SET.		00031000
31100			00031100
31200	THE FOLLOWING TCL GLOBAL STATEMENTS HAVE BEEN		00031200
31300	DEIMPLEMENTED:		00031300
31400	PORTMAX		00031400
31500	ZIPCOMPILE		00031500
31600	ZIPCOMPILESAVE		00031600
31700			00031700
31800	PORT PROGRAM CONVENTIONS ARE BASICALLY THE SAME AS		00031800
31900	NORMAL USER TP CONVENTIONS IN GEMCOS, EXCEPT FOR		00031900
32000	THE FOLLOWING DIFFERENCES:		00032000
32100			00032100
32200	1. PORT PROGRAMS ARE PROCESSED BY THE MCS WITH		00032200
32300	NO PARAMETERS. A FILE WITH THE INTERNAL NAME		00032300
32400	"TPPORT" WITH "KIND=PORT" MUST BE DECLARED		00032400
32500	IN THE PORT PROGRAM. THE MCS WILL PROCESS		00032500
32600	EACH PORT PROGRAM WITH THE TASK FILECARDS		00032600

32700	ATTRIBUTE SET TO THE CORRECT VALUES FOR THE	00032700
32800	TPPORT FILE. A SAMPLE COBOL74 PORT FILE	00032800
32900	DECLARATION FOLLOWS IN SECTION C.	00032900
33000		00033000
33100	2. PORT PROGRAMS USE A NEW TYPE OF COMMON HEADER DEFINED	00033010
33200	IN DIGITS RATHER THAN IN BITS. THIS AVOIDS THE NECESSITY	00033020
33300	OF PERFORMING BIT MOVES AND ALLOWS TP'S TO BE WRITTEN	00033030
33400	IN COBOL 74. THE FORMAT OF THIS NEW HEADER IS SHOWN	00033040
33500	IN SECTIONS C AND D BELOW.	00033050
33600		00033075
33700	3. WHEREAS A USER PROGRAM WAITS ON ITS USEREVENT	00033100
33800	OR WAITFORAUDITEVENT, THE PORT PROGRAM WAITS	00033200
33900	ON A READ OF ITS PORT FILE (TPPORT).	00033300
34000		00033400
34100	4. WHEREAS A USER PROGRAM IS PASSED THE COMMON	00033500
34200	ROW THAT CONTAINS THE TRANSACTION MESSAGE, THE	00033600
34300	PORT PROGRAM READS ITS PORT FILE INTO A	00033700
34400	LOCALLY DECLARED COMMON AREA (I.E., FOR COBOL	00033800
34500	INTO THE FILE AREA AND FOR ALGOL INTO AN ARRAY).	00033900
34600		00034000
34700	5. WHEN A USER PROGRAM IS READY TO GIVE CONTROL	00034100
34800	BACK TO THE MCS (FOR PRIMARY OUTPUT, SECONDARY	00034200
34900	OUTPUT, OR OTHER MCS REQUESTS), IT SETS UP THE	00034300
35000	COMMON ROW AND CAUSES THE MASTEREVENT. WHEN	00034400
35100	A PORT PROGRAM WANTS THE SAME FUNCTIONS PER-	00034500
35200	FORMED, IT SETS UP ITS LOCAL COMMON ROW AND	00034600
35300	WRITES IT TO THE PORT (TPPORT). WITH BOTH	00034700
35400	TYPES OF INTERFACE, THE PROGRAM IS RETURNED	00034800
35500	CONTROL EITHER AS A RESULT OF THE REQUEST OR	00034900
35600	WHEN THE NEXT MESSAGE IS AVAILABLE.	00035000
35700		00035100
35800	6. RECOVERY	00035200
35900		00035300
36000	A. WHEN ENTERING TRANSACTION STATE, THE PORT	00035400
36100	PROGRAM SETS ITS TASKVALUE TO -1 TO	00035500
36200	INDICATE TO GEMCOS THAT IT IS ENTERING	00035600
36300	TRANSACTION STATE.	00035700
36400		00035800
36500	B. A RECOVERABLE USER TP MAY USE WAITFORAUDIT.	00035900
36600	A WAITFORAUDIT USER TP TESTS COMMON[16].[0:1]	00036000
36700	TO SEE IF IT MUST WAIT ON THE WAITFORAUDITEVENT	00036100
36800	AFTER SENDING ITS PRIMARY OUTPUT BUT BEFORE	00036200
36900	EXITING TRANSACTION STATE. A RECOVERABLE PORT	00036300
37000	PROGRAM MUST USE WAITFORAUDIT. IT PERFORMS THE	00036400
37100	SAME FUNCTION BY CHECKING THE LOW ORDER DIGIT OF	00036500
37200	WORD 16 OF HIS LOCAL COMMON ROW (MSG-WAITAUDIT	00036600
37300	IN THE SAMPLE FILE DECLARATION IN SECTION C).	00036700
37400	AFTER WRITING THE PRIMARY OUTPUT TO THE PORT, THE	00036800
37500	PORT PROGRAM WAITS ON A READ OF THE PORT FILE.	00036900
37600	THE NEXT MESSAGE READ INDICATES THAT THE AUDIT	00037000
37700	IS COMPLETE AND ALSO CONTAINS AN UPDATED DBSN	00037100
37800	IN WORD[17] OF THE LOCAL COMMON ROW (MSG-DBSN	00037200
37900	IN THE SAMPLE FILE DECLARATION IN SECTION C)	00037300
38000	TO BE STORED IN THE RESTART DATA SET. IT THEN	00037400
	EXITS TRANSACTION STATE, SETS ITS TASKVALUE TO	00037500
	0 AND RETURNS TO THE MAIN LOOP.	00037600
		00037700
	C. THE FOLLOWING IS AN UPDATE OF TABLE 5-1 (FIELDS FOR	00037800
	PORT DECLARATION ARE GIVEN IN PARTIAL WORD NOTATION.	00037900
	SEE SECTION C BELOW FOR ACTUAL PORT FILE/Common ROW	00038000

38100	DECLARATION FOR A PORT PROGRAM):			00038100
38200				00038200
38300	FIELD DESCRIPTION	FIELD IN USER	FIELD IN PORT	00038300
38400		COMMONAREA	COMMONAREA	00038400
38500	-----	-----	-----	00038500
38600				00038600
38700	SYSTEM SERIAL #	WORD[3].[39:22]	WORD[19].[31:32]	00038700
38800				00038800
38900	TRANSACTION	WORD[6].[45:3]	WORD[1].[43:4]	00038900
39000	RETRY COUNTER			00039000
39100				00039100
39200	TRANSACTION	WORD[6].[42:2]	WORD[1].[47:4]	00039200
39300	BEING REPROCESSED			00039300
39400	BY RECOVERY			00039400
39500				00039500
39600	TCL IQU #	WORD[10].[47:8]	WORD[10].[47:8]	00039600
39700				00039700
39800	MCS PROGRAM	WORD[10].[39:8]	WORD[10].[39:8]	00039800
39900	TABLE INDEX			00039900
40000				00040000
40100	DISK ADDRESS	WORD[10].[31:24]	WORD[10].[31:24]	00040100
40200	OF IQU RECORD			00040200
40300				00040300
40400	RELATIVE IQU	WORD[10].[7:8]	WORD[10].[7:8]	00040400
40500				00040500
40600	WAITFORAUDIT	WORD[16].[0:1]	WORD[16].[3:4]	00040600
40700	BIT / DIGIT			00040700
40800				00040800
40900	DBSN	WORD[17]	WORD[17]	00040900
41000				00041000
41100	TRANSACTION	WORD[18].[0:1]	WORD[18].[3:4]	00041100
41200	STATE BIT		TASKVALUE=-1	00041200
41300				00041300
41400				00041400
41500	D. THE FOLLOWING IS THE BASIC LOGIC FLOW FOR A			00041500
41600	RECOVERY=TRUE, WAITFORAUDIT=TRUE PORT PROGRAM:			00041600
41700				00041700
41800	%%%			00041800
41900	%		%	00041900
42000	% INITIALIZE.		%	00042000
42100	% OPEN TPPOINT.		%	00042100
42200	% OPEN DATABASE.		%	00042200
42300	% INITIALIZE RESTART DATA SET.		%	00042300
42400	% SLEEP.		%	00042400
42500	% READ TPPOINT AT END GO TO CLOSEALL.		%	00042500
42600	% IF TASKVALUE EQL 4 GO TO CLOSEALL.		%	00042600
42700	% LOCK DATABASE RECORDS TO BE UPDATED.		%	00042700
42800	% SET TASKVALUE TO -1 AND SET TRANSACTION STATE DIGIT		%	00042800
42900	% IN COMMON.		%	00042900
43000	% BEGIN-TRANSACTION WITH NO-AUDIT		%	00043000
43100	% MOVE RESTART INFORMATION TO RESTART AREA.		%	00043100
43200	%		%	00043200
43300	%		%	00043300
43400	% UPDATE DATABASE.		%	00043400
43500	% SEND SECONDARY OUTPUTS.		%	00043500
43600	% SAVE WAITFORAUDIT DIGIT FROM COMMON.		%	00043600
43700	% WRITE TPPOINT AT END PERFORM ERRORANALYSIS		%	00043700
43800	% CHECK SAVED WAITFORAUDIT DIGIT AND		%	00043800
43900	% IF SET:		%	00043900
44000	% READ TPPOINT AT END PERFORM ERRORANALYSIS		%	00044000

44100	%	MOVE DBSN (WORD[17]) TO RESTART AREA	%	00044100
44200	%	END TRANSACTION WITH AUDIT.	%	00044200
44300	%	RESET TASKVALUE AND TRANSACTION STATE DIGIT TO 0	%	00044300
44400	%	GO TO SLEEP.	%	00044400
44500	%	CLOSEALL.	%	00044500
44600	%	CLOSE DATABASE.	%	00044600
44700	%	CLOSE TPORT.	%	00044700
44800	%		%	00044800
44900	%%%%%%%%%		%%%%%%%%%	00044900
45000				00045000
45100	E.	THE FOLLOWING IS THE RESTART RECORD		00045100
45200		DESCRIPTION TO BE USED WHEN ANY COBOL74		00045200
45300		PROGRAMS OR A COBOL74 RESTART PROGRAM IS		00045300
45400		USED IN A SYSTEM (A SAMPLE COBOL74 PROGRAM		00045400
45500		AND A SAMPLE COBOL74 RESTART PROGRAM ARE		00045500
45600		PROVIDED ON THE RELEASE TAPE):		00045600
45700				00045700
45800	%%%%%%%%%		%%%%%%%%%	00045800
45900	%		%	00045900
46000	%	RESTARTAREA RESTART DATA SET	%	00046000
46100	%		%	00046100
46200	%	(GEMCOS-LITERAL ALPHA(6);	%	00046200
46300	%		%	00046300
46400	%	GEMCOS-INTERFACE GROUP	%	00046400
46500	%		%	00046500
46600	%	(GEMCOS-DATA ALPHA(6);	%	00046600
46700	%		%	00046700
46800	%	GEMCOS-DBSN ALPHA(6);	%	00046800
46900	%		%	00046900
47000	%	GEMCOS-SSN ALPHA(6)) OCCURS 3 TIMES);	%	00047000
47100	%		%	00047100
47200	%%%%%%%%%		%%%%%%%%%	00047200
47300				00047300
47400	7.	PORT PROGRAMS MAY NOT USE A SERVICE PROGRAM.		00047400
47500				00047500
47600				00047600
47700	B.	GENERAL INFORMATION ABOUT EDITORS (UPDATE TO		00047700
47800		MANUAL PAGES 4-9 THROUGH 4-12)		00047800
47900				00047900
48000		THE FOURTH PROGRAM CLASSIFICATION IS INVOKED IN		00048000
48100		THE TCL BY A <PROGRAM CLASSIFICATION> OF EDITOR.		00048100
48200		THE EDITOR PROGRAM INTERFACE WAS ESTABLISHED FOR		00048200
48300		USERS WHO WISH TO MANIPULATE THE INPUT MESSAGE		00048300
48400		PRIOR TO TRANSMISSION OF THE MESSAGE TO A USER		00048400
48500		PROGRAM. AN EDITOR PROGRAM MUST BE WRITTEN IN		00048500
48600		DCALGOL (OR DMALGOL IF IT ACCESSES A DMS II DATA		00048600
48700		BASE) AS A PROCEDURE WITH EIGHT PARAMETERS.		00048700
48800		THESE PARAMETERS ARE PASSED TO THE EDITOR WHEN		00048800
48900		THE MCS INITIATES IT. THE FIRST THREE PARAMETERS		00048900
49000		ARE EVENTS; THE THIRD IS AN EVENT ARRAY; THE		00049000
49100		FOURTH IS A 2-DIMENSIONAL COMPUTATIONAL ARRAY;		00049100
49200		THE FIFTH, A QUEUE ARRAY; THE SIXTH, A PROCEDURE;		00049200
49300		AND THE SEVENTH, A SINGLE-DIMENSION ARRAY. THE		00049300
49400		PARAMETERS ARE:		00049400
49500				00049500
49600	1.	MASTEREVENT - CAUSED BY THE EDITOR PROGRAM		00049600
49700		IF IT PLACES AN OUTPUT MESSAGE INTO THE		00049700
49800		COMMONAREA FOR TRANSMISSION BACK TO THE		00049800
49900		NETWORK.		00049900
50000				00050000

50100	2. EDITOREVENT - CAUSED BY THE MCS AFTER AN	00050100
50200	INPUT MESSAGE IS PLACED INTO AN EDITOR	00050200
50300	QUEUE TO INFORM THE EDITOR PROGRAM THAT	00050300
50400	A MESSAGE IS TO BE PROCESSED.	00050400
50500		00050500
50600	3. USERTOMEVENT - CAUSED BY ANY USER PROGRAM	00050600
50700	ASSOCIATED WITH THIS EDITOR WHICH WISHES TO	00050700
50800	PASS CONTROL OF ITS COMMONAREA BACK TO THE	00050800
50900	EDITOR. (A PORT PROGRAM PASSES CONTROL BACK	00050900
51000	TO THE EDITOR BY PLACING THE EDITOR CONTROL	00051000
51100	BIT VALUE IN COMMON[0] AND WRITING TO ITS	00051100
51200	PORT. THE MCS THEN GIVES CONTROL OF THE	00051200
51300	COMMON ROW TO THE EDITOR BY CAUSING THE	00051300
51400	EDITOREVENT).	00051400
51500		00051500
51600	4. USEREVENTARRAY - AN ARRAY OF THE USEREVENTS	00051600
51700	OF ALL USER PROGRAMS IN THE TCL. THE	00051700
51800	APPROPRIATE EVENT WITHIN THE ARRAY IS CAUSED	00051800
51900	BY THE EDITOR WHEN IT HAS FINISHED	00051900
52000	MANIPULATING THE DATA IN THE COMMONAREA AND	00052000
52100	WISHES TO PASS CONTROL TO THE USER PROGRAM.	00052100
52200	THE INDEX INTO THE ARRAY IS CONTAINED IN	00052200
52300	WORD[6].[19:8] OF THE COMMONAREA FOR USER	00052300
52400	TPS. THIS ARRAY IS NOT USED FOR PORT TPS.	00052400
52500	THE EDITOR PASSES CONTROL TO THE PORT TP BY	00052500
52600	SETTING WORD[1] OF COMMON TO ITS REGULAR	00052600
52700	ACTION VALUE PLUS 20 (I.E. 25 INSTEAD OF 5,	00052700
52800	36 INSTEAD OF 16, 39 INSTEAD OF 19),	00052800
52900	WORD[0] OF COMMON TO 1, AND CAUSING THE	00052900
53000	MASTEREVENT. THIS CAUSES THE MCS TO WRITE	00053000
53100	THE MESSAGE TO THE PROGRAM'S PORT FILE WITH	00053100
53200	THE VALUE 5, 16, OR 19 IN WORD[1] OF COMMON.	00053200
53300		00053300
53400	5. COMMONAREAS - A 2-DIMENSIONAL ARRAY OF THE	00053400
53500	COMMONAREAS OF ALL USER PROGRAMS DEFINED IN	00053500
53600	THE TCL. AN EDITOR MUST SCAN ALL ROWS OF THE	00053600
53700	ARRAY LOOKING FOR ROWS WHICH BELONG TO	00053700
53800	ASSOCIATED USER PROGRAMS AND WHICH CONTAIN	00053800
53900	THE EDITOR'S CONTROL-BIT VALUE IN WORD[0].	00053900
54000		00054000
54100	6. DATAQUEUES - AN ARRAY OF QUEUES, ONE QUEUE	00054100
54200	FOR EACH USER PROGRAM, THROUGH WHICH THE	00054200
54300	EDITOR RECEIVES INPUT MESSAGES. THE INDEX	00054300
54400	INTO THIS ARRAY IS THE ARRAY ROW NUMBER OF	00054400
54500	THE CURRENT ROW OF THE COMMONAREAS ARRAY ON	00054500
54600	WHICH THE EDITOR IS CURRENTLY WORKING.	00054600
54700		00054700
54800	7. FORMATTER - THE INPUT FORMATTING MODULE OF	00054800
54900	THE MCS. THIS IS PASSED TO ALL EDITORS SO	00054900
55000	THAT THEY CAN FORMAT THE INPUT MESSAGE	00055000
55100	PRIOR TO PASSING IT TO THE USER PROGRAM.	00055100
55200		00055200
55300	8. EDTDSC - A SINGLE-DIMENSION ARRAY WHICH	00055300
55400	DUPLICATES THE DATA IN ALL COMMONWORD[0]S	00055400
55500	AND CONTAINS PORT AND SIZE INFORMATION.	00055500
55600	THE EDITOR SCANS THIS ARRAY FOR ITS	00055600
55700	CONTROL-BIT VALUE PRIOR TO ITS SCAN OF	00055700
55800	COMMON.	00055800
55900		00055900
56000	THE BASIC DECLARATION FOR AN EDITOR PROGRAM FOR	00056000

56100 A PORT PROGRAM (AS SHOWN IN FIGURE 4-5 ON PAGE
 56200 4-12 OF THE REFERENCE MANUAL) SHOULD NOW LOOK
 56300 EXACTLY LIKE THAT OF AN EDITOR FOR A USER TP:
 56400

56500 PROCEDURE EDITOR (MASTEREVENT,
 56600 EDITOREVENT,
 56700 USERTOMEVENT,
 56800 USEREVENTARRAY,
 56900 COMMONAREAS,
 57000 DATAQUEUES,
 57100 FORMATTER,
 57200 EDTDSC);

57300 EVENT MASTEREVENT,
 57400 EDITOREVENT,
 57500 USERTOMEVENT;
 57600 EVENT ARRAY USEREVENTARRAY[0];
 57700 ARRAY COMMONAREAS[0,0];
 57800 QUEUE ARRAY DATAQUEUES;
 57900 BOOLEAN PROCEDURE FORMATTER;
 58000 ARRAY EDTDSC[0];

58100
 58200 BEGIN
 58300 <PROGRAM>
 58400 END;
 58500
 58600

58700 C. SAMPLE COBOL74 PORT FILE DECLARATION

58800 ...
 58900 SELECT TPPORT ASSIGN TO PORT
 59000 FILE STATUS IS TPPORT-STATUS.
 59100 ...
 59200 FD TPPORT.
 59300 * THIS TP IS DECLARED IN THE TCL WITH COMMONSIZE = 343
 59400 01 TPCOMMON-AREA PIC X(343).
 59500 01 COMMON-AREA COMP.
 59600 03 COMMON-CONTROL.
 59700 05 WORDS0THRU22 OCCURS 23 TIMES PIC 9(12).
 59800 03 COMMON-TEXT.
 59900 05 COMMONCHAR OCCURS 320 TIMES PIC 9(12).
 60000

60100 *****
 60200 * OUTPUT MESSAGE AREA *

60300 *****
 60400 01 MSG-AREA.
 60500 03 MSG-CONTROL-AREA.
 60600 05 MSG-CONTROL PIC 9(12) COMP.
 60700 05 MSG-WORD1 PIC 9(12) COMP.
 60800 05 MSG-ACTIONWRD REDEFINES MSG-WORD1.
 60900 07 MSG-RECOVERY PIC 9 COMP.
 61000 07 MSG-RETRY PIC 9 COMP.
 61100 07 MSG-RERUN PIC 9 COMP.
 61200 07 MSG-PRODISABLED PIC 9 COMP.
 61300 07 MSG-PASSER PIC 9 COMP.
 61400 07 MSG-DISPLAY PIC 9 COMP.
 61500 07 MSG-ACTION PIC 9(6) COMP.
 61600 05 MSG-WORD2 PIC 9(12) COMP.
 61700 05 MSG-ORIWORD REDEFINES MSG-WORD2.
 61800 07 FILLER PIC 9(4) COMP.
 61900 07 MSG-STA-NO PIC 9(8) COMP.
 62000 05 MSG-WORD3 PIC 9(12) COMP.

00056100
 00056200
 00056300
 00056400
 00056500
 00056600
 00056700
 00056800
 00056900
 00057000
 00057100
 00057200
 00057300
 00057400
 00057500
 00057600
 00057700
 00057800
 00057900
 00058000
 00058100
 00058200
 00058300
 00058400
 00058500
 00058600
 00058700
 00058800
 00058900
 00059000
 00059100
 00059200
 00059300
 00059400
 00059500
 00059600
 00059700
 00059800
 00059900
 00060000
 00060100
 00060200
 00060300
 00060400
 00060500
 00060600
 00060700
 00060800
 00060900
 00061000
 00061100
 00061200
 00061300
 00061400
 00061500
 00061600
 00061700
 00061800
 00061900
 00062000

62100	05	MSG-VARIABLEWRD REDEFINES MSG-WORD3.	00062100
62200	07	MSG-MODE PIC 9 COMP.	00062200
62300	07	MSG-ASSIGN PIC 9 COMP.	00062300
62400	07	MSG-ORIOBJORSTA PIC 9 COMP.	00062400
62500	07	MSG-MSGTYPE PIC 9 COMP.	00062500
62600	07	MSG-RETRTEHDR PIC 9 COMP.	00062600
62700	07	MSG-OVRTEHDR PIC 9 COMP.	00062700
62800	07	MSG-ORINUM PIC 9(6) COMP.	00062800
62900	05	MSG-WORD4 PIC 9(12) COMP.	00062900
63000	05	MSG-DESTWRD REDEFINES MSG-WORD4.	00063000
63100	07	MSG-TITLE PIC 9 COMP.	00063100
63200	07	MSG-DESTTYPE PIC 99 COMP.	00063200
63300	07	MSG-CRLF PIC 9 COMP.	00063300
63400	07	FILLER PIC 99 COMP.	00063400
63500	07	MSG-DEST PIC 9(6) COMP.	00063500
63600	05	MSG-WORD5 PIC 9(12) COMP.	00063600
63700	05	MSG-DATETIMEWRD REDEFINES MSG-WORD5.	00063700
63800	07	MSG-DATE PIC 9(6) COMP.	00063800
63900	07	MSG-TIME PIC 9(6) COMP.	00063900
64000	05	MSG-WORD6 PIC 9(12) COMP.	00064000
64100	05	MSG-PROGWORD REDEFINES MSG-WORD6.	00064100
64200	07	FILLER PIC 9(6) COMP.	00064200
64300	07	MSG-EDIBIT PIC 9(3) COMP.	00064300
64400	07	MSG-PROG-NUM PIC 9(3) COMP.	00064400
64500	05	MSG-WORD7 PIC 9(12) COMP.	00064500
64600	05	MSG-LENGTHINWORD REDEFINES MSG-WORD7.	00064600
64700	07	MSG-FMTERR PIC 9 COMP.	00064700
64800	07	MSG-LENGTHIN PIC 9(11) COMP.	00064800
64900	05	MSG-LENGTHOUTWORD REDEFINES MSG-WORD7.	00064900
65000	07	MSG-QBYPASS PIC 9 COMP.	00065000
65100	07	MSG-OFFSET PIC 9(6) COMP.	00065100
65200	07	MSG-LENGTHOUT PIC 9(5) COMP.	00065200
65300	05	MSG-STABITS PIC X(6).	00065300
65400	05	MSG-MESSAGE-ID PIC X(6).	00065400
65500	05	MSG-RESTART-DATA PIC X(6).	00065500
65600	05	MSG-RESTARTNUM REDEFINES MSG-RESTART-DATA.	00065600
65700	07	FILLER PIC 9(10) COMP.	00065700
65800	07	MSG-REL-IQU PIC 9(2) COMP.	00065800
65900	05	MSG-WORD11THRU13 PIC X(18).	00065900
66000	05	MSG-STA-NAMEWORD REDEFINES MSG-WORD11THRU13.	00066000
66100	07	MSG-STA-NAME-CHAR PIC X	00066100
66200		OCCURS 18 TIMES.	00066200
66300	05	MSG-MODULE PIC 9(12) COMP.	00066300
66400	05	MSG-FUNCTION PIC 9(12) COMP.	00066400
66500	05	MSG-WORD16 PIC X(6).	00066500
66600	05	MSG-AUDITWRD REDEFINES MSG-WORD16.	00066600
66700	07	MSG-USER-ID PIC X.	00066700
66800	07	MSG-ITEM-COUNT PIC 9(5) COMP.	00066800
66900	07	FILLER PIC 9(3) COMP.	00066900
67000	07	MSG-DUPAUDIT PIC 9 COMP.	00067000
67100	07	MSG-WAITAUDIT PIC 9 COMP.	00067100
67200	05	MSG-DBSN PIC X(6).	00067200
67300	05	MSG-TRANSTATE PIC 9(12) COMP.	00067300
67400	05	MSG-WORD19 PIC 9(12) COMP.	00067400
67500	05	MSG-SSNWORD REDEFINES MSG-WORD19.	00067500
67600	07	MSG-MTCHAR PIC X.	00067600
67700	07	MSG-MTDEL PIC 9 COMP.	00067700
67800	07	MSG-PRIORITY PIC 9 COMP.	00067800
67900	07	MSG-SSN PIC X(4).	00067900
68000	05	MSG-WORD20 PIC 9(12) COMP.	00068000

68100	05	MSG-CONVWORD REDEFINES MSG-WORD20.		00068100
68200	07	MSG-CONV-SIZE	PIC 9(4) COMP.	00068200
68300	07	MSG-CONV-END	PIC 9 COMP.	00068300
68400	07	MSG-CONV-DEALLOC	PIC 9 COMP.	00068400
68500	07	MSG-CONV-CORESTORE	PIC 9 COMP.	00068500
68600	07	MSG-CONV-DISKSTORE	PIC 9 COMP.	00068600
68700	07	FILLER	PIC 9(4) COMP.	00068700
68800	05	MSG-USERID1	PIC X(6).	00068800
68900	05	MSG-USERID2	PIC X(6).	00068900
69000	03	MSG-TEXT-AREA	COMP.	00069000
69100	05	MSG-TEXT OCCURS 320 TIMES	PIC 9(12).	00069100
69200	03	MSG-TEXTCHAR REDEFINES MSG-TEXT-AREA.		00069200
69300	05	MSG-TEXT-CHAR	PIC X	00069300
69400			OCCURS 1920 TIMES	00069400
69500			INDEXED BY MSG-TEXT-INDEX1	00069500
69600			MSG-TEXT-INDEX.	00069600
69700	...			00069700
69800	* TP	PORT-STATUS CAN BE CHECKED AFTER READS AND WRITES TO		00069800
69900	* DETERMINE	PORT FILE STATUS		00069900
70000	77	TPPORT-STATUS	PIC XX.	00070000
70100	* TRANSTATEVALUE	IS USED TO SET TASKVALUE WHEN ENTERING		00070100
70200	* DMS II	TRANSACTION STATE		00070200
70300	77	TRANSTATEVALUE	PIC 9(12) COMP VALUE -1.	00070300
70400				00070400
70500				00070500
70600	D.	MAPPING OF OLD COMMON FIELDS (APPENDIX A OF MANUAL) TO		00070600
70700		NEW COMMON FIELDS DESCRIBED ABOVE.		00070700
70800				00070800
70900		SOME OF THE FIELDS IN THE PORT FILE DESCRIPTION ARE		00070900
71000		IN DIFFERENT WORDS AND/OR BITS THAN THE PREVIOUS		00071000
71100		COMMON DESCRIPTION. TO PROVIDE A GUIDE AS TO THE		00071100
71200		PURPOSE OF EACH FIELD, A MAPPING IS PROVIDED BELOW		00071200
71300		BETWEEN THE NAME GIVEN IN THE MSG-AREA DESCRIPTION		00071300
71400		ABOVE AND THE FIELD DESCRIPTION IN THE MANUAL.		00071400
71500				00071500
71600			SEE FIELD DESCRIPTION IN	00071600
71700			REFERENCE MANUAL,	00071700
71800	MSG-AREA FIELD NAME:		APPENDIX A FOR:	00071800
71900	-----		-----	00071900
72000				00072000
72100	MSG-CONTROL		COMMON[0]	00072100
72200				00072200
72300	MSG-RECOVERY		COMMON[6].[42:2]	00072300
72400				00072400
72500	MSG-RETRY		COMMON[6].[45:3]	00072500
72600				00072600
72700	MSG-RERUN		COMMON[6].[46:1]	00072700
72800				00072800
72900	MSG-PRODISABLED		COMMON[6].[47:1]	00072900
73000				00073000
73100	MSG-PASSER		COMMON[1].[26:3]	00073100
73200				00073200
73300	MSG-DISPLAY		COMMON[6].[40:1]	00073300
73400				00073400
73500	MSG-ACTION		COMMON[1].[23:24]	00073500
73600				00073600
73700	MSG-STA-NO		COMMON[2].[23:24]	00073700
73800				00073800
73900	MSG-MODE		COMMON[3].[47:1]	00073900
74000				00074000

74100	MSG-ASSIGN	COMMON[3].[44:1]	00074100
74200			00074200
74300	MSG-ORIOBJORSTA	COMMON[3].[43:1]	00074300
74400			00074400
74500	MSG-MSGTYPE	COMMON[3].[42:3]	00074500
74600			00074600
74700	MSG-RETRTEHDR	COMMON[4].[43:1]	00074700
74800			00074800
74900	MSG-OVRTEHDR	COMMON[4].[42:1]	00074900
75000			00075000
75100	MSG-ORINUM	COMMON[3].[17:18]	00075100
75200			00075200
75300	MSG-TITLE	COMMON[4].[41:2]	00075300
75400			00075400
75500	MSG-DESTTYPE	COMMON[4].[39:8]	00075500
75600			00075600
75700	MSG-CRLF	COMMON[4].[31:8]	00075700
75800			00075800
75900	MSG-DEST	COMMON[4].[19:20]	00075900
76000			00076000
76100	MSG-DATE	COMMON[5].[47:24]	00076100
76200			00076200
76300	MSG-TIME	COMMON[5].[23:24]	00076300
76400			00076400
76500	MSG-EDIBIT	COMMON[6].[35:8]	00076500
76600			00076600
76700	MSG-PROG-NUM	COMMON[6].[7:8]	00076700
76800			00076800
76900	MSG-FMTERR	COMMON[7].[47:1]	00076900
77000			00077000
77100	MSG-LENGTHIN	COMMON[7].[46:47]	00077100
77200	(ALSO RESULT INDICATORS	COMMON[7]	00077200
77300	REQUEST RESULTS	COMMON[7])	00077300
77400			00077400
77500	MSG-QBYPASS	COMMON[7].[46:1]	00077500
77600			00077600
77700	MSG-OFFSET	COMMON[7].[39:20]	00077700
77800			00077800
77900	MSG-LENGTHOUT	COMMON[7].[19:20]	00077900
78000			00078000
78100	MSG-STABITS	COMMON[8]	00078100
78200			00078200
78300	MSG-MESSAGE-ID	COMMON[9]	00078300
78400			00078400
78500	MSG-RESTART-DATA	COMMON[10]	00078500
78600			00078600
78700	MSG-REL-IQU	COMMON[10].[7:8]	00078700
78800			00078800
78900	MSG-STA-NAMEWORD	COMMON[11] THRU COMMON[13]	00078900
79000			00079000
79100	MSG-MODULE	COMMON[14]	00079100
79200			00079200
79300	MSG-FUNCTION	COMMON[15]	00079300
79400			00079400
79500	MSG-USER-ID	COMMON[16].[47:8]	00079500
79600			00079600
79700	MSG-ITEM-COUNT	COMMON[16].[39:16]	00079700
79800			00079800
79900	MSG-DUPAUDIT	COMMON[16].[1:1]	00079900
80000			00080000

80100	MSG-WAITAUDIT	COMMON[16].[0:1]	00080100
80200			00080200
80300	MSG-DBSN	COMMON[17]	00080300
80400			00080400
80500	MSG-TRANSTATE	COMMON[18].[0:1]	00080500
80600			00080600
80700	MSG-MTCHAR	COMMON[19].[47:8]	00080700
80800			00080800
80900	MSG-MTDEL	COMMON[19].[39:1]	00080900
81000			00081000
81100	MSG-PRIORITY	COMMON[6].[39:1]	00081100
81200			00081200
81300	MSG-SSN	COMMON[3].[39:22]	00081300
81400			00081400
81500	MSG-CONV-SIZE	COMMON[20].[47:12]	00081500
81600			00081600
81700	MSG-CONV-END	COMMON[4].[23:1]	00081700
81800			00081800
81900	MSG-CONV-DEALLOC	COMMON[4].[22:1]	00081900
82000			00082000
82100	MSG-CONV-CORESTORE	COMMON[4].[21:1]	00082100
82200			00082200
82300	MSG-CONV-DISKSTORE	COMMON[4].[20:1]	00082300
82400			00082400
82500	MSG-USERID1	COMMON[21]	00082500
82600			00082600
82700	MSG-USERID2	COMMON[22]	00082700
82800			00082800
82900			00082900
83000	E. RESTART PROGRAMS		00083000
83100			00083100
83200	TWO RESTART PROGRAMS ARE PROVIDED ON THE RELEASE TAPE:		00083200
83300			00083300
83400	1. A COBOL68 RESTART PROGRAM, GEMCOS/RESTART/SYMBOL.		00083400
83500	THIS IS THE RESTART PROGRAM THAT WAS AVAILABLE ON		00083500
83600	PREVIOUS GEMCOS RELEASES. IT USES THE STANDARD		00083600
83700	GEMCOS RESTART SET AS DESCRIBED IN THE USER		00083700
83800	REFERENCE MANUAL.		00083800
83900			00083900
84000			00084000
84100	2. A COBOL74 RESTART PROGRAM, GEMCOS/RESTART74/SYMBOL.		00084100
84200	THIS IS A NEW RESTART PROGRAM THAT IS WRITTEN IN COBOL74		00084200
84300	AND WHICH COMMUNICATES WITH GEMCOS VIA PORTS. IT USES		00084300
84400	THE RESTART SET DESCRIBED UNDER POINT E OF SECTION 5		00084400
84500	OF THIS DESCRIPTION OF THE PORT PROGRAM INTERFACE.		00084500
84600			00084600
84700			00084700
84800	3. CLEAR RESTART ADDITIONS.		00084800
84900	-----		00084900
85000			00085000
85100	WHEN A DUMP DATACOM IS DONE, THE RESTART PROGRAM FOR EACH SYSTEM		00085100
85200	THAT HAS ONE IS RUN TO DELETE THE RESTART DATA SET.		00085200
85210			00085210
85220	WHEN A TP ABORTS OUTSIDE OF TRANSACTION STATE, THE RESTART PROGRAM		00085220
85230	FOR THAT SYSTEM IS RUN TO DELETE THE RESTART DATA SET.		00085230
85300			00085300
85400			00085400
85500	4. TCL MESSAGE SECTION CHANGES.		00085500
85600	-----		00085600
85700			00085700

85800 THE FOLLOWING MESSAGES HAVE BEEN CHANGED -

BUSY - BUSYMESSAGE
LONOK - LOGONOK
LOFOK - LOGOFFOK

85900
86000
86100
86200
86300
86400
86500
86600
86700
86800
86900
87000
87100
87200
87300
87400
87500
87600
87700
87800
87900
88000
88100
88200
88300
88400
88500
88600
88700
88800
88900
89000
89100
89200
89300
89301
89302
89303
89304
89305
89306
89307
89308
89309
89310
89311
89312
89313
89314
89315
89316
89317
89318
89319
89320
89321
89322
89323
89324

THIS HAS BEEN DONE TO PREVENT CONFLICTS.

5. RE-IMPLEMENTATION OF "OLD STYLE" ROUTEHEADERS.

THE TYPE OF ROUTEHEADERS AVAILABLE IN THE 4.10 RELEASE AND EARLIER WHICH WERE DE-IMPLEMENTED IN THE 5.00 RELEASE HAVE BEEN RE-IMPLEMENTED. THE STATEMENT "ROUTEHEADER = TRUE" IS AGAIN VALID. THE "NEW STYLE" ROUTEHEADERS IMPLEMENTED IN THE 5.00 RELEASE ARE ALSO STILL VALID.

6. STATUS OF AN AREA.

IT IS NOW POSSIBLE TO ASK FOR THE STATUS OF AN AREA. THE RESPONSE GIVEN IS THE STATUS OF EACH STATION IN THE AREA.

7. CHANGE OF MODE FROM A CONTROL STATION.

A NETWORK CONTROL STATION MAY NOW CHANGE THE MODE OF ANOTHER STATION. THE SYNTAX OF THE <CHANGE INPUT MESSAGE> IS NOW AS FOLLOWS -

<CHANGE INPUT MESSAGE> ::= CHANGE <OPTIONAL STATION SPECIFICATION>
<COMMENT> <TO> <MODE> <COMMENT>

8. FILE TRANSFER PROGRAM

AN ARRAY OF TRANCODS AND ASSOCIATED ROUTEHEADER STATION NUMBERS HAS BEEN IMPLEMENTED. THIS ELIMINATES THE NEED FOR USERS TO REMEMBER THE ROUTEHEADER STATION NUMBER FOR A GIVEN TRANCODE WHEN INITIATING A FILE TRANSFER.

IN ORDER TO PERMANENTLY ENTER INFORMATION INTO THIS ARRAY, THE FILE TRANSFER PROGRAM MUST BE COMPILED WITH THE DATA ENTERED INTO THE "DEFINETCS" ROUTINE. THIS DATA MAY ALSO BE ENTERED AT RUNTIME VIA THE "NEWTC" COMMAND EXPLAINED BELOW. WHEN USING THIS COMMAND, HOWEVER, THE INFORMATION WILL NOT BE SAVED AT PROGRAM END OF JOB. THE DATA TO BE ENTERED INTO THE ARRAY ARE:
1) THE DESTINATION TRANCODE, 2) AN IDENTIFIER FOR THE REMOTE SYSTEM, 3) THE SYSTEM TYPE OF THE REMOTE SYSTEM, AND 4) THE ROUTEHEADER STATION NUMBER TO THE REMOTE SYSTEM. FOR A MORE DETAILED EXPLANATION OF THESE FIELDS, SEE THE "NEWTC" COMMAND BELOW.

THE FOLLOWING CHANGES AND ADDITIONS HAVE BEEN MADE TO THE FILE TRANSFER PROGRAM COMMAND SYNTAX:

<COPY COMMAND> ::= COPY <FILE NAME 1>

00085800
00085900
00086000
00086100
00086200
00086300
00086400
00086500
00086600
00086700
00086800
00086900
00087000
00087100
00087200
00087300
00087400
00087500
00087600
00087700
00087800
00087900
00088000
00088100
00088200
00088300
00088400
00088500
00088600
00088700
00088800
00088900
00089000
00089100
00089200
00089300
00089301
00089302
00089303
00089304
00089305
00089306
00089307
00089308
00089309
00089310
00089311
00089312
00089313
00089314
00089315
00089316
00089317
00089318
00089319
00089320
00089321
00089322
00089323
00089324

89325		<AS CLAUSE>	00089325
89326		<DESTINATION CLAUSE>	00089326
89327		<ORIGINATION CLAUSE>	00089327
89328			00089328
89329	<AS CLAUSE>	::= AS <FILE NAME 2> /	00089329
89330		<EMPTY>	00089330
89331			00089331
89332	<DESTINATION CLAUSE>	::= <DIRECTION>	00089332
89333		<DESTINATION TRANCODE>	00089333
89334			00089334
89335	<ORIGINATION CLAUSE>	::= USING <ORIGINATION TRANCODE> /	00089335
89336		<EMPTY>	00089336
89337			00089337
89338	<DIRECTION>	::= TO /	00089338
89339		FROM	00089339
89340			00089340
89341	<DESTINATION TRANCODE>	::= <TRANCODE>	00089341
89342			00089342
89343	<ORIGINATION TRANCODE>	::= <TRANCODE>	00089343
89344			00089344
89345	<FILE NAME>	::= <QUOTE>	00089345
89346		<IDENTIFIER>	00089346
89347		<FILE NAME PART>	00089347
89348		<PACK NAME PART>	00089348
89349		<QUOTE>	00089349
89350			00089350
89351	<FILE NAME PART>	::= <SLASH> <IDENTIFIER> /	00089351
89352		<EMPTY>	00089352
89353			00089353
89354	<PACK NAME PART>	::= ON <IDENTIFIER> /	00089354
89355		<EMPTY>	00089355
89356			00089356
89357	THIS COMMAND IS USED TO INITIATE THE FILE TRANSFER MECHANISM.		00089357
89358	<FILE NAME 1> IS THE NAME OF THE FILE ON THE SYSTEM WHICH IS		00089358
89359	SENDING THE FILE. <FILE NAME 2> IS THE NAME OF THE FILE ON THE		00089359
89360	SYSTEM WHICH IS RECEIVING THE FILE. IF <FILE NAME 2> IS NOT		00089360
89361	SPECIFIED, IT WILL DEFAULT TO <FILE NAME 1>. WHENEVER A FILE		00089361
89362	NAME SPECIFIED FOR A B 6800 COMPUTER, THE ABOVE SYNTAX FOR		00089362
89363	<FILE NAME> MUST BE ADHERED TO.		00089363
89364			00089364
89365	THE KEYWORD "TO" SPECIFIES THAT A DISK FILE IS TO BE SENT TO THE		00089365
89366	REMOTE COMPUTER FROM THE LOCAL COMPUTER. THE KEYWORD "FROM"		00089366
89367	SPECIFIES THAT A DISK FILE IS TO BE SENT FROM THE REMOTE COMPUTER		00089367
89368	TO THE LOCAL COMPUTER.		00089368
89369			00089369
89370	THE <DESTINATION TRANCODE> MUST BE A VALID TRANCODE FOR THE REMOTE		00089370
89371	COMPUTER'S FILE TRANSFER PROGRAM RUNNING UNDER A GEMCOS MCS. THE		00089371
89372	USER MUST KNOW THIS TRANCODE. THIS TRANCODE AND ANY OTHER POSSIBLE		00089372
89373	DESTINATION TRANCODS THAT THE USER MAY WISH TO USE FOR A PARTICULAR		00089373
89374	COMPUTER (ROUTEHEADER STATION) MUST BE DECLARED FOR THAT ROUTEHEADER		00089374
89375	STATION ON THE LOCAL COMPUTER.		00089375
89376			00089376
89377	THE <ORIGINATION TRANCODE> SPECIFIES THE TRANCODE WHICH THE REMOTE		00089377
89378	FILE TRANSFER PROGRAM WILL USE TO COMMUNICATE WITH THE LOCAL FILE		00089378
89379	TRANSFER PROGRAM. IF NOT SPECIFIED, IT DEFAULTS TO "FTPLS." ON A		00089379
89380	B 6800, "FT4800" ON A B 4800, "FT1800" ON A B 1800 AND "FTCMS" ON		00089380
89381	CMS MACHINES. THIS TRANCODE AND ANY OTHER POSSIBLE ORIGINATION		00089381
89382	TRANCODS THAT THE USER MAY WISH TO USE, INCLUDING THE DEFAULT		00089382
89383	VALUE OF FTPLS., MUST BE DECLARED FOR THE FILE TRANSFER PROGRAM ON		00089383
89384	THE LOCAL COMPUTER.		00089384

89385			00089385
89386			00089386
89387	<NEWTC COMMAND>	::= NEWTC	00089387
89388		<DESTINATION TRANCODE> ,	00089388
89389		<DESTINATION DESCRIPTION> ,	00089389
89390		<SYSTEM TYPE> ,	00089390
89391		<ROUTEHEADER STATION NUMBER>	00089391
89392			00089392
89393	<DESTINATION TRANCODE>	::= <QUOTE>	00089393
89394		<TRANCODE>	00089394
89395		<QUOTE>	00089395
89396			00089396
89397	<DESTINATION DESCRIPTION>	::= <QUOTE>	00089397
89398		<LITERAL>	00089398
89399		<QUOTE>	00089399
89400			00089400
89401	<SYSTEM TYPE>	::= <INTEGER>	00089401
89402			00089402
89403	<ROUTEHEADER STATION NUMBER>::=	<INTEGER>	00089403
89404			00089404
89405	THE NEWTC COMMAND ALLOWS USERS TO ENTER NEW DESTINATION		00089405
89406	TRANCODE INFORMATION AT RUNTIME. THIS INFORMATION IS USED		00089406
89407	BY THE FILE TRANSFER PROGRAM TO IDENTIFY THE REMOTE SYSTEM		00089407
89408	AND ITS ASSOCIATED ROUTEHEADER STATION. THE INFORMATION		00089408
89409	ENTERED THROUGH THIS COMMAND IS TEMPORARY WILL NOT BE SAVED		00089409
89410	AT PROGRAM END OF JOB.		00089410
89411			00089411
89412	THE <TRANCODE> IS IDENTICAL TO THE <DESTINATION TRANCODE> AS		00089412
89413	DESCRIBED IN THE "COPY" COMMAND DESCRIPTION.		00089413
89414			00089414
89415	THE <DESTINATION DESCRIPTION> IS A 1 - 12 CHARACTER LITERAL WHICH		00089415
89416	IS USED IN THE RESPONSE TO A "WHAT" COMMAND AND IN THE "COPY		00089416
89417	COMPLETED" AND "COPY ABORTED" MESSAGES. IF LEFT BLANK, THE		00089417
89418	DESTINATION DESCRIPTION WILL DEFAULT TO THE DESTINATION TRANCODE.		00089418
89419			00089419
89420	THE <SYSTEM TYPE> IS A 1-DIGIT INTEGER WHICH IDENTIFIES THE TYPE		00089420
89421	OF THE REMOTE SYSTEM. VALID VALUES FOR THIS FIELD ARE: 1 FOR		00089421
89422	CMS, 2 FOR B1800, 3 FOR B4800, AND 4 FOR B6800.		00089422
89423			00089423
89424	THE <ROUTEHEADER STATION NUMBER> MUST BE THE SAME AS THAT DECLARED		00089424
89425	FOR THE ROUTEHEADER STATION IN THE TCL.		00089425
89426			00089426
89427			00089427
89428	<CHGTC COMMAND>	::= CHGTC	00089428
89429		<DESTINATION TRANCODE> ,	00089429
89430		<DESTINATION DESCRIPTION> ,	00089430
89431		<SYSTEM TYPE> ,	00089431
89432		<ROUTEHEADER STATION NUMBER>	00089432
89433			00089433
89434	<DESTINATION TRANCODE>	::= <QUOTE>	00089434
89435		<TRANCODE>	00089435
89436		<QUOTE>	00089436
89437			00089437
89438	<DESTINATION DESCRIPTION>	::= <QUOTE>	00089438
89439		<LITERAL>	00089439
89440		<QUOTE>	00089440
89441			00089441
89442	<SYSTEM TYPE>	::= <INTEGER>	00089442
89443			00089443
89444	<ROUTEHEADER STATION NUMBER>::=	<INTEGER>	00089444

89445
 89446 THE CHGTC COMMAND ALLOWS USERS TO CHANGE THE DESTINATION
 89447 DESCRIPTION, SYSTEM TYPE, AND ROUTEHEADER STATION NUMBER FOR
 89448 AN EXISTING TRANCODE. AS WITH THE "NEWTC" COMMAND, THESE
 89449 CHANGES ARE TEMPORARY. THE "CHGTC" COMMAND WILL NOT BE ALLOWED
 89450 IF THE STATUS OF THE FILE TRANSFER PROGRAM IS "BUSY". THE FIELDS
 89451 FOR THIS COMMAND ARE IDENTICAL TO THOSE DESCRIBED FOR THE NEWTC
 89452 COMMAND.
 89453
 89454
 89499 B. NEW FEATURES - 5.00 RELEASE :::::::::::::::::::::::::::::::
 89500
 89600
 89700 1. NEW IMPLEMENTATION OF ROUTEHEADERS
 89800
 89900
 90000
 90100 GENERAL:
 90200
 90300 A NEW STYLE OF ROUTEHEADER HAS BEEN IMPLEMENTED TO ALLOW
 90400 COMMUNICATION BETWEEN GEMCOS'S RUNNING ON DIFERENT HOSTS. EITHER HOST
 90500 CAN BE ANY BURROUGHS SYSTEM FROM THE CMS MACHINES THROUGH THE B7800
 90600 PROVIDED BOTH HOSTS ARE RUNNING A GEMCOS MCS.
 90700
 90800 THIS NEW ROUTEHEADER IS AN ALTERNATIVE TO THE OLD STYLE OF
 90900 ROUTEHEADER USED BY LARGE SYSTEM GEMCOS AND THE TCL STATEMENT
 91000 "ROUTEHEADER = TRUE." IS STILL VALID.
 91100
 91200 THE NEW TCL SYNTAX FOR DECLARING A ROUTEHEADER STATION IS:
 91300
 91400 TYPE = ROUTEHEADER.
 91500
 91600 STATION ROUTING BY MESSAGE KEY.
 91700
 91800 STATION MAY NOW HAVE MESSAGE KEYS ASSOCIATED WITH IT BY DECLARING A
 91900 <MESSAGE KEY STATEMENT>. THE SYNTAX IS THE SAME AS FOR INPUTQUEUE
 92000 MESSAGE KEYS. A MESSAGE ENTERED FROM A STATION, A, WHICH CONTAINS A
 92100 MESSAGE KEY DECLARED FOR STATION B WILL BE ROUTED DIRECTLY TO STATION B
 92200 IF STATION B IS A ROUTEHEADER STATION, A ROUTEHEADER WILL BE ADDED.
 92300 PROGRAMS MAY NOT ROUTE TO A STATION BY MESSAGE KEY.
 92400
 92500 ROUTEHEADER FORMAT.
 92600
 92700 THE FORMAT OF THE NEW ROUTEHEADER IS AS FOLLOWS:
 92800
 92900 ROUTEHEADER TYPE 2 BYTES
 93000 ACCESS KEY 6 BYTES
 93100 ORIGINATION TYPE 2 BYTES
 93200 RETURN ID 14 BYTES
 93300 MESSAGE NUMBER 10 BYTES
 93400 FORMATID 12 BYTES
 93500 ERROR CODE 2 BYTES
 93600
 93700 FIELD DEFINITIONS
 93800
 93900 ROUTEHEADER TYPE - USED TO INDICATE THE TYPE OF ROUTEHEADER SENT OR
 94000 RECEIVED. POSSIBLE VALUES ARE:
 94100
 94200 0 = STANDARD, ORIGINATING ROUTEHEADER
 94300 1 = STANDARD, RETURNING ROUTEHEADER

00089445
 00089446
 00089447
 00089448
 00089449
 00089450
 00089451
 00089452
 00089453
 00089454
 00089499
 00089500
 00089600
 00089700
 00089800
 00089900
 00090000
 00090100
 00090200
 00090300
 00090400
 00090500
 00090600
 00090700
 00090800
 00090900
 00091000
 00091100
 00091200
 00091300
 00091400
 00091500
 00091600
 00091700
 00091800
 00091900
 00092000
 00092100
 00092200
 00092300
 00092400
 00092500
 00092600
 00092700
 00092800
 00092900
 00093000
 00093100
 00093200
 00093300
 00093400
 00093500
 00093600
 00093700
 00093800
 00093900
 00094000
 00094100
 00094200
 00094300

94400 2 = RECOVERY, ORIGINATING
 94500 3 = RECOVERY REPLY
 94600 4 = SUSPENSION
 94700 5 = RESUMPTION
 94800

94900 ACCESS KEY - THIS FIELD WILL CONTAIN AN ACCESSKEY TO BE VALIDATED BY
 95000 THE RECEIVING STATION.
 95100

95200 ORIGINATION TYPE - THIS FIELD INDICATES HOW THE RETURN ROUTEHEADER IS
 95300 TO BE HANDLED. THE MEANING OF THE VALUE CONTAINED IN THE RETURN
 95400 ID FIELD IS EVALUATED ACCORDING TO THIS FIELD. POSSIBLE VALUES
 95500 ARE:
 95600

95700 0 = RETURN TO STATION INDICATED IN RETURN ID FIELD
 95800 1 = RETURN TO INPUTQUEUE INDICATED IN RETURN ID FIELD
 95900

96000 RETURN ID - CONTAINS EITHER A STATION OR INPUT QUEUE NUMBER.
 96100

96200 MESSAGE NUMBER - THIS FIELD WILL BE USED BY A FUTURE RELEASE FOR
 96300 RECOVERY.
 96400

96500 FORMAT ID - THIS FIELD WILL CONTAIN A MESSAGE ID TO BE USED IN
 96600 FORMATTING.
 96700

96800 ERROR CODE - THIS FIELD WILL BE USED BY ONE HOST TO INFORM THE OTHER
 96900 OF AN ERROR CONDITION. POSSIBLE VALUES ARE:
 97000

97100 0 - NO ERROR
 97200 1 - MESSAGE KEY MISSING
 97300 2 - PROGRAM/STATION NOT AVAILABLE
 97400 3 - USER HAS NO ACCESS TO PROGRAM
 97500 4 - INVALID ACCESSKEY
 97600 5 - ILLEGAL ROUTEHEADER TYPE
 97700 6 - ROUTEHEADER TABLE FULL, MESSAGE NOT PROCESSED
 97800 7 - LENGTH OF MESSAGE LESS THAN 48 BYTES
 97900 8 - INVALID INPUT FORMAT REQUEST
 98000 9 - DESTINATION IS NOT A PROGRAM
 98100 10 - FORMAT ERROR
 98200
 98300

98400 RETURN MESSAGES TO PROGRAMS.
 98500

98600 IF A PROGRAM SENDS ORIGINATING MESSAGE TO A ROUTEHEADER STATION,
 98700 I.E. TO A STATION OTHER THAN THE ONE THAT THE INPUT MESSAGE CAME
 98800 FROM, GEMCOS WILL ADD AN ORIGINATING ROUTEHEADER (TYPE=0) WITH
 98900 THE ORIGINATION TYPE SET TO 0 (RETURN TO ORIGINATING STATION). IF
 99000 THE TP WISHES THE REPLY TO BE DIRECTED BACK TO ITSELF, IT MAY PASS
 99100 CONTROL TO GEMCOS WITH COMMON[4].[39:8] SET TO 11.
 99200

99300 ACCESS CONTROL.
 99400

99500 A HOSTACCESSKEY STATEMENT HAS BEEN ADDED TO THE STATION SECTION OF THE
 99600 TCL. THE SYNTAX IS AS FOLLOWS:
 99700

99800 HOSTACCESSKEY = <ACCESS CODE>.
 99900

100000 ANY MESSAGE SENT TO A ROUTEHEADER STATION WILL HAVE THE HOSTACCESSKEY
 100100 INSERTED IN THE ACCESS KEY FIELD OF THE ROUTEHEADER. IF NO
 100200 HOSTACCESSKEY HAS BEEN DECLARED, BLANKS WILL BE USED.
 100300

IF A ROUTEHEADER STATION HAS BEEN DECLARED TO BE SIGNON, THE ACCESS

00094400
 00094500
 00094600
 00094700
 00094800
 00094900
 00095000
 00095100
 00095200
 00095300
 00095400
 00095500
 00095600
 00095700
 00095800
 00095900
 00096000
 00096100
 00096200
 00096300
 00096400
 00096500
 00096600
 00096700
 00096800
 00096900
 00097000
 00097100
 00097200
 00097300
 00097400
 00097500
 00097600
 00097700
 00097800
 00097900
 00098000
 00098100
 00098200
 00098300
 00098400
 00098500
 00098600
 00098700
 00098800
 00098900
 00099000
 00099100
 00099200
 00099300
 00099400
 00099500
 00099600
 00099700
 00099800
 00099900
 00100000
 00100100
 00100200
 00100300

KEY IN THE ROUTEHEADER WILL BE CHECKED FOR EACH MESSAGE RECEIVED TO ENSURE THAT IT IS A VALID ACCESS CODE FOR THIS STATION. IF IT IS, THE MESSAGE WILL BE CHECKED TO SEE IF IT IS ALLOWED WITH THE ACCESS CODE. IF EITHER CHECK FAILS AN ERROR WILL BE SENT TO THE ORIGINATING HOST.

THE HOSTACCESSKEY STATEMENT HAS NO MEANING FOR NON-ROUTEHEADER STATIONS.

SUSPENSION & RESUMPTION.

WHEN GEMCOS RECEIVES A SUSPENSION ROUTEHEADER FROM A STATION, IT WILL SET A SUSPENSION FLAG FOR THAT STATION. WHILE THIS FLAG IS SET, NO ORIGINATING MESSAGES WILL BE ROUTED TO THAT STATION, BUT RETURN MESSAGES WILL STILL BE SENT. A MESSAGE FROM A STATION TO A SUSPENDED ROUTEHEADER WILL BE REJECTED WITH A "BUSY" RESPONSE & A MESSAGE FROM A PROGRAM WILL BE REJECTED WITH ERROR 139. THE SUSPENSION FLAG IS RESET WHEN A RESUMPTION ROUTEHEADER IS RECEIVED. LARGE SYSTEMS GEMCOS DOES NOT ISSUE SUSPENSIONS OR RESUMPTIONS, ALTHOUGH ONE COULD BE ISSUED FROM A TP (BY SETTING COMMON[4].[42:1] TO 1).

FORMATTING .

(1) FORMATTING AT THE ORIGINATING HOST.

MESSAGES SENT FROM A STATION TO A ROUTEHEADER STATION WILL NOT BE FORMATTED.

MESSAGES ORIGINATING FROM A TP GOING TO A ROUTEHEADER STATION WILL HAVE THE MSGID SUPPLIED BY THE TP PLACED IN THE ROUTEHEADER AND NO FORMATTING WILL BE DONE.

RETURN MESSAGES RECEIVED FROM A ROUTEHEADER STATION GOING TO A STATION WILL BE FORMATTED USING THE MSGID IN THE ROUTEHEADER.

RETURN MESSAGES RECEIVED FROM A ROUTEHEADER STATION GOING TO A PROGRAM WILL NOT BE FORMATTED.

(2) FORMATTING AT THE RECEIVING HOST.

MESSAGES SENT TO A STATION (BY MESSAGE KEY) WILL NOT BE FORMATTED.

MESSAGES SENT TO A PROGRAM WILL HAVE NORMAL INPUT FORMATTING BY MESSAGE KEY. WHEN A REPLY IS RECEIVED FROM A TP WITH A MSGID SUPPLIED, GEMCOS WILL ATTEMPT TO DO NORMAL OUTPUT FORMATTING. IF NO FORMAT IS FOUND CORRESPONDING TO THE MSGID AND THE FORMAT FIELD IN THE ROUTEHEADER IS BLANK, THE MSGID WILL BE PLACED IN THE ROUTEHEADER. THIS CAN THEN BE USED BY THE ORIGINATING HOST FOR FORMATTING THE REPLY BACK TO THE ORIGINATING STATION.

EXAMPLE:

IN THIS EXAMPLE IT IS ASSUMED THAT THERE ARE TWO B 6000 COMPUTERS FOR EASE OF TCL DESCRIPTION, ALTHOUGH IN PRINCIPLE, THIS EXAMPLE IS APPLICABLE TO ANY TWO COMPUTER SYSTEMS. EACH COMPUTER WILL RUN A GEMCOS MCS. THOSE TCL STATEMENTS WHICH DEAL WITH ROUTEHEADERS ARE PRESENTED HERE FOR BOTH COMPUTER 1 AND COMPUTER 2.

+-----+

00100400
00100500
00100600
00100700
00100800
00100900
00101000
00101100
00101200
00101300
00101400
00101500
00101600
00101700
00101800
00101900
00102000
00102100
00102200
00102300
00102400
00102500
00102600
00102700
00102800
00102900
00103000
00103100
00103200
00103300
00103400
00103500
00103600
00103700
00103800
00103900
00104000
00104100
00104200
00104300
00104400
00104500
00104600
00104700
00104800
00104900
00105000
00105100
00105200
00105300
00105400
00105500
00105600
00105700
00105800
00105900
00106000
00106100
00106200
00106300

106400	! TCL FOR COMPUTER 1 !	00106400
106500	+-----+	00106500
106600		00106600
106700	BEGIN	00106700
106800	ACCESSCONTROL:	00106800
106900	ACCESSKEY HOST2 = ALL.	00106900
107000	ACCESSKEY USER1 = ALL.	00107000
107100	%	00107100
107200	PROGRAM PROGRAM1 (1) USER:	00107200
107300	INPUTQUEUE I1(1):	00107300
107400	MKE = PGM1.	00107400
107500	%	00107500
107600	STATION STATION1:	00107600
107700	SIGNON = TRUE.	00107700
107800	VALIDACCESSKEYS = USER1.	00107800
107900	MKE = STN1.	00107900
108000	%	00108000
108100	STATION HOST2	00108100
108200	TYPE = ROUTEHEADER.	00108200
108300	SIGNON = TRUE.	00108300
108400	VALIDACCESSKEYS = HOST2.	00108400
108500	HOSTACCESSKEY = HOST1.	00108500
108600	MKE = PGM2, STN2.	00108600
108700	END;	00108700
108800		00108800
108900	+-----+	00108900
109000	! TCL FOR COMPUTER 2 !	00109000
109100	+-----+	00109100
109200		00109200
109300	BEGIN	00109300
109400	ACCESSCONTROL:	00109400
109500	ACCESSKEY HOST1 = ALL.	00109500
109600	ACCESSKEY USER2 = ALL.	00109600
109700	%	00109700
109800	PROGRAM PROGRAM2 (2) USER:	00109800
109900	INPUTQUEUE I2(2):	00109900
110000	MKE = PGM2.	00110000
110100	%	00110100
110200	STATION STATION2:	00110200
110300	SIGNON = TRUE.	00110300
110400	VALIDACCESSKEYS = USER2.	00110400
110500	MKE = STN2.	00110500
110600	%	00110600
110700	STATION HOST1:	00110700
110800	TYPE = ROUTEHEADER.	00110800
110900	SIGNON = TRUE.	00110900
111000	VALIDACCESSKEYS = HOST1.	00111000
111100	HOSTACCESSKEY = HOST2.	00111100
111200	MKE = PGM1, STN1.	00111200
111300	END;	00111300
111400		00111400
111500	A GRAPHIC REPRESENTATION OF THE ABOVE TCL SPECIFICATIONS ON EACH	00111500
111600	COMPUTER IS SHOWN IN THE FOLLOWING DIAGRAM:	00111600
111700		00111700
111800		00111800
111900		00111900
112000	COMPUTER 1	COMPUTER 2
112100	*****	*****
112200	* ++++++	* ++++++
112300	* + + *	* + + *

```

112400 * + STATION1 + * * + STATION2 + * 00112400
112500 * + + * + + * 00112500
112600 * ++++++++ * ++++++++ * 00112600
112700 * ! ++++++++ * ! * 00112700
112800 * ++++++++ + + * ++++++++ * 00112800
112900 * + +-----+ HOST1 +-----+ ++++++++ + + * 00112900
113000 * + GEMCOS MCS + + + / + + + GEMCOS MCS + * 00113000
113100 * + + ++++++++ +-----+ HOST2 +-----+ + * 00113100
113200 * ++++++++ * + + ++++++++ * 00113200
113300 * ! * ++++++++ ! * 00113300
113400 * ++++++++ * * ++++++++ * 00113400
113500 * + + * + + * 00113500
113600 * + PROGRAM1 + * + PROGRAM2 + * 00113600
113700 * + + * + + * 00113700
113800 * ++++++++ * ++++++++ * 00113800
113900 * * * * 00113900
114000 ***** ***** 00114000
114100 00114100
114200 00114200
114300 ON HOST1: 00114300
114400 ----- 00114400
114500 1. IF STATION1 ENTERS A MESSAGE THAT HAS A MESSAGE KEY OF STN2, 00114500
114600 THE MESSAGE IS ROUTED TO COMPUTER 2 THROUGH THE ROUTEHEADER 00114600
114700 STATION AND DELIVERED TO STATION2. 00114700
114800 00114800
114900 2. ANY MESSAGE ENTERED THAT CONTAINS THE MESSAGE KEY PGM2 IS ROUTED, 00114900
115000 IN SIMILAR FASHION, TO PROGRAM2 ON COMPUTER 2. THE OUTPUT FROM 00115000
115100 PROGRAM2 IS AUTOMATICALLY ROUTED BACK TO THE ORIGINATOR ON 00115100
115200 COMPUTER 1. 00115200
115300 00115300
115400 ON HOST2: 00115400
115500 ----- 00115500
115600 1. IF STATION2 ENTERS A MESSAGE THAT HAS A MESSAGE KEY STN1, 00115600
115700 THE MESSAGE IS ROUTED TO COMPUTER 1 THROUGH THE ROUTEHEADER 00115700
115800 STATION AND DELIVERED TO STATION1. 00115800
115900 00115900
116000 2. ANY MESSAGE ENTERED THAT CONTAINS THE MESSAGE KEY PGM1 IS ROUTED, 00116000
116100 IN SIMILAR FASHION, TO PROGRAM1 ON COMPUTER 1. THE OUTPUT FROM 00116100
116200 PROGRAM1 IS AUTOMATICALLY ROUTED BACK TO THE ORIGINATOR ON 00116200
116300 COMPUTER 2. 00116300
116400 00116400
116500 FILE TRANSFER PROGRAM 00116500
116600 00116600
116700 A FILE TRANSFER PROGRAM HAS BEEN WRITTEN AS A TEST FOR THE NEW 00116700
116800 ROUTEHEADERS AND FOR INTERNAL USE. IT HAS BEEN INCLUDED ON THE 00116800
116900 RELEASE TAPE AS AN EXAMPLE FOR USERS OF THE KIND OF THING THAT 00116900
117000 CAN BE DONE USING ROUTEHEADERS. A COMPATIBLE PROGRAM IS ALSO 00117000
117100 AVAILABLE WITH B1000 GEMCOS RELEASE 4.20. 00117100
117200 00117200
117300 THE FOLLOWING DOCUMENTATION WAS WRITTEN ON A B1800, TRANSFERRED 00117300
117400 TO A B6800 USING THE FILE TRANSFER PROGRAMS AND EDITED ON THE 00117400
117500 B6800 FOR INCLUSION IN THE LARGE SYSTEM GEMCOS DOCUMENTATION FILE: 00117500
117600 00117600
117700 00117700
117800 00117800
117900 ! -----+ 00117900
118000 ! MCSFILXFER ! 00118000
118100 ! -----+ 00118100
118200 00118200
118300 00118300

```

MCSFILXFER.

THE PURPOSE OF THIS PROGRAM IS TO COPY DISK FILES FROM ONE COMPUTER TO ANOTHER COMPUTER USING THE ROUTEHEADER CAPABILITY OF GEMCOS. A USER CAN ENTER A COMMAND FROM AN MCS-CONTROLLED STATION WHICH WILL SPECIFY THE NAME OF A FILE TO BE TRANSFERRED TO OR FROM ANOTHER COMPUTER. THE FILE TRANSFER PROGRAM (MCSFILXFER) WILL ATTEMPT TO TRANSFER THE FILE AND INFORM THE USER WHEN THE TRANSFER IS COMPLETE OR HAS FAILED. THIS PROGRAM WILL TRANSFER ONLY ONE FILE AT A TIME. BLOCKING AND RECORD SIZE WILL BE MAINTAINED DURING A FILE TRANSFER. CODE FILES CAN BE TRANSFERRED ACROSS LIKE SYSTEMS AND STILL MAINTAIN THEIR EXECUTABILITY. THE LATTER IS POSSIBLE SINCE ALL DATA IS TRANSMITTED IN "TRANSPARENT" MODE.

THE FOLLOWING RULES MUST BE ADHERED TO WHEN DEFINING THE ATTRIBUTES OF THE FILE TRANSFER PROGRAM IN THE PROGRAM SECTION OF THE TCL:

- A. THE PROGRAM MUST BE DECLARED AS A USER PROGRAM.
- B. THE COMMONSIZE STATEMENT MUST BE SET TO A MINIMUM VALUE OF $((\text{RECORDSIZE} * 2) + 27)$ WORDS, WHERE RECORDSIZE IS THAT OF THE FILE TO BE TRANSFERRED.
- C. THE INPUTQUEUE NUMBER MUST BE THE SAME AS THE PROGRAM NUMBER.

INCLUDED ON THE GEMCOS RELEASE TAPE IS A FULLY FUNCTIONAL FILE TRANSFER OBJECT PROGRAM CALLED MCSFILXFER. THE USER NEED ONLY DECLARE THIS PROGRAM IN TCL.

SYNTAX:

THERE ARE THREE COMMANDS WHICH A USER CAN ENTER AT A GIVEN STATION. THE COMMANDS ARE COPY, ABORT AND WHAT. THE SYNTAX AND SEMANTICS FOR THESE COMMANDS FOLLOWS:

<COPY COMMAND>	::= COPY <FILE NAME 1> <AS CLAUSE> <DESTINATION CLAUSE> <ORIGINATION CLAUSE>
<AS CLAUSE>	::= AS <FILE NAME 2> / <EMPTY>
<DESTINATION CLAUSE>	::= <DIRECTION> <DESTINATION MKE> <ROUTEHEADER STATION NUMBER>
<ORIGINATION CLAUSE>	::= USING <ORIGINATION MKE> / <EMPTY>
<DIRECTION>	::= TO / FROM
<DESTINATION MKE>	::= <MESSAGE KEY>
<ROUTEHEADER STATION NUMBER>	::= <LEFT BRACKET>

124400		<NUMBER>	00124400
124500		<RIGHT BRACKET>	00124500
124600			00124600
124700	<ORIGINATION MKE>	::= <MESSAGE KEY>	00124700
124800			00124800
124900	<FILE NAME>	::= <QUOTE>	00124900
125000		<IDENTIFIER>	00125000
125100		<FILE NAME PART>	00125100
125200		<PACK NAME PART>	00125200
125300		<QUOTE>	00125300
125400			00125400
125500	<FILE NAME PART>	::= <SLASH> <IDENTIFIER> /	00125500
125600		<EMPTY>	00125600
125700			00125700
125800	<PACK NAME PART>	::= ON <IDENTIFIER> /	00125800
125900		<EMPTY>	00125900
126000			00126000
126100	THIS COMMAND IS USED TO INITIATE THE FILE TRANSFER MECHANISM.		00126100
126200	<FILE NAME 1> IS THE NAME OF THE FILE ON THE SYSTEM WHICH IS SENDING		00126200
126300	THE FILE. <FILE NAME 2> IS THE NAME OF THE FILE ON THE SYSTEM WHICH		00126300
126400	IS RECEIVING THE FILE. IF <FILE NAME 2> IS NOT SPECIFIED, IT WILL		00126400
126500	DEFAULT TO <FILE NAME 1>. WHENEVER A FILE NAME IS SPECIFIED FOR A		00126500
126600	B 6800 COMPUTER, THE ABOVE SYNTAX FOR <FILE NAME> MUST BE ADHERED TO.		00126600
126700			00126700
126800	THE KEYWORD TO SPECIFIES THAT A DISK FILE IS TO BE SENT TO THE REMOTE		00126800
126900	COMPUTER FROM THE LOCAL COMPUTER; THE KEYWORD FROM SPECIFIES THAT A		00126900
127000	DISK FILE IS TO BE SENT FROM THE REMOTE COMPUTER TO THE LOCAL COMPUTER.		00127000
127100			00127100
127200	THE DESTINATION MKE MUST BE A VALID MESSAGE KEY FOR THE REMOTE		00127200
127300	COMPUTER'S FILE TRANSFER PROGRAM RUNNING UNDER A GEMCOS MCS. THE		00127300
127400	USER MUST KNOW THIS MKE. THIS MESSAGE KEY AND ANY OTHER POSSIBLE		00127400
127500	DESTINATION TRANCODS THAT THE USER MAY WISH TO USE FOR A PARTICULAR		00127500
127600	COMPUTER (ROUTEHEADER STATION) MUST BE DECLARED FOR THAT ROUTEHEADER		00127600
127700	STATION ON THE LOCAL COMPUTER. THE ROUTEHEADER STATION NUMBER		00127700
127800	ASSOCIATED WITH THIS MESSAGE KEY MUST BE THE SAME AS THE STATION NUMBER		00127800
127900	DECLARED FOR THE ROUTEHEADER STATION.		00127900
128000			00128000
128100	THE ORIGINATION MKE SPECIFIES THE MESSAGE KEY WHICH THE REMOTE FILE		00128100
128200	TRANSFER PROGRAM WILL USE TO COMMUNICATE WITH THE LOCAL FILE TRANSFER		00128200
128300	PROGRAM. IF NOT SPECIFIED, IT DEFAULTS TO "FTPLS." ON A B 6800,		00128300
128400	FT4800 ON A B 4800, FT1800 ON A B 1800 AND FTCMS ON CMS MACHINES.		00128400
128500	THIS MESSAGE KEY AND ANY OTHER POSSIBLE ORIGINATION MKES THAT THE		00128500
128600	USER MAY WISH TO USE, POSSIBLY INCLUDING THE DEFAULT VALUE OF FTPLS.,		00128600
128700	MUST BE DECLARED FOR THE FILE TRANSFER PROGRAM ON THE LOCAL COMPUTER.		00128700
128800			00128800
128900			00128900
129000	<ABORT COMMAND>	::= ABORT	00129000
129100			00129100
129200	THE ABORT COMMAND INSTRUCTS THE FILE TRANSFER PROGRAM TO DISCONTINUE		00129200
129300	THE CURRENT FILE TRANSFER, IF ONE IS IN PROGRESS. WHEN THE FILE		00129300
129400	TRANSFER PROGRAM RECEIVES THIS COMMAND, IT INSTRUCTS THE FILE TRANSFER		00129400
129500	PROGRAM ON THE REMOTE HOST TO DISCONTINUE THE CURRENT TRANSFER,		00129500
129600	REGARDLESS OF WHO INITIATED THE REQUEST. THIS COMMAND CAN BE ENTERED		00129600
129700	AT ANY TIME.		00129700
129800			00129800
129900			00129900
130000	<WHAT COMMAND>	::= WHAT	00130000
130100			00130100
130200	THIS COMMAND RETURNS THE CURRENT STATUS OF THE FILE TRANSFER PROGRAM		00130200
130300	TO THE REQUESTOR. THE POSSIBLE RESPONSES ARE AVAILABLE AND BUSY.		00130300

IF BUSY IS RETURNED, THE FILE TRANSFER PROGRAM WILL NOT ACCEPT A COPY COMMAND.

EXAMPLE:

ASSUME THAT A FILE TRANSFER IS TO OCCUR BETWEEN TWO B 6800 COMPUTERS. THE COMPUTER THAT WILL INITIATE THE FILE TRANSFER REQUEST WILL BE CALLED HOSTA AND THE OTHER COMPUTER WILL BE CALLED HOSTB. FURTHER ASSUME THAT THE FOLLOWING STATEMENTS EXIST IN THE TCL SPECIFICATIONS FOR EACH GEMCOS MCS ON EACH SYSTEM.

TCL OF GEMCOS ON HOSTA:

PROGRAM FTA (1) USER: % FILE TRANSFER PROGRAM ON HOSTA
MKE = FT68A, COPY, ABORT, WHAT.
STATION RHA (12): % ROUTEHEADER STATION TO HOSTB
MKE = FT68B.
TYPE = ROUTEHEADER.
STATION TD830A (11): % STATION WHERE COMMANDS WILL BE ENTERED

TCL OF GEMCOS OF HOSTB:

PROGRAM FTB (2) USER: % FILE TRANSFER PROGRAM ON HOSTB
MKE = FT68B, COPY, ABORT, WHAT.
STATION RHB (21): % ROUTEHEADER STATION TO HOSTA
MKE = FT68A.
TYPE = ROUTEHEADER.

A USER AT STATION TD830A ON HOSTA (UNDER CONTROL OF A GEMCOS MCS) WISHES TO TRANSFER THE DISK FILE MONDAY/NEWS TO HOSTB WITH A FILE NAME OF MONDAY/A/NEWS ON DISKPACK BACKUP. THE FOLLOWING DIALOG ACCOMPLISHES THE REQUESTED FILE TRANSFER:

(FROM TD830A) : COPY "MONDAY/NEWS" AS "MONDAY/A/NEWS ON BACKUP"
TO FT68B [12] USING FT68A
(FROM FTA) : COPY INITIATED
(FROM TD830A) : WHAT
(FROM FTA) : FILE TRANSFER PROGRAM BUSY
TRANSFERRING FILE: MONDAY/NEWS TO SYSTEM: FT68B
(FROM FTA) : COPY OF FILE: MONDAY/NEWS TO SYSTEM: FT68B
COMPLETED

WHEN FILE TRANSFER OCCURS BETWEEN TWO B 6800 COMPUTERS, ONLY ONE (OR NEITHER) FILE TRANSFER PROGRAM CAN USE THE DEFAULT ORIGINATION MESSAGE KEY OF FTPLS. IN THIS EXAMPLE, THE DEFAULT MESSAGE KEY WAS NOT USED.

2. GEMCOS FORMATLIBRARIES

THE GEMCOS FORMAT LIBRARY INTERFACE PROVIDES A USER THE ABILITY TO WRITE MESSAGE FORMATTING CODE IN ALGOL, COBOL OR COBOL74, IN ADDITION TO THE STANDARD TCL FORMATS. MESSAGE FORMATTING USING A HIGH LEVEL LANGUAGE NOT ONLY ALLOWS A USER TO ENHANCE FORMATTING CAPABILITIES ON HIS OWN AS NEW PROBLEMS ARISE, BUT ALSO DECREASES THE SYSTEM RESOURCES REQUIRED TO FORMAT ANY MESSAGE. ALONG WITH THE GREATER FLEXIBILITY PROVIDED BY THIS INTERFACE, THE LIBRARY WRITER PICKS UP NEW RESPONSIBILITIES; I.E., HE MUST FOLLOW THE FORMAT LIBRARY CONVENTIONS CAREFULLY. HOWEVER, SAMPLE ALGOL AND COBOL LIBRARIES ARE PROVIDED WITH THE GEMCOS RELEASE, AND SHOULD EASE THE TRANSITION FROM TCL TO LIBRARY FORMATTING.

A FORMAT LIBRARY HAS ONE ENTRY POINT, FORMATLIB, AND FOUR PARAMETERS, TERMMSG, MCSMSG, PAGERTABLE AND MISCPARAM. MISCPARAM IS FURTHER DIVIDED INTO SEVEN SIX CHARACTER FIELDS, THE FIRST OF WHICH SELECTS THE FUNCTION THE LIBRARY IS TO PERFORM ON THIS CALL. THESE FUNCTIONS ARE:

1. LIBRARY INITIALIZATION

DURING GEMCOS INITIALIZATION, THE LIBRARY PROVIDES INFORMATION TO GEMCOS CONCERNING WHICH FORMATS ARE AVAILABLE IN THE LIBRARY, AND THE ATTRIBUTES OF EACH OF THESE FORMATS.

2. INPUT FORMATTING

GIVEN A MESSAGE FROM A TERMINAL, FORMAT IT FOR DELIVERY TO A TP.

3. OUTPUT FORMATTING

GIVEN A MESSAGE FROM A TP, FORMAT IT FOR TRANSMISSION TO A TERMINAL.

4. PAGED FORMAT INITIALIZATION

PAGED FORMATTING IMPLIES A MULTIPLE SCREEN DIALOGUE IN WHICH GEMCOS DISPLAYS A SCREEN, THE USER MODIFIES PORTIONS OF THE SCREEN AND TRANSMITS A MESSAGE BACK TO GEMCOS. PART OF THIS MESSAGE IS USED TO DETERMINE WHICH PAGE SHOULD BE THE NEXT DISPLAYED. GEMCOS IS RESPONSIBLE FOR STORING RELEVANT DATA (WHICH MAY BE CHANGED BY THE FORMAT LIBRARY) OVER THE COURSE OF THE DIALOGUE AND DELIVERING THIS DATA TO A TP UPON COMPLETION OF THE DIALOGUE.

THE FORMAT LIBRARY IS GIVEN AN ARRAY WHERE IT CAN BUILD A TABLE OF DIALOGUE RELATED INFORMATION, SUCH AS THE CURRENT PAGE NUMBER, OR A LIST OF PAGE INDICES, BUT THE DEFINITION OF THE DATA IN THIS TABLE AND HOW THAT INFORMATION IS USED IS LEFT TO THE LIBRARY DEVELOPER. PAGED FORMAT INITIALIZATION IS RESPONSIBLE FOR SETTING UP THIS TABLE FOR A SUBSEQUENT PAGED OUTPUT CALL ON THE LIBRARY.

5. PAGED INPUT FORMATTING

GIVEN THE STORED MESSAGE, PAGERTABLE AND A MESSAGE FROM A TERMINAL, UPDATE THE STORED MESSAGE AND PAGERTABLE AS NECESSARY, AND SET PAGEFUNC TO REQUEST APPROPRIATE ACTION OF GEMCOS. ONE POSSIBLE RESULT IS TO TRANSMIT A PAGE TO THE TERMINAL, WHICH REQUIRED THAT PAGERTABLE BE SET UP FOR A CALL ON PAGED OUTPUT TO FORMAT THAT PAGE.

6. PAGED OUTPUT FORMATTING

00136400
00136500
00136600
00136700
00136800
00136900
00137000
00137100
00137200
00137300
00137400
00137500
00137600
00137700
00137800
00137900
00138000
00138100
00138200
00138300
00138400
00138500
00138600
00138700
00138800
00138900
00139000
00139100
00139200
00139300
00139400
00139500
00139600
00139700
00139800
00139900
00140000
00140100
00140200
00140300
00140400
00140500
00140600
00140700
00140800
00140900
00141000
00141100
00141200
00141300
00141400
00141500
00141600
00141700
00141800
00141900
00142000
00142100
00142200
00142300

GIVEN THE STORED MESSAGE AND PAGERTABLE, PREPARE THE APPROPRIATE SCREEN TO BE SENT TO THE TERMINAL.

7. PAGED RECALL FORMATTING

AFTER SETTING UP PAGERTABLE BY A CALL ON PAGED INITIALIZATION, PAGED RECALL IS CALLED REPEATEDLY UNTIL EACH PAGE HAS BEEN FORMATTED. THE LIBRARY IS RESPONSIBLE FOR INFORMING GEMCOS WHEN ALL THE PAGES OF THE MESSAGE HAVE BEEN FORMATTED.

CERTAIN PARTS OF GEMCOS HAVE BEEN MODIFIED TO SUPPORT THE CALLS ON THE FORMAT LIBRARY. BRIEFLY, THESE CHANGES INVOLVE:

1. GEMCOS/UTILITY

THE UTILITY HAS BEEN MODIFIED TO ACCEPT TCL SYNTAX TO SPECIFY THAT A FORMAT RESIDES IN A LIBRARY AND NOT IN THE FORMAT FILE.

2. GEMCOS/MCS

THE MCS HAS BEEN MODIFIED FOR LIBRARY FORMATTING IN THE FOLLOWING AREAS:

A. INITIALIZATION

ACCEPT A LIST DESCRIBING FORMATS WHICH ARE AVAILABLE IN THE LIBRARY.

B. FORMATTING CALLS

CALL THE LIBRARY WITH APPROPRIATE PARAMETERS FOR INPUT AND OUTPUT FORMATTING.

C. FAULT HANDLING

PROTECT THE MCS AGAINST LIBRARY FAULTS AND PROVIDE DIAGNOSTIC AIDS WHEN THESE OCCUR.

D. PAGER

STORE A MESSAGE AND A TABLE FOR THE LIBRARY THROUGHOUT A PAGED DIALOGUE, CALL PAGED INITIALIZATION, INPUT AND OUTPUT ROUTINES IN THE LIBRARY AND PERFORM MESSAGE TRANSMISSION, DIALOGUE CANCELLATION, AND OTHER FUNCTIONS WHICH CANNOT BE PERFORMED BY THE LIBRARY.

THE FORMAT LIBRARY INTERFACE IS DESCRIBED IN GREATER DETAIL IN THE FOLLOWING DOCUMENTATION.

INTERFACE SPECIFICATION

GEMCOS CURRENTLY ALLOWS A SYSTEM DESIGNER TO DEFINE FORMATS WHICH MANIPULATE MESSAGES ON THE WAY TO AND FROM TRANSACTION PROCESSORS, (TPS). ON INPUT, MESSAGES CONTAIN A MESSAGE-KEY WHICH SPECIFIES THE INPUT FORMAT TO USE. ON OUTPUT, TPS SPECIFY A MESSAGE-ID WHICH GEMCOS USES TO DETERMINE A FORMAT FOR A MESSAGE BEFORE DELIVERING IT TO A TERMINAL. RELATIONSHIPS BETWEEN MESSAGE-KEYS, MESSAGE-IDS AND FORMATS ARE SPECIFIED USING THE TRANSACTION CONTROL LANGUAGE (TCL). FORMAT - MESSAGE-ID - MESSAGE-KEY RELATIONSHIPS CAN BE DEFINED BASED ON THE TYPE DEVICE RECEIVING OR TRANSMITTING A MESSAGE TO ALLOW FOR DIFFERENT CAPABILITIES OF DIFFERENT DEVICES. NONE OF THIS IS ALTERED WHILE USING THE FORMAT LIBRARY INTERFACE. THE ONLY CHANGE WITHIN GEMCOS

IS THAT GEMCOS CALLS A PROCEDURE IN A USER WRITTEN LIBRARY RATHER THAN ITS OWN FORMATTER ROUTINE.

A DESCRIPTION OF THE USER SIDE OF THE INTERFACE FOLLOWS:

I. GEMCOS/UTILITY CHANGES

PREVIOUSLY, THE SYNTAX OF A FORMAT DECLARATION, AS DESCRIBED ON PAGE 3-30 OF THE GEMCOS USER'S REFERENCE MANUAL, WAS:

```

      .
      .
      .
<FORMAT PART> ::= <FORMAT DESIGNATOR> < SPECIAL ACTION PART>
                  ( <LOCAL DECLARATION PART>
                    <LINE COUNT STATEMENT>
                    <FORMAT DESCRIPTION> )

```

THIS SYNTAX HAS BEEN MODIFIED AS DESCRIBED BELOW TO ALLOW DECLARATION OF LIBRARY FORMATS.

```

      .
      .
      .
<FORMAT DESIGNATOR> ::= <FORMAT DESIGNATOR> < FORMAT SPECIFICATION>

<FORMAT SPECIFICATION> ::= LIBRARY /
                           LIBPAGED /
                           <SPECIAL ACTION PART>
                           ( <LOCAL DECLARATION PART>
                             <LINE COUNT STATEMENT>
                             <FORMAT DESCRIPTION> )

```

EXAMPLE: FORMAT LIBFORMAT LIBRARY.

AN ENTRY IS MADE IN THE FORMAT FILE DICTIONARY FOR EACH FORMAT DECLARED. FOUR FIELDS IN THIS ENTRY ARE USED FOR LIBRARY FORMATS. THE TITLE FIELD IS EIGHTEEN CHARACTERS LONG AND CONTAINS THE FORMAT DESIGNATOR AS DECLARED IN THE TCL. THE PAGED BIT SPECIFIES WHETHER THIS FORMAT IS PAGED OR NOT. THE LIBRARY BIT SPECIFIES WHETHER TO USE STANDARD MCS FORMATTING OR LIBRARY FORMATTING. FINALLY, THE RECORD INDEX SPECIFIES THE RECORD NUMBER OF THE ENTRY OF THIS FORMAT'S ENTRY IN THE FORMAT FILE. FOR LIBRARY FORMATS, THIS FIELD IS ALSO AN INDEX INTO A LIBRARY FORMAT INFORMATION ARRAY.

ONE WORD IS ALLOCATED IN THE CONTROL FILE FOR LIBRARY INFORMATION. CURRENTLY, THIS WORD IS USED ONLY TO TELL THE MCS THAT LIBRARY FORMATS ARE PRESENT AND THAT THE LIBRARY SHOULD BE CALLED DURING INITIALIZATION FOR INFORMATION ABOUT THE LIBRARY FORMATS.

II. LIBRARY PARAMETERS

FOUR PARAMETERS ARE PASSED TO THE LIBRARY: TERMMSG, MCSMSG, PAGERTABLE AND MISCPARAM. THE FOLLOWING TABLE SHOWS THE TYPE OF EACH PARAMETER FOR THE FORMAT LIBRARY IMPLEMENTATION LANGUAGES:

	ALGOL	COBOL	COBOL74
=====	=====	=====	=====
TERMMSG	EBCDIC ARRAY	01 DISPLAY	01 DISPLAY
MCSMSG	EBCDIC ARRAY	01 DISPLAY	01 DISPLAY
PAGERTABLE	EBCDIC ARRAY	01 DISPLAY	01 DISPLAY
MISCPARAM	HEX ARRAY	01 COMP-2	01 COMP
=====	=====	=====	=====

THE ALGOL PARAMETERS ALL HAVE A LOWER BOUND OF 0, AND NO OCCURS ARE ALLOWED AT THE 01 LEVEL FOR COBOL PARAMETERS.

TERMMSG CONTAINS A MESSAGE DELIVERED FROM OR TO BE DELIVERED TO A TERMINAL.

MCSMSG CONTAINS A MESSAGE DELIVERED FROM OR TO BE DELIVERED TO THE MCS.

PAGERTABLE, WHEN DEALING WITH A PAGED FORMAT, HOLDS DATA FOR THE LIBRARY BETWEEN INITIALIZATION, INPUT FORMATTING AND OUTPUT FORMATTING CALLS.

MISCPARAM CONTAINS SEVEN SIX CHARACTER FIELDS:

1. FUNCTION, DIGITS 0-5, SPECIFIES WHICH MAJOR FUNCTION THE LIBRARY IS TO PERFORM.
2. FORMAT CASE, DIGITS 6-11, SPECIFIES WHICH FORMATTING CODE TO USE. THIS NUMBER IS PART OF THE INFORMATION PASSED TO THE MCS DURING INITIALIZATION.
3. TERMMSG SIZE, DIGITS 12-17, SPECIFIES HOW MANY CHARACTERS TERMMSG CONTAINS.
4. MCSMSG SIZE, DIGITS 18-23, SPECIFIES HOW MANY CHARACTERS MCSMSG CONTAINS.
5. ERROR NUMBER, DIGITS 24-29, RETURNS AN ERROR NUMBER TO GEMCOS. WHEN THIS FIELD IS GREATER THAN ZERO, THE MCS WILL DISPLAY AN ERROR MESSAGE TO THE SYSTEM MONITOR STATIONS.
6. PRACTICE MODE, DIGITS 30-35, WHEN EQUAL TO 1 SPECIFIES THAT THE STATION ASSOCIATED WITH THIS CALL IS IN PRACTICE MODE.
7. PAGE FUNCTION, DIGITS 36-41, REQUESTS AN ACTION OF GEMCOS AS A RESULT OF A PAGED INPUT OR PAGED RECALL CALL.

DETAILS CONCERNING THE MEANINGS AND USES OF EACH PARAMETER ARE GIVEN BELOW FOR EACH TYPE OF CALL. WHEN THE DESCRIPTION OF A LIBRARY CALL DOES NOT MENTION A PARAMETER, THAT PARAMETER IS NOT VALID FOR THE CALL AND SHOULD NOT BE USED.

III. INITIALIZATION

00154400
00154500
00154600
00154700
00154800
00154900
00155000
00155100
00155200
00155300
00155400
00155500
00155600
00155700
00155800
00155900
00156000
00156100
00156200
00156300
00156400
00156500
00156600
00156700
00156800
00156900
00157000
00157100
00157200
00157300
00157400
00157500
00157600
00157700
00157800
00157900
00158000
00158100
00158200
00158300
00158400
00158500
00158600
00158700
00158800
00158900
00159000
00159100
00159200
00159300
00159400
00159500
00159600
00159700
00159800
00159900
00160000
00160100
00160200
00160300

DURING INITIALIZATION, GEMCOS CALLS THE LIBRARY TO PROVIDE A LIST OF FORMAT TITLES, CASE VALUES AND CHARACTER REQUIREMENTS. THIS LIST IS PASSED AS A ONE DIMENSIONAL EBCDIC ARRAY WITH ONE EIGHTEEN CHARACTER EBCDIC FIELD AND TWO SIX CHARACTER HEX FIELDS FOR EACH FORMAT. THE FIRST FIELD CONTAINS THE FORMAT TITLE, WHICH MUST MATCH A TITLE DECLARED IN THE TCL, LEFT JUSTIFIED WITH TRAILING BLANKS. THE SECOND AND THIRD FIELDS CONTAIN THE CASE VALUE OF THE FORMAT AND THE NUMBER OF CHARACTERS REQUIRED IF THIS IS AN OUTPUT OR PAGED FORMAT.

AN ALGOL LIBRARY WITH ONE FORMAT NAMED LIBFORMAT WITH A CASE INDEX OF 1 AND THAT REQUIRED 40 CHARACTERS IN THE MESSAGE IT IS FORMATTING MIGHT DECLARE ITS FORMAT LIST AS:

```
VALUE ARRAY FORMATLIST
  ("LIBFORMAT      ",4"000001000040");
```

IF A TP CREATES A MESSAGE WHICH CONTAINS FEWER THAN THE NUMBER OF CHARACTERS NEEDED TO BE FORMATTED CORRECTLY, THE MCS APPENDS BLANKS TO THE MESSAGE BEFORE DELIVERING IT TO THE FORMAT LIBRARY.

INPUT PARAMETERS:

FUNCTION = 1

OUTPUT PARAMETERS:

MCSMSG = THE LIST OF FORMAT TITLES, INDICES AND CHARACTER REQUIREMENTS

MCSMSG SIZE = THE NUMBER OF EIGHT BIT CHARACTERS IN MCSMSG

IV. INPUT FORMATTING

GEMCOS DELIVERS A MESSAGE FROM A STATION WHICH THE LIBRARY MODIFIES FOR DELIVERY TO A TP.

INPUT PARAMETERS:

FUNCTION = 2

TERMMSG = THE MESSAGE RECEIVED FROM A TERMINAL

TERMMSG SIZE = THE NUMBER OF CHARACTERS IN TERMMSG

FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO TERMMSG

PRACTICE MODE = 1 FOR A STATION IN PRACTICE MODE

OUTPUT PARAMETERS:

MCSMSG = THE FORMATTED MESSAGE TO BE DELIVERED TO A TP

MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

ERROR NUMBER = 0 FOR NO ERROR
> 0 WHEN AN ERROR OCCURS

V. OUTPUT FORMATTING

00160400
00160500
00160600
00160700
00160800
00160900
00161000
00161100
00161200
00161300
00161400
00161500
00161600
00161700
00161800
00161900
00162000
00162100
00162200
00162300
00162400
00162500
00162600
00162700
00162800
00162900
00163000
00163100
00163200
00163300
00163400
00163500
00163600
00163700
00163800
00163900
00164000
00164100
00164200
00164300
00164400
00164500
00164600
00164700
00164800
00164900
00165000
00165100
00165200
00165300
00165400
00165500
00165600
00165700
00165800
00165900
00166000
00166100
00166200
00166300

166400
166500 GEMCOS DELIVERS A MESSAGE FROM A TP WHICH THE LIBRARY MODIFIES AS
166600 NECESSARY FOR DELIVERY TO A TERMINAL.

166700 INPUT PARAMETERS:

166800 FUNCTION = 3

166900 MCSMSG = THE MESSAGE AS BUILT BY A TP

167000 MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

167100 FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO MCSMSG

167200 PRACTICE MODE = 1 FOR A STATION IN PRACTICE MODE

167300 OUTPUT PARAMETERS:

167400 TERMMSG = FORMATTED MESSAGE TO BE DELIVERED TO A TERMINAL

167500 TERMMSG SIZE = THE NUMBER OF CHARACTERS IN TERMMSG

167600 ERROR NUMBER = 0 FOR NO ERROR
167700 > 0 WHEN AN ERROR OCCURS

167800 VI. PAGED FORMAT INITIALIZATION

167900 GEMCOS DELIVERS A MESSAGE WHICH GENERALLY CONTAINS DATA FOR
168000 MULTIPLE INTERACTIONS WITH A TERMINAL FROM A TP TO THE LIBRARY.
168100 THIS MESSAGE IS STORED OVER THE COURSE OF THESE INTERACTIONS, OR
168200 DIALOGUE, AND MAY BE READ OR CHANGED DURING ANY FORMAT CALL DURING
168300 THIS DIALOGUE.

168400 A SECOND ARRAY IS AVAILABLE FOR STORING ANY APPLICABLE DIALOGUE
168500 INFORMATION. THIS ARRAY, PAGERTABLE, CAN BE USED FOR PASSING DATA
168600 AMONG THE THREE PAGED FORMATTING PROCEDURES, AND IS RETAINED
168700 THROUGHOUT A DIALOGUE.

168800 INPUT PARAMETERS:

168900 FUNCTION = 4

169000 MCSMSG = THE ENTIRE MESSAGE FROM A TP (STORED MESSAGE)

169100 MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

169200 FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO MCSMSG

169300 PRACTICE MODE = 1 FOR A STATION IN PRACTICE MODE

169400 OUTPUT PARAMETERS:

169500 MCSMSG = THE STORED MESSAGE AS MODIFIED BY INITIALIZATION

169600 PAGERTABLE = LIBRARY DEFINED DATA PERTAINING TO THIS DIALOGUE

169700 ERROR NUMBER = 0 FOR NO ERROR
169800 > 0 WHEN AN ERROR OCCURS

169900 VI. PAGED INPUT

00166400
00166500
00166600
00166700
00166800
00166900
00167000
00167100
00167200
00167300
00167400
00167500
00167600
00167700
00167800
00167900
00168000
00168100
00168200
00168300
00168400
00168500
00168600
00168700
00168800
00168900
00169000
00169100
00169200
00169300
00169400
00169500
00169600
00169700
00169800
00169900
00170000
00170100
00170200
00170300
00170400
00170500
00170600
00170700
00170800
00170900
00171000
00171100
00171200
00171300
00171400
00171500
00171600
00171700
00171800
00171900
00172000
00172100
00172200
00172300

PAGED INPUT'S FUNCTIONS ARE MORE COMPLEX THAN THOSE OF THE OTHER PAGING PROCEDURES. GEMCOS DELIVERS THE MESSAGE FROM A TERMINAL, TERMMSG, AND THE STORED MESSAGE, MCSMSG, TO THE LIBRARY. THE LIBRARY MUST THEN DETERMINE FROM TERMMSG WHICH PATH THE DIALOGUE SHOULD FOLLOW NEX AND INFORM GEMCOS VIA THE PAGEFUNC FIELD OF MISCPARAM. THE MOST LIKELY RESULT OF A PAGED INPUT CALL IS FOR A NEW SCREEN TO BE DELIVERED TO A TERMINAL. IN THIS CASE, PAGED INPUT MUST DETERMINE WHICH PAGE IS NEXT, PERHAPS BY LOOKING FOR "+", "-" OR OTHER CHARACTERS IN TERMMSG AS REGULAR PAGING WOULD DO, OR BY ACCEPTING PAGE REQUESTS BY PAGE NUMBER. WHICHEVER PAGE IS SELECTED, PAGED INPUT MUST COMMUNICATE THE PAGE NUMBER TO PAGED OUTPUT VIA PAGERTABLE.

OTHER POSSIBLE RESULTS OF THE PAGED INPUT CALL ARE CANCELLATION OF THE DIALOGUE, RESTARTING THE DIALOGUE WITH THE ORIGINAL STORED MESSAGE, TRANSMITTING THE STORED MESSAGE TO A TP OR REQUESTING THAT A LIBRARY OUTPUT FORMAT BE DELIVERED TO THE TERMINAL WITHOUT INTERRUPTING THE DIALOGUE. THE FIVE DIFFERENT RESULTS OF A PAGED INPUT CALL ARE DETERMINED BY A NUMBER, ONE THROUGH FIVE, PLACED IN PAGEFUNC.

IF THE DIALOGUE IS NOT TO BE CANCELLED OR RESTARTED, DATA MAY BE EXTRACTED FROM TERMMSG AND USED TO UPDATE MCSMSG.

INPUT PARAMETERS:

FUNCTION = 5

TERMMSG = THE MESSAGE RECEIVED FROM A TERMINAL

TERMMSG SIZE = THE NUMBER OF CHARACTERS IN TERMMSG

FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO TERMMSG

PRACTICE MODE = 1 IF THIS STATION IS IN PRACTICE MODE

MCSMSG = THE STORED MESSAGE FOR THIS DIALOGUE

MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

PAGERTABLE = THE ARRAY WHICH HOLDS DATA PERTAINING TO THIS DIALOGUE

OUTPUT PARAMETERS:

MCSMSG = THE STORED MESSAGE, PERHAPS CHANGED IN PAGED INPUT

PAGERTABLE = UPDATED DATA PERTAINING TO THIS DIALOGUE

ERROR NUMBER = 0 FOR NO ERROR
> 0 WHEN AN ERROR OCCURS

PAGEFUNC = 1 TO CANCEL THE DIALOGUE

2 TO RESTART THE DIALOGUE WITH THE ORIGINAL MCSMSG

3 TO FORMAT THE NEXT PAGE FOR DELIVERY TO A TERMINAL

4 TO DELIVER THE STORED MESSAGE TO A TP

5 TO DELIVER A LIBRARY OUTPUT FORMAT TO A TERMINAL

(SIMILAR TO A FORMS REQUEST, BUT WITHIN PAGER)

ANY OTHER VALUE IN PAGEFUNC WILL CANCEL THE DIALOGUE

FORMAT CASE = THE CASE INDEX OF AN OUTPUT FORMAT TO SEND TO THE
TERMINAL WHEN PAGEFUNC = 5

VIII. PAGED OUTPUT

GEMCOS DELIVERS MCSMSG AND PAGERTABLE TO PAGED OUTPUT WHICH MUST
DETERMINE WHICH PART OF MCSMSG TO FORMAT FOR DELIVERY TO THE
TERMINAL AND DO SO.

INPUT PARAMETERS:

FUNCTION = 6

MCSMSG = THE STORED MESSAGE FOR THIS DIALOGUE

MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO MCSMSG

PRACTICE MODE = 1 FOR A STATION IN PRACTICE MODE

OUTPUT PARAMETERS:

TERMMSG = THE MESSAGE TO BE DELIVERED TO A TERMINAL

TERMMSG SIZE = THE NUMBER OF CHARACTERS IN TERMMSG

ERROR NUMBER = 0 FOR NO ERROR
> 0 WHEN AN ERROR OCCURS

IX. MESSAGE RECALL

MESSAGES WHICH DO NOT USE PAGED FORMATS CAN BE RECALLED AND
FORMATTED BY THE FORMAT LIBRARY VIA REGULAR OUTPUT FORMATTING CALLS.
HOWEVER, BECAUSE THE CONVENTIONS OF A PAGING DIALOGUE ARE LIBRARY
DEFINED, THE LIBRARY MUST PROVIDE SPECIAL CODE IF MESSAGES WHICH USE
PAGED FORMATS ARE TO BE RECALLED AND FORMATTED.

FOR A MESSAGE REQUIRING A PAGED FORMAT, THE MCS FIRST CALLS PAGE
INITIALIZATION, FUNCTION = 4, JUST AS AT THE START OF A DIALOGUE.
NEXT, THE MCS CALLS ON PAGED RECALL, FUNCTION = 7, TO FORMAT THE
FIRST PAGE OF WHAT WOULD BE A DIALOGUE WITH A TERMINAL. GEMCOS WILL
CONTINUE CALLING ON PAGED RECALL AND COLLECTING THE RESULTING
FORMATTED PAGES UNTIL A PAGE IS RETURNED AND PAGEFUNC = 6, DENOTING
THE LAST PAGE. ON EACH PASS, PAGED RECALL MUST UPDATE TERMMSG,
PAGERTABLE AND MISCPARAM SO THAT THE NEXT PAGE WILL BE FORMATTED ON
THE NEXT CALL. THE DETAILS OF DECIDING WHICH PAGE TO FORMAT AND HOW
TO DETERMINE WHEN THE LAST PAGE HAS BEEN FORMATTED ARE LEFT TO THE
LIBRARY DEVELOPER.

INPUT PARAMETERS:

FUNCTION = 7

MCSMSG = THE ENTIRE MESSAGE FROM A TP

MCSMSG SIZE = THE NUMBER OF CHARACTERS IN MCSMSG

FORMAT CASE = THE CASE INDEX OF THE FORMAT TO BE APPLIED TO MCSMSG

00178400
00178500
00178600
00178700
00178800
00178900
00179000
00179100
00179200
00179300
00179400
00179500
00179600
00179700
00179800
00179900
00180000
00180100
00180200
00180300
00180400
00180500
00180600
00180700
00180800
00180900
00181000
00181100
00181200
00181300
00181400
00181500
00181600
00181700
00181800
00181900
00182000
00182100
00182200
00182300
00182400
00182500
00182600
00182700
00182800
00182900
00183000
00183100
00183200
00183300
00183400
00183500
00183600
00183700
00183800
00183900
00184000
00184100
00184200
00184300

184400 PRACTICE MODE = 1 FOR A STATION IN PRACTICE MODE
184500
184600 PAGERTABLE = DATA PERTAINING TO THE RECALLED MESSAGE FORMATTING
184700
184800
184900
185000
185100
185200
185300
185400 PAGERTABLE = DATA PERTAINING TO THIS RECALL DIALOGUE
185500
185600
185700
185800
185900
186000
186100
186200 X. FORMAT LIBRARY UPDATING
186300
186400 THE ONLY WAY TO UPDATE A FORMAT IN A LIBRARY IS TO DELINK THE
186500 LIBRARY FROM GEMCOS AND THEN RELINK TO A NEW LIBRARY CONTAINING THE
186600 REVISED FORMAT. AT PRESENT, UNFORTUNATELY, THERE IS NO WAY TO
186700 DELINK A LIBRARY FROM GEMCOS SHORT OF BRINGING THE MCS DOWN. THIS
186800 WILL BE REMEDIED IN A FUTURE RELEASE.
186900
187000 XI. NOTES
187100
187200 ADDITIONAL INFORMATION CONCERNING LIBRARIES MAY BE FOUND IN THE
187300 B6000 MARK 3.1 P & D NOTES.
187400
187500
187600 DEMONSTRATION FILES
187700
187800 GEMCOS/FORMATLIB/TCL CONTAINS A COMPLETE DESCRIPTION OF THE
187900 STATIONS, TP AND FORMATS NECESSARY TO RUN THE FORMAT LIBRARY
188000 DEMONSTRATION.
188100
188200 GEMCOS/FORMATLIB/PATCH CONTAINS ALL REFERENCES TO STATIONS
188300 FROM GEMCOS/FORMATLIB/TCL TO SIMPLIFY MODIFYING THE NETWORK FOR
188400 A PARTICULAR SITE.
188500
188600 GEMCOS/SAMPLE/FORMATTP IS THE OBJECT CODE FOR THE SIMPLE
188700 TRANSACTION PROCESSOR USED IN THE FORMAT LIBRARY DEMONSTRATION.
188800
188900 GEMCOS/FORMATTP/SYMBOL IS THE ALGOL SOURCE CODE FOR THE
189000 GEMCOS/SAMPLE/FORMATTP.
189100
189200 GEMCOS/SAMPLE/ALGOLLIB AND GEMCOS/SAMPLE/COBOLLIB ARE TWO
189300 VERSIONS OF THE SOURCE FOR COMPILED OF THE FORMAT LIBRARY
189400 ITSELF. BOTH PROVIDE FUNCTIONALLY SIMILAR FORMATS TO THE
189500 MCS AND EITHER CAN BE COMPILED AS GEMCOS/FORMATLIBRARY
189600 TO RUN THE DEMONSTRATION.
189700
189800 THESE FILES ALSO SERVE AS EXAMPLES OF THE STRUCTURE NECESSARY TO
189900 WRITE A FORMAT LIBRARY AND CAN BE EASILY MODIFIED TO MATCH A SITE'S
190000 REQUIREMENTS.
190100
190200 GEMCOS/FORMATLIBRARY IS THE OBJECT FILE COMPILED FROM
190300 ONE OF THE SAMPLE FORMAT LIBRARIES AND PROVIDES THE FORMATTING

00184400
00184500
00184600
00184700
00184800
00184900
00185000
00185100
00185200
00185300
00185400
00185500
00185600
00185700
00185800
00185900
00186000
00186100
00186200
00186300
00186400
00186500
00186600
00186700
00186800
00186900
00187000
00187100
00187200
00187300
00187400
00187500
00187600
00187700
00187800
00187900
00188000
00188100
00188200
00188300
00188400
00188500
00188600
00188700
00188800
00188900
00189000
00189100
00189200
00189300
00189400
00189500
00189600
00189700
00189800
00189900
00190000
00190100
00190200
00190300

190400 PROCEDURES TO THE MCS. GEMCOS/EDITOR THE STANDARD EDITOR IS USED IN
 190500 THE DEMONSTRATION.
 190600

190700 GENERALLY, ONLY THE STATION NAMES IN GEMCOS/FORMATLIB/PATCH NEED
 190800 TO BE CHANGED TO FIT THE DEMONSTRATION TCL TO A PARTICULAR SITE.
 190900 COMPILE THIS PATCH FILE AND GEMCOS/FORMATLIB/TCL TOGETHER USING THE
 191000 GEMCOS/UTILITY AND RUN THE MCS WITH THE RESULTING DATACOM/QUEUE
 191100 FILES.
 191200

191300 AFTER SWITCHING A CONTROL STATION TO GEMCOS, ENABLE ALL AND THEN
 191400 ENTER THE FORMS REQUEST DEMO. GEMCOS WILL RETURN THE FIRST OF THE
 191500 LIBRARY FORMATTED SCREENS AND THE DEMONSTRATION IS SELF EXPLANATORY
 191600 FROM THAT POINT.
 191700

191800 NOTE THAT THE TP, TCL, AND FORMAT LIBRARIES INCLUDED ON THE
 191900 RELEASE TAPE FOR USING FORMATLIBRARIES SERVE ONLY AS EXAMPLES
 192000 AND ARE NOT SUPPORTED BY BURROUGHS.
 192100

192200 *****
 192300

192400 3. UIO

192500 IN ORDER TO RUN GEMCOS ON THE B6900, CERTAIN CHANGES
 192600 WERE NECESSARY DUE TO THE NEW IMPLEMENTATION OF NDL.
 192700 BY COMPILING THE MCS AND UTILITY WITH "\$SET UIO", AN
 192800 MCS AND UTILITY ARE PRODUCED THAT WILL BE COMPATIBLE
 192900 WITH NDLII. NO NDLII REQUEST SET IS PROVIDED WITH THIS
 193000 RELEASE. GEMCOS-NDL CONVENTIONS HAVE NOT CHANGED,
 193100 THEREFORE ANY GEMCOS NDL REQUEST SET TRANSLATED TO
 193200 NDLII SHOULD FUNCTION CORRECTLY.
 193300

193400 4. OPTIONAL INPUT AUDIT

193500 GEMCOS INPUT TRANSACTIONS WERE ALWAYS WRITTEN TO THE GEMCOS
 193600 INPUT AUDIT FILE. THIS IS NECESSARY FOR THOSE TRANSACTIONS
 193700 THAT MAY AT SOME LATER POINT IN TIME TAKE PART IN A RECOVERY,
 193800 I.E., THOSE INPUTS THAT RESULT IN AN UPDATE TO A DMS II
 193900 DATABASE. HOWEVER, THIS AUDITING IS WASTEFUL IN THE CASE OF
 194000 INQUIRY TRANSACTIONS AND OTHER TYPES OF TRANSACTIONS THAT
 194100 DON'T NEED TO BE RECOVERED. THEREFORE, WITH THIS RELEASE,
 194200 THE USER HAS THE OPTION OF SPECIFYING WHETHER SPECIFIC
 194300 INPUTQUEUES ARE TO BYPASS THE GEMCOS INPUT AUDIT TRAIL.
 194400 NOTE THAT THE DEFAULT VALUE FOR ALL QUEUES IS TRUE, THAT
 194500 IS, THAT ALL INPUT FOR THAT QUEUE WILL BE AUDITED.
 194600

194700 TCL SYNTAX:

194800 THE TCL SYNTAX HAS BEEN EXPANDED TO ALLOW THE USER TO
 194900 SPECIFY WHICH INPUTQUEUES WILL NOT BE AUDITED BY GEMCOS.
 195000 INPUT TO THE FORMATGENERATOR IS NO LONGER AUDITED.
 195100

195200 INPUT TO THE CONTROL STACK MAY BYPASS THE DISK AUDIT.
 195300 THE SYNTAX CONTROLLING THIS IS IN THE GLOBAL SECTION
 195400 OF THE USER'S TCL SOURCE DECK.
 195500
 195600
 195700
 195800
 195900
 196000
 196100
 196200
 196300

00190400
 00190500
 00190600
 00190700
 00190800
 00190900
 00191000
 00191100
 00191200
 00191300
 00191400
 00191500
 00191600
 00191700
 00191800
 00191900
 00192000
 00192100
 00192200
 00192300
 00192400
 00192500
 00192600
 00192700
 00192800
 00192900
 00193000
 00193100
 00193200
 00193300
 00193400
 00193500
 00193600
 00193700
 00193800
 00193900
 00194000
 00194100
 00194200
 00194300
 00194400
 00194500
 00194600
 00194700
 00194800
 00194900
 00195000
 00195100
 00195200
 00195300
 00195400
 00195500
 00195600
 00195700
 00195800
 00195900
 00196000
 00196100
 00196200
 00196300

196400		00196400
196500	SYNTAX:	00196500
196600	<GLOBAL STATEMENT>::= . . .	00196600
196700	<CONTROLAUDIT STATEMENT>	00196700
196800	. . .	00196800
196900		00196900
197000	<CONTROLAUDIT STATEMENT>::=<EMPTY>/CONTROLAUDIT=	00197000
197100	<LOGICAL VALUE>.	00197100
197200		00197200
197300	SEMANTICS:	00197300
197400	THE <CONTROLAUDIT STATEMENT> SPECIFIES WHETHER INPUT	00197400
197500	TO THE CONTROL PROGRAM, A SYSTEM-DEFINED PROCESS	00197500
197600	PROGRAM, WILL BE AUDITED IN THE MCS AUDIT TRAIL.	00197600
197700	THE DEFAULT VALUE IS TRUE (ALL INPUTS AUDITED).	00197700
197800		00197800
197900		00197900
198000	INPUT TO ANY INPUTQUEUE MAY BYPASS THE DISK AUDIT.	00198000
198100	THIS IS SPECIFIED IN THE INPUTQUEUE SECTION.	00198100
198200		00198200
198300	SYNTAX:	00198300
198400	<INPUTQUEUE STATEMENT>::=. . .	00198400
198500	<AUDITINPUT STATEMENT>	00198500
198600	. . .	00198600
198700		00198700
198800	<AUDITINPUT STATEMENT>::=<EMPTY>/AUDITINPUT =	00198800
198900	<LOGICAL VALUE>.	00198900
199000		00199000
199100	SEMANTICS:	00199100
199200	ANY INPUTQUEUE WITH AUDITINPUT = FALSE WILL	00199200
199300	BYPASS THE INPUT DISK AUDIT BY THE MCS. THIS WILL	00199300
199400	PRECLUDE ANY RECOVERY, INCLUDING THE RESUBMISSION	00199400
199500	OF TRANSACTIONS THAT CAUSE THE TP TO ABORT, FROM	00199500
199600	OCCURRING FOR THIS INPUTQUEUE. A TCL SYNTAX ERROR	00199600
199700	WILL OCCUR IF THE USER ATTEMPTS TO SPECIFY A QUEUE	00199700
199800	AS RECOVERABLE, ARCHIVAL, OR DUPLICATELY AUDITED	00199800
199900	AS WELL AS NON-AUDITED. THE DEFAULT VALUE IS TRUE.	00199900
200000		00200000
200100		00200100
200200	5. ATTACH COMMAND	00200200
200300		00200300
200400		00200400
200500	A "?ATTACH" SYSTEM CONTROL MESSAGE HAS BEEN IMPLEMENTED.	00200500
200600		00200600
200700	SYNTAX:	00200700
200800		00200800
200900	<CONTROL REQUEST> ::= ...	00200900
201000	<ATTACH REQUEST>	00201000
201100	...	00201100
201200		00201200
201300	<ATTACH REQUEST> ::= ATTACH <ATTACH SPECIFICATION LIST>	00201300
201400		00201400
201500	<ATTACH SPECIFICATION LIST> ::= <ATTACH SPECIFICATION> /	00201500
201600	<ATTACH SPECIFICATION LIST>	00201600
201700	<ATTACH SPECIFICATION>	00201700
201800		00201800
201900	<ATTACH SPECIFICATION> ::= <STATION SPECIFICATION> /	00201900
202000	<LINE SPECIFICATION> /	00202000
202100	<DCP SPECIFICATION>	00202100
202200		00202200
202300	SEMANTICS:	00202300

THE ATTACH COMMAND ALLOWS THE USER TO ATTACH STATIONS WHICH ARE NO LONGER ATTACHED BECAUSE OF A DCP DS OR A RECONFIGURATION.

EXAMPLES:

?ATTACH S(1),S TD2; % THIS WILL ATTACH STATION 1 AND STATION TD2.

?ATTACH L(0:1:1); % THIS WILL ATTACH ALL STATIONS ON THE SPECIFIED LINE.

?ATTACH DCP(0); % THIS WILL ATTACH ALL STATIONS THAT WERE ON DCP(0) BEFORE ANY RECONFIGURATIONS WERE DONE.

6. OPTIONAL TCL FORMAT COMPILE

THE USER MAY NOW BYPASS THE COMPILATION OF FORMATS WHEN GENERATING GEMCOS DISK QUEUE FILES.

TCL SYNTAX:

THE TCL SYNTAX HAS BEEN EXPANDED TO ALLOW THE USER TO SPECIFY WHETHER OR NOT FORMATS ARE TO BE COMPILED ON THIS TCL COMPILATION. THE APPROPRIATE SYNTAX FOLLOWS:

<CONTROL TASK>::=. . .
NOFORMATS
. . .

<COMPILER OPTION>::=. . .
FORMATS
. . .

SEMANTICS:

TO AVOID FORMAT COMPILATION, THE USER SHOULD DO THE FOLLOWING:

1. SPECIFY "NOFORMATS" ON THE CONTROL CARD.
2. BEFORE THE FIRST FUNCTION/FORMAT IN THE TCL SOURCE DECK, PLACE A "\$SET FORMATS" COMPILER OPTION CARD.
3. FOLLOWING THE LAST FORMAT, PLACE A "\$POP FORMATS" COMPILER OPTION CARD.

THE COMPILER OPTION CARDS WILL HAVE AN EFFECT ONLY IF THE CONTROL CARD HAS "NOFORMATS" SPECIFIED. THE CONTROL CARD "NOFORMATS" WILL HAVE NO EFFECT IF THE COMPILER OPTION CARDS ARE NOT PRESENT.

7. IMPROVED HANDLING OF MTS (INFORMATION CONTAINED HERE SUPERSEDES INFORMATION INCLUDED IN DOCUMENTATION OF

4.10 RELEASE BELOW).

STATIONS WITH TYPE = MT600 ARE TREATED AS MT600
 TERMINALS. ANY MESSAGE FROM THESE STATIONS CONTAINING
 A VALID MT600 HEADER ("DC4 <CHAR> DC1") UNDERGOES
 THE FOLLOWING TRANSFORMATION:

1. THE HEADER IS STRIPPED FROM THE MESSAGE.
2. COMMON[19].[47:8] IS SET TO <CHAR>;
 CONTROLWORDS[8].[43:8] IS SET TO <CHAR>.
3. IF THERE IS A TRAILER ON THE MESSAGE ("DC4 E DC1"),
 IT IS STRIPPED FROM THE MESSAGE AND
 COMMON[19].[39:1] IS SET TO 1 AND
 CONTROLWORDS[8].[44:1] IS SET TO 1.
4. WHEN A MESSAGE IS SENT FROM THE PROGRAM TO A
 STATION OF TYPE = MT600, THE COMMON FIELDS ARE
 CHECKED. IF COMMON[19].[47:8] IS ZERO, NO
 HEADER IS PUT ON THE MESSAGE. OTHERWISE, THE
 HEADER IS PLACED ON THE MESSAGE AND A TRAILER IS
 APPENDED IF COMMON[19].[39:1] IS EQUAL TO 1.

THE NDL FOR THE MT600 TERMINALS SHOULD HAVE THE
 BUFFER/MAXINPUT SIZE SET TO THE BUFFER SIZE OF
 THE MT600 IN ORDER FOR GEMCOS TO HANDLE THESE
 TERMINALS CORRECTLY. PAGE SIZE AND WIDTH CAN BE
 SET TO THE STANDARD TD830 SETTINGS SO THAT THE
 TERMINAL BEHAVES NICELY AS A CANDE TERMINAL.
 CHANGES ARE NECESSARY TO THE NDL REQUEST SETS
 WHEN HANDLING MT600'S TO PREVENT THE NDL FROM
 ADDING CONTROL CHARACTERS TO THE MESSAGE OR
 STRIPPING MT600 CONTROL CHARACTERS FROM THE MESSAGE.

8. PATCHES TO FORMATGENERATOR

IN ORDER TO USE THE 2.00 RELEASE OF FORMATGENERATOR
 (MCF200) WITH THE 5.00 GEMCOS RELEASE, THE
 FOLLOWING PATCHES MUST BE APPLIED TO THE
 FORMATGENERATOR. THESE ARE IN ADDITION TO THE
 PATCHES LISTED BELOW IN SECTION B.3. THAT IS, BOTH
 SETS OF PATCHES MUST BE APPLIED TO MCF200 TO BE
 COMPATIBLE WITH GEMCOS RELEASE 5.00

PATCHES:

88050	P=POINTER#,
88100	SIZ = 8#,
88150	SPOEND = 4"00" FOR 1#,
342070	SEQLINKS [0:7],
347100	LIBFORMATDECLARED,
353100	ERRSEQPOINT, % POINTER TO LAST ERROR
698100	ERRSEQPOINT:=POINTER(SEQLINKS[6],SIZ); %
1578100	ARRAY JUNK[0:4];
1593100	SEQLINKS[0] := CARDSEQ ;
1806000	FDKEY[I] = FMT[I*4].[37:16]#,

C. NEW FEATURES - 4.10 RELEASE ::::::::::::::::::::::::::::::::::

1. TERMINAL INTERFACES

A STATION TYPE STATEMENT IS NOW AVAILABLE. THIS DETERMINES HOW THE STATION IS TREATED BY GEMCOS. THE DEFAULT VALUE OF THIS ATTRIBUTE IS "STANDARD". THIS MEANS THAT THE STATION WILL NOT BE TREATED IN ANY SPECIAL MANNER BY GEMCOS.

SYNTAX:

<STATION STATEMENT> ::= <TYPE STATEMENT>

<TYPE STATEMENT> ::= <EMPTY> / TYPE = <TYPE VALUE>.

<TYPE VALUE> ::= STANDARD / AP300 / MT600

SEMANTICS:

THIS NEW FEATURE ALLOWS A USER TO INTERFACE TO THE AP300 AND MT600 TYPE TERMINALS. IF THE STATEMENT IS OMITTED OR "STANDARD", THE STATION IS TREATED AS IT WAS TREATED IN GEMCOS 4.00.

IF THE TYPE = AP300, THE STATION IS TREATED AS AN AP300 TERMINAL. ANY STATUS MESSAGE FROM THE STATION IS STORED IN THE STATION TABLES. THE LAST STATUS RECEIVED IS DISPLAYED AS A RESULT OF A NETWORK CONTROL "?STATUS" REQUEST FOR THE STATION. ALTERNATELY, THE USER HAS THE OPTION OF WRITING A PROGRAM TO HANDLE STATUS MESSAGES FROM THE AP300. A NEW PROGRAM STATE- HAS BEEN IMPLEMENTED:

SYNTAX:

<PROGRAM STATEMENT> ::= <AP300STATUS STATEMENT>

<AP300STATUS STATEMENT> ::= <EMPTY> /
AP300STATUS = <LOGICAL VALUE>.

SEMANTICS:

WHEN A STATUS IS RECEIVED FROM THE AP300, IT WILL BE ROUTED TO THE PROGRAM IN THE SYSTEM FOR WHICH AP300STATUS EQUALS TRUE. IF NO PROGRAM IS DEFINED IN THE SYSTEM WITH THIS VALUE EQUAL TO TRUE, THE MESSAGE IS HANDLED AS DESCRIBED IN THE DISCUSSION ABOVE. ONLY ONE OF THESE PROGRAMS MAY BE DEFINED PER GEMCOS SYSTEM.

IF THE TYPE = MT600, THE STATION IS TREATED AS AN MT600 TERMINAL. ANY MESSAGE CONTAINING A VALID MT600

00214400
00214500
00214600
00214700
00214800
00214900
00215000
00215100
00215200
00215300
00215400
00215500
00215600
00215700
00215800
00215900
00216000
00216100
00216200
00216300
00216400
00216500
00216600
00216700
00216800
00216900
00217000
00217100
00217200
00217300
00217400
00217500
00217600
00217700
00217800
00217900
00218000
00218100
00218200
00218300
00218400
00218500
00218600
00218700
00218800
00218900
00219000
00219100
00219200
00219300
00219400
00219500
00219600
00219700
00219800
00219900
00220000
00220100
00220200
00220300

HEADER ("DC4 <CHAR> DC1") UNDERGOES THE FOLLOWING TRANSFORMATION: (THIS IS VALID ON THE 4.10 RELEASE - IMPLEMENTATION HAS CHANGED SLIGHTLY ON THE 5.00 RELEASE).

1. THE HEADER IS STRIPPED FROM THE MESSAGE.
2. COMMON[18].[47:8] IS SET TO <CHAR>;
CONTROLWORDS[8].[43:8] IS SET TO <CHAR>.
3. IF THERE IS A TRAILER ON THE MESSAGE ("DC4 E DC1"), IT IS STRIPPED FROM THE MESSAGE AND
COMMON[18].[39:1] IS SET TO 1 AND
CONTROLWORDS[8].[44:1] IS SET TO 1.
4. WHEN A MESSAGE IS SENT FROM THE PROGRAM TO A STATION OF TYPE = MT600, THE COMMON FIELDS ARE CHECKED. IF COMMON[18].[47:8] IS ZERO, NO HEADER IS PUT ON THE MESSAGE. OTHERWISE, THE HEADER IS PLACED ON THE MESSAGE AND A TRAILER IS APPENDED IF COMMON[18].[39:1] IS EQUAL TO 1.

2. "?WHERE" COMMAND

A "?WHERE" SYSTEM CONTROL MESSAGE HAS BEEN IMPLEMENTED.

SYNTAX:

<CONTROL REQUEST> ::= <WHERE REQUEST>

<WHERE REQUEST> ::= WHERE <SYSTEM OPTION> <WHERE OPTION>

<WHERE OPTION> ::= <EMPTY> / <STATION SPECIFICATION> /
<ACCESS KEY>

SEMANTICS:

THIS ALLOWS THE USER TO DETERMINE WHO HAS LOGGED ON AT "SIGNON = TRUE" STATIONS BY SYSTEM, ACCESSKEY, OR STATION.

EXAMPLES:

1. USER1 NOT LOGGED ON IN SYSTEM(1)

ENTER: ?WHERE SYSTEM(1) USER1
RESPONSE: # USER1 NOT ON SYSTEM(1)

2. USER1 LOGGED ON AT STA1 IN SYSTEM(1)

ENTER: ?WHERE SYSTEM(1) USER1
RESPONSE: # STA1(1): USER1

3. FORMAT GENERATOR CHANGES

226400 TO BE COMPATIBLE WITH GEMCOS RELEASE 4.10, THE FOLLOWING
 226500 PATCHES SHOULD BE APPLIED TO THE 2.00 RELEASE OF THE
 226600 FORMATGENERATOR (THE 1.00 RELEASE OF FORMAT GENERATOR IS
 226700 NOT COMPATIBLE WITH GEMCOS 4.00 OR GEMCOS 4.10):
 226800
 226900 37000 MSGOFFSET=COMMONAREA[MESSAGELENGTHWRD].[39:20]#,
 227000 61100 INTCEPTDECCHAR (48"4142434445464748"),
 227100 63100 EXTCEPTDECCHAR (48"7B507CODE06F6C7F"), %% #,&,a,
 227200 CR,?,%, "
 227300 343100 REMORVAR, % CURRENT REPEAT USES REM OR VAR
 227400 825000 UNTIL IN EXTCEPTDECCHAR;
 227500 826000 SCAN MSGINPT FOR I:REM WHILE IN EXTCEPTDECCHAR;
 227600 1835000 IF RESULT:=FORMATTER(PS,PD,JUNK,FMT,TRUE,VARIABLES,
 227700 1835100 USER,STAORIG) THEN
 227800 2085000 IF RESULT:=FORMATTER(PS,PD,JUNK,FMT,INPUT,VARIABLES,
 227900 2085100 USER,STAORIG) THEN
 228000 2326000 UNTIL IN EXTCEPTDECCHAR;
 228100 3131000 SCAN CP FOR L:STOP UNTIL IN INTCEPTDECCHAR;
 228200
 228300
 228400
 228500
 228600

4. MESSAGE SECTION CHANGES

228700 THE TCL MESSAGE SECTION HAS BEEN ENHANCED TO ALLOW THE
 228800 DECLARATION OF MESSAGES FOR "BUSY", "LONOK", AND
 228900 "LOFOK" FOR EACH SYSTEM. THIS ALLOWS ADDITIONAL
 229000 FORMATTING CAPABILITIES TO THOSE USERS NOT USING THE
 229100 GEMCOS FORMATTING MODULE.
 229200

SYNTAX:

229300 <MESSAGE NAME> ::= ... / <BUSY> / <LONOK> / <LOFOK>
 229400

SEMANTICS:

229500 WHEN MESSAGE TEXT IS ASSOCIATED WITH ONE OF THESE
 229600 MESSAGE NAMES IN THE TCL, THAT TEXT IS TRANSMITTED
 229700 TO THE STATION WHEN APPROPRIATE.
 229800

EXAMPLE:

229900 TCL : MESSAGE BUSY = "I AM BUSY RIGHT NOW".
 230000 RESULT : WHEN A TRANSACTIONMODE STATION IN THIS SYSTEM
 230100 IS BUSY, IT WILL RECEIVE THIS MESSAGE IN-
 230200 STEAD OF THE STANDARD GEMCOS "BUSY" MESSAGE.
 230300
 230400

5. CHANGES TO THE INPUTUSERHOOK PROCEDURE

230500 THE INPUTUSERHOOK IS NOW PASSED THE MESSAGEKEY ARRAY
 230600 AS ONE OF ITS PARAMETERS. IN ADDITION, THE "MKE"
 230700 ARRAY CONTAINS THE CURRENT MESSAGEKEY WHEN PASSED TO
 230800 THE INPUTUSERHOOK PROCEDURE.
 230900
 231000

231100 THE SKELETAL PROCEDURE IS NOW AS FOLLOWS:
 231200
 231300

231400 497220 PROCEDURE INPUTUSERHOOK(MSGTEXT,MSGLLENGTH,TRANCODE,INPUTQUEUE,
 231500 497225 STACONV,MKES); %
 231600 497230 VALUE MSGTEXT,%
 231700
 231800
 231900
 232000
 232100
 232200
 232300

00226400
 00226500
 00226600
 00226700
 00226800
 00226900
 00227000
 00227100
 00227200
 00227300
 00227400
 00227500
 00227600
 00227700
 00227800
 00227900
 00228000
 00228100
 00228200
 00228300
 00228400
 00228500
 00228600
 00228700
 00228800
 00228900
 00229000
 00229100
 00229200
 00229300
 00229400
 00229500
 00229600
 00229700
 00229800
 00229900
 00230000
 00230100
 00230200
 00230300
 00230400
 00230500
 00230600
 00230700
 00230800
 00230900
 00231000
 00231100
 00231200
 00231300
 00231400
 00231500
 00231600
 00231700
 00231800
 00231900
 00232000
 00232100
 00232200
 00232300

232400	497240	TRANCODE,%	00232400
232500	497250	MSGLENGTH;%	00232500
232600	497260	POINTER MSGTEXT,%	00232600
232700	497270	TRANCODE;%	00232700
232800	497280	INTEGER MSGLENGTH;%	00232800
232900	497290	ARRAY INPUTQUEUE[0,0];%	00232900
233000	497295	ARRAY STACONV[0];%	00233000
233100	497300	ARRAY MKES[0]; %	00233100
233200	497305	BEGIN%	00233200
233300	497310	POINTER PTEXT;%	00233300
233400	497320	INTEGER LENGTH;%	00233400
233500	497330	SCAN PTEXT:MSGTEXT FOR LENGTH:MSGLENGTH WHILE EQL " " ;%	00233500
233600	497340	IF PTEXT GEQ "1" THEN%	00233600
233700	497350	REPLACE TRANCODE BY PTEXT FOR MIN(23,MSGLENGTH)%	00233700
233800	497360	WHILE GEQ "1","." %	00233800
233900	497370	ELSE IF PTEXT LSS "A" THEN%	00233900
234000	497380	REPLACE TRANCODE BY PTEXT FOR 1,"." %	00234000
234100	497390	ELSE%	00234100
234200	497400	REPLACE TRANCODE BY PTEXT FOR MIN(23,LENGTH)%	00234200
234300	497410	WHILE GEQ "A","." ;%	00234300
234400	497430	END ;%	00234400
234500			00234500
234600			00234600
234700			00234700
234800			00234800
234900			00234900

6. CHANGES TO THE EDITOR PROGRAM INTERFACE

ON RELEASE 4.00 OF GEMCOS, THE EDITOR INTERFACE WAS CHANGED TO AVOID THE NECESSITY OF THE EDITOR SCANNING EACH COMMON ROW. THIS, HOWEVER, PREVENTED THE USER PROGRAM FROM PASSING CONTROL BACK TO AN EDITOR PROGRAM. THE EDITOR PROGRAM, THEREFORE, HAS BEEN CHANGED ON GEMCOS RELEASE 4.10 TO ACCEPT AN ADDITIONAL EVENT. ONE EVENT IS NOW USED BY GEMCOS TO WAKE UP THE EDITOR AND THE OTHER EVENT IS PASSED TO THE USER PROGRAM AND ALLOWS IT TO WAKE UP THE EDITOR.

A DCALGOL EDITOR PROGRAM WOULD THUS BEGIN:

```

PROCEDURE EDITOR(MASTEREVENT,MYEVENT,USERTOMEVENT,USEREVENT
,COMMONROWS,WORKQUEUE,FORMATTER,EDTDSC %
); %
EVENT MASTEREVENT,           % WAKES UP PROCESSEVERYTHING
MYEVENT,                     % WAKES ME UP FROM MCS
USERTOMEVENT;                % WAKES ME UP FROM USER
EVENT ARRAY USEREVENT[0];    % WAKES UP VARIOUS USERS
ARRAY COMMONROWS[0,0];       % MEMORY SHARED WITH USERS
QUEUE ARRAY WORKQUEUE[0];    % WHERE INPUT MSGS COME FROM
ARRAY EDTDSC[0];             % SCANNED FOR MY CONROLBIT
BOOLEAN PROCEDURE FORMATTER(MSG,DEST,JUNK,SLENGTH,
DLENGTH,COMMON);

VALUE JUNK;
ARRAY MSG[0], % SOURCE TO FORMAT
COMMON[0],% COMMON ROW
DEST[0]; % DEST OF FORMATTED MSG
INTEGER JUNK, % OFFSET TO DEST
SLENGTH, % SOURCE LENGTH IN CHAR
DLENGTH; % DEST LENGTH IN CHAR
FORMAL;

```

D. PATCHES TO 5.00 RELEASE ::::::::::::::::::::::::::::::::::

FOLLOWING IS A DESCRIPTION OF ALL PATCHES TO GEMCOS RELEASE
5.00 CONTAINED IN THIS 5.10 RELEASE. ALL PATCHES APPLY TO
THE TOTAL VERSION OF GEMCOS. NOT ALL PATCHES APPLY TO THE
ADVANCED AND BASIC VERSIONS OF GEMCOS.

- #001 - THIS PATCH DISALLOWS ASSIGN FROM ROUTEHEADER STATIONS.
- #002 - THIS PATCH CONTAINS FIXES FOR BTHIS CODE.
- #003 - THIS PATCH OMITTS THE CODE THAT DISPLAYS THAT AN
"REMLPNN" FILE HAS BEEN CREATED. THE FILE IS REMOVED
IF IT IS RESIDENT. THE USER MAY LABEL EQUATE FILE REMLP
TO THE APPROPRIATE PACK IF BACKUP SUBSTITUTION IS USED.
- #004 - THIS PATCH FIXES BLOCKING OF INPUT AND OUTPUT
MESSAGES TO THE MT600 TERMINAL.
- #005 - THIS PATCH REMOVES LEADING BLANKS FROM TCL DEFINES.
- #006 - THIS PATCH CHANGES THE PRIORITIES OF THE MCS
STACKS TO THE FOLLOWING:
 - BACKUP - 80 CONTROL - 60
 - OUTPUT - 70 PROCESSEVERYTHING - 70
- #007 - THIS PATCH FIXES THE DATACOM DUMP FEATURE.
- #008 - THIS PATCH FIXES A FEW MORE PLACES WHERE THINGS
WERE SENT TO THE SPOS INSTEAD OF TO THE MONITORS
- #009 - THIS PATCH SETS UP THE STA FIELD IN THE OUTPUT RECORD TO
THE CORRECT VALUE ON A NULL OUTPUT AND THUS ELIMINATES
THE WASTING OF OUTPUT AUDIT SPACE.
- #010 - REARRANGE STATION TABLE AND IMPROVE STATION LOCKING TO
PREVENT CONFLICTS.
- #011 - THIS PATCH CORRECTS SENDMESSAGE TO USE A STATION
INDEX FOR LINKING OUTPUT INSTEAD OF AN AREA INDEX,
THUS AVOIDING WRITING EXTRA, UNUSED RECORDS TO THE
OUTPUT AUDIT FILE
- #012 - THIS PATCH REFINES THE DATACOM DUMP FEATURE TO
CAUSE THE RESTART TP FOR EACH SYSTEM TO BE
PROCESSED AT THE START OF THE DATACOM DUMP.
IT DELETES RESTART ENTRIES AND GOES TO END
OF JOB.
- #013 - SEND WAIT-FOR-AUDIT OUTPUT TO THE OBJECT JOB AND NOT TO
THE REAL STATION.
- #014 - INCREASE OUTPUT STACKSIZE TO PREVENT STACK OVERFLOW IN
MONITOR AND FORMATTING
- #015 - THIS PATCH ASSURES THAT THE ASSIGN REPLY IS SENT
TO THE STATION BEFORE ANY RESPONSE FROM THE

00238400
00238500
00238600
00238700
00238800
00238900
00239000
00239100
00239200
00239300
00239400
00239500
00239600
00239700
00239800
00239900
00240000
00240100
00240200
00240300
00240400
00240500
00240600
00240700
00240800
00240900
00241000
00241100
00241200
00241300
00241400
00241500
00241600
00241700
00241800
00241900
00242000
00242100
00242200
00242300
00242400
00242500
00242600
00242700
00242800
00242900
00243000
00243100
00243200
00243300
00243400
00243500
00243600
00243700
00243800
00243900
00244000
00244100
00244200
00244300

244400	ASSIGNED-TO PROGRAM IS SENT.	00244400
244500		00244500
244600	#016 - THIS PATCH FIXES UPDATE PAGING.	00244600
244700		00244700
244800	#017 - THIS PATCH ENHANCES THE QUEUE SIZE INFORMATION	00244800
244900	DISPLAYED AT BOJ AND AT SYSTEM STATUS REQUESTS	00244900
245000	FOR A CONTINUOUS PROCESSING MCS.	00245000
245100		00245100
245200	#018 - IMPROVE CHECK TO TAKE STATION OUT OF TRANSACTION MODE	00245200
245300		00245300
245400	#019 - CHANGE TCL MESSAGES TO AVOID CONFLICTS:	00245400
245500	BUSY - BUSYMESSAGE	00245500
245600	LONOK - LOGONOK	00245600
245700	LOFOK - LOGOFFOK	00245700
245800		00245800
245900	#020 - FIX SIZING OF STATION BITS TABLE	00245900
246000		00246000
246100	#021 - SET CORRECT PROGRAM CONTROL WORD TO STATION BITS	00246100
246200		00246200
246300	#022 - FIX ACCUMULATION OF MESSAGE IN TP TO TP WITH NO WAIT	00246300
246400		00246400
246500	#023 - FIX INVALID INDEX CAUSED BY FORMAT FILE HAVING MULTIPLE	00246500
246600	RECORD FORMATS.	00246600
246700		00246700
246800	#024 - FIX CHECKING DURING RECOVERY FOR OUTPUT SENT.	00246800
246900		00246900
247000	#025 - FIX INVALID INDEX WHEN DEST TP SENDS RESPONSE TO	00247000
247100	ORI TP THAT IS NOT RUNNING	00247100
247200		00247200
247300	#026 - INSURE TASK IS STILL IN MIX BEFORE USING TASK INDEX	00247300
247400		00247400
247500	#027 - FIX UTILITY DIRECTORY	00247500
247600		00247600
247700	#028 - INSURE THAT THE IQUSTP POINTER ON ALL RECORDS FROM	00247700
247800	IQUBOT TO IQUTOP AFTER A DC DUMP IS VALID. IQUSTP	00247800
247900	IS SET TO THE STATOP OF THE ORI STA AND THE RECORD	00247900
248000	IS REWRITTEN	00248000
248100		00248100
248200	#029 - IMPLEMENT III.2 PORTS AND SUBPORTS FOR COMMUNICATION TO	00248200
248300	TP'S INSTEAD OF III.1 PORTS AND SIGNALS. IMPLEMENT NEW	00248300
248400	COMMONAREA FORMAT (COMPATIBLE WITH COBOL 74). SEE THE	00248400
248500	DETAILED EXPLANATION IN THE 5.10 NEW FEATURES SECTION.	00248500
248600		00248600
248700	#030 - FIX INPUT QUEUE LINKAGE ERROR WHEN TP TO TP WITH	00248700
248800	WAIT MESSAGE IS SENT FROM A PROGRAM WITH A NON-	00248800
248900	AUDITED INPUT QUEUE.	00248900
249000		00249000
249100	#031 - FIX FUNCTIONS SO THAT PROPER ONE IS INVOKED	00249100
249200	BY THE MCS AND SO THAT THE UTILITY HANDLES	00249200
249300	25 FUNCTION DEFINITIONS PROPERLY.	00249300
249400		00249400
249500	#032 - RE-IMPLEMENT "OLD STYLE" ROUTEHEADERS (DE-IMPLEMENTED IN	00249500
249600	RELEASE 5.00).	00249600
249700		00249700
249800	#033 - IMPROVE LOCKING OF CRITICAL PROGRAM AND INPUTQUEUE	00249800
249900	INFORMATION	00249900
250000		00250000
250100	#034 - FIX PAGING TO A ROUTING HEADER STATION	00250100
250200		00250200
250300	#035 - IMPLEMENT A PORT STATION TO ALLOW GEMCOS TO GEMCOS AND	00250300

250400 GEMCOS TO PROGRAM COMMUNICATION ACROSS A BNA NETWORK.
250500
250600 #036 - ALLOW STATUS OF AN AREA (GIVES STATUS OF ALL STATIONS
250700 IN THE AREA).
250800
250900 #037 - THIS PATCH FIXES THE ENABLING AND DISABLING OF
251000 GLOBAL PROGRAMS (ADMIN,RECALL,FORMATGENERATOR)
251100
251200 #038 - TCL DICTIONARY AND ERROR CHANGES.
251300
251400 #039 - CORRECT HANDLING OF NEWTAPE BY UTILITY.
251500
251600 #040 - DISABLE STATION BEFORE RECALL.
251700
251800 #041 - FIX FORMAT LIBRARY PAGING.
251900
252000 #042 - FIX DEALLOCATE OF RECORDS IN DUMP DATACOM SO THAT
252100 A RESTARTED DUMP WILL DO CORRECT DEALLOCATION
252200
252300 #043 - FIX LOOPS IN MCS AND UTILITY WHEN USING THE
252400 CONVERSATIONAL FEATURE
252500
252600 #044 - ZERO OUT MESSAGE BEFORE INSERTING IN THE SIZE8QUEUE
252700
252800 #045 - DO NOT DISPLAY USERCODE/PASSWORD WHEN DISPLAYING
252900 PROGRAM TITLE
253000
253100 #046 - FIX HANDLING OF DISCONNECT AND SWITCHED STATUS
253200 RESULTS
253300
253400 #047 - PATCH TO RESTART PROGRAM TO CREATE A COBOL74,
253500 PORT RESTART PROGRAM
253600
253700 #048 - FORMATGENERATOR FIXES
253800
253900 #049 - RESET RESIDENT BOOLEAN WHEN USING FORMATLIBRARIES
254000
254100 #050 - FIX HANDLING SECONDARY MESSAGES
254200
254300 #051 - PATCH TO EDITOR TO HANDLE NEW PORT INTERFACE.
254400
254500 #052 - FIX OUTPUT LINKAGE ERRORS WHEN SENDING BLOCKED OUTPUT TO
254600 ALTERNATE STATIONS.
254700
254800 #053 - FIX INCORRECT SETTING OF IQUBSY.
254900
255000 #054 - ALLOW A DEFINE AS A PARAMETER TO A DEFINE.
255100
255200 #055 - FIX EXCHANGE DCP AND HANDLING OF CLUSTER EXCHANGE RESULT.
255300
255400 #056 - FIX UTILITY TO NOT PROCESS PATCH CARDS WHEN VOID,
255500 VOIDT, OR NOFORMATS CARD IS IN FORCE
255600
255700 #057 - REMOVE EXCESS BLANK LINES FROM A DUMP OF QUEUE FILES.
255800
255900 #058 - IMPROVE MSG RESIZE.
256000
256100 #059 - FIX INITIALIZE SO THAT ON HALT LOAD RECOVERY OQUNXT
256200 WILL NOT BE SET TO THE KEY OF THE RECORD
256300

00250400
00250500
00250600
00250700
00250800
00250900
00251000
00251100
00251200
00251300
00251400
00251500
00251600
00251700
00251800
00251900
00252000
00252100
00252200
00252300
00252400
00252500
00252600
00252700
00252800
00252900
00253000
00253100
00253200
00253300
00253400
00253500
00253600
00253700
00253800
00253900
00254000
00254100
00254200
00254300
00254400
00254500
00254600
00254700
00254800
00254900
00255000
00255100
00255200
00255300
00255400
00255500
00255600
00255700
00255800
00255900
00256000
00256100
00256200
00256300

256400	#060 - FIX ENABLE OF SPO.	00256400
256500		00256500
256600	#061 - ALLOW A CONTROL STATION TO CHANGE THE MODE OF ANOTHER	00256600
256700	STATION.	00256700
256800		00256800
256900	#062 - REMOVE ALL REFERENCES TO BCL.	00256900
257000		00257000
257100	#063 - ALLOW UPDATING OF A FORMAT TO MAKE IT EXACTLY THE SAME AS	00257100
257200	THE ORIGINAL.	00257200
257300		00257300
257400	#064 - FIX RECOVERY AFTER MULTIPLE TP TO TP & WAIT TRANSACTIONS.	00257400
257500		00257500
257600	#065 - FIX TP TO TP TRANSACTION WHEN DESTINATION TP IS NOT	00257600
257700	PRESENT	00257700
257800		00257800
257900	#066 - ON UPDATEFMT TCL COMPILE, SCAN ONLY THROUGH THE	00257900
258000	GLOBAL SECTION	00258000
258100		00258100
258200	#067 - CORRECT FINDING OF HIGH DBSN DURING RECOVERY.	00258200
258300		00258300
258400	#068 - CORRECT SETTING OF CONTROL WORDS FOR INVALID	00258400
258500	MESSAGES PROGRAM TO AGREE WITH MANUAL	00258500
258600		00258600
258700	#069 - FIX INVALID INDEX WHEN OBJECTJOB USES NOLINE STATION.	00258700
258800		00258800
258900	#070 - FIX PRINTING OF STATION MESSAGE KEYS IN UTILITY	00258900
259000	QUEUE LIST.	00259000
259100		00259100
259200	#071 - REMOVE USE OF BIT 47 IN TP TO TP SEC CHECK FOR 5900	00259200
259300		00259300
259400	#072 - FIX CORRUPTION OF WORD 0 OF MESSAGES WHICH DO NOT CONTAIN	00259400
259500	A LSN.	00259500
259600		00259600
259700	#073 - ALLOW SPECIFICATION OF NULL FORMSCOMPOSE.	00259700
259800		00259800
259900	#074 - MAKE MAXIMUM REMARKS LENGTH 95 CHARACTERS.	00259900
260000		00260000
260100	#075 - ALLOW CLEARING OF STARCVC BIT FOR SPO	00260100
260200		00260200
260300	#076 - DO NOT CUT BACK MASTER COPY OF A TP IN DYNAMIC VOLUME	00260300
260400	CONTROL.	00260400
260500		00260500
260600	#077 - MOVE TP DECLARATIONS TO OUTER BLOCK OF GEMCOS SO THAT	00260600
260700	PROCESSEVERYTHING MAY BE RUN IN A LOCAL BOX OF A GLOBAL	00260700
260800	MEMORY SYSTEM.	00260800
260900		00260900
261000	#078 - GEMCOS NOW GOES TO EOJ WHEN DCP IS DS'ED.	00261000
261100		00261100
261200	#079 - FIX COMPILE FORMATS BY UTILITY AND FORMATGENERATOR SO	00261200
261300	THAT MISSING COMMAS GENERATE SYNTAX ERRORS.	00261300
261400		00261400
261500	#080 - FIX ARRAY TOO LARGE PROBLEM IN MCS WHEN TOTAL OF MAXUSERS	00261500
261600	HAD CERTAIN VALUES.	00261600
261700		00261700
261800	#081 - FIX SEG ARRAY ERROR IN UTILITY WHEN PAREN IS MISSING IN	00261800
261900	PARAMETERIZED DEFINE.	00261900
262000		00262000
262100	#082 - CORRECT INPUT BLOCKING.	00262100
262200		00262200
262300	#083 - FIX RESPONSES TO ACCESS PROGRAM DOING CERTAIN SYSTEM	00262300

262400 CONTROL MESSAGES.

262500

262600 #084 - FIX UPDATING OF ACCESS KEYS WHEN NONE HAVE BEEN DECLARED.

262700

262800 #085 - SEND OUT ONLY ONE DC DUMP MESSAGE DURING A RECOVERY.

262900

263000 #086 - CORRECT SETTING OF RECOVERY FIELD FOR TPS TP AFTER

263100 HALT LOAD.

263200

263300 #087 - FIX INVALID INDEX IN INITIALIZE CAUSED BY MULTIPLE RECORD

263400 FUNCTIONS.

263500

263510 #088 - CAUSE WAIT FOR AUDIT PROGRAMS AUDIT EVENT DURING

263520 ARCHIVAL RECOVERY.

263530

263600 E. PATCHES TO 4.10 RELEASE ::::::::::::::::::::::::::::::::::::::

263700

263800

263900 FOLLOWING IS A DESCRIPTION OF ALL PATCHES TO GEMCOS RELEASE

264000 4.10 CONTAINED IN THIS 5.00 RELEASE. ALL PATCHES APPLY TO

264100 THE TOTAL VERSION OF GEMCOS. NOT ALL PATCHES APPLY TO THE

264200 ADVANCED AND BASIC VERSIONS OF GEMCOS.

264300

264400

264500 #001 RESET INDICATORS IN BACKUP STACK CYCLE

264600

264700 #002 ALL TCL DICTIONARY CHANGES ARE IN THIS PATCH

264800

264900 #003 IMPLEMENT OPTIONAL TCL FORMAT COMPILE - SEE NEW FEATURES

265000 DOCUMENTATION ABOVE

265100

265200 #004 IMPROVE MTS IMPLEMENTATION; SET BITS IN COMMON[19]

265300 INSTEAD OF COMMON[18] TO AVOID TRAN STATE BIT CONFLICT

265400

265500 #005 MESSAGE AREA CLEARED OUT BEFORE SIMULATING A QUIT MSG

265600

265700 #006 ALLOW DIALIN TO GET QUEUED OUTPUT SPONTANEOUSLY

265800

265900 #007 PREVENT INACTIVESTATION FROM STOPPING EOJ

266000

266100 #008 REPLACE STATEMENT INADVERTENTLY DELETED FROM 400

266200 WHICH GAVE 2 ROUTING HEADERS & TRUNCATED MESSAGE

266300 WHEN USER SUPPLIED ROUTING HEADER.

266400

266500 #009 MCS NO LONGER ENABLES A LINE AFTER AN ADAPTER FAULT

266600

266700 #010 ALIGNMENT, GENERAL CLEANUP, ETC.

266800

266900 #011 FIX AUTORECOVERY TO ONLY TEST FOR TASK STATUS OF -1

267000 AND TO TEST THE CORRECT BITS OF TASKVALUE TO AVOID

267100 RECOVERY. ALSO ALLOW AUTORECOVERY SYSTEMS TO BE

267200 AUTOMATICALLY ENABLED AFTER A HALT LOAD.

267300

267400 #012 FIX 2 PLACES IN INPUT WHERE LOCK IS REQUIRED AND WASN'T

267500 BEING DONE ON STATION DESCRIPTORS

267600

267700 #013 PATCHES RELATED TO PERFORMANCE IMPROVEMENT

267800

267900 #014 SET STAQUE = 0 ON FLUSH OF OUTPUT TO STATION

268000

00262400

00262500

00262600

00262700

00262800

00262900

00263000

00263100

00263200

00263300

00263400

00263500

00263510

00263520

00263530

00263600

00263700

00263800

00263900

00264000

00264100

00264200

00264300

00264400

00264500

00264600

00264700

00264800

00264900

00265000

00265100

00265200

00265300

00265400

00265500

00265600

00265700

00265800

00265900

00266000

00266100

00266200

00266300

00266400

00266500

00266600

00266700

00266800

00266900

00267000

00267100

00267200

00267300

00267400

00267500

00267600

00267700

00267800

00267900

00268000

268100	#015 SET UP IQUMKY FIELD FOR PROGRAMS ON TP TO TP AND FOR	00268100
268200	CASES WHERE STATION IS ASSIGNED TO A PROGRAM	00268200
268300		00268300
268400	#016 DO NOT SET OQUHLD FOR PRIMARY OUTPUT	00268400
268500		00268500
268600	#017 RESTART PATCH TO IMPROVE CLEAR RESTART OPTION	00268600
268700		00268700
268800	#018 MCS PATCH TO IMPROVE CLEAR RESTART OPTION	00268800
268900		00268900
269000	#019 IMPLEMENTATION OF FORMATLIBRARIES - SEE WRITEUP IN NEW	00269000
269100	FEATURES SECTION	00269100
269200		00269200
269300	#020 FIXES TO RECOVERY	00269300
269400		00269400
269500	#021 FIXES TO DATACOM DUMP FEATURE	00269500
269600		00269600
269700	#022 FIX UTILITY LISTING OF CANNED MESSAGES	00269700
269800		00269800
269900	#023 FIXES TO FORMAT AND FUNCTION COMPILING AND INTERPRETING	00269900
270000		00270000
270100	#024 FIX UTILITY DUMP QUEUE ROUTINE	00270100
270200		00270200
270300	#025 PASS MORE INFORMATION TO ACCESS CONTROL PROGRAM AS TO	00270300
270400	WHY AN ACCESS FAILED. VALID VALUES ARE:	00270400
270500	143 - UNDEFINED ACCESSKEY	00270500
270600	144 - ACCESSKEY NOT ALLOWED AT STATION	00270600
270700	145 - TOO MANY USERS	00270700
270800	146 - USER ALREADY LOGGED ON	00270800
270900	147 - SOMEONE ELSE ALREADY LOGGED ON	00270900
271000	148 - STATION IS ASSIGNED	00271000
271100		00271100
271200	#026 HANDLE MULTIPLE DCPS BEING DSED	00271200
271300		00271300
271400	#027 SET UP USERCODE CORRECTLY FOR TASK	00271400
271500		00271500
271600	#028 IMPROVE BATCH HANDLING	00271600
271700		00271700
271800	#029 SEND AREA MESSAGE ONLY TO STATIONS IN THAT AREA	00271800
271900		00271900
272000	#030 IMPLEMENT ATTACH COMMAND	00272000
272100		00272100
272200	#031 IMPROVE ALTERNATE STATION HANDLING	00272200
272300		00272300
272400	#032 FIX INTERCEPT OF MULTIPLE RECORD INPUTS	00272400
272500		00272500
272600	#033 IMPROVE HANDLING OF IO ERRORS	00272600
272700		00272700
272800	#034 IMPROVE HANDLING OF IO ERRORS DURING RECOVERY	00272800
272900		00272900
273000	#035 FIX STATION CLEAR	00273000
273100		00273100
273200	#036 FIXES TO PROGRAM CLASS/SUBCLASS	00273200
273300		00273300
273400	#037 FIX RESET OF "STATION BUSY" BIT	00273400
273500		00273500
273600	#038 ENHANCE INPUT USER HOOK	00273600
273700		00273700
273800	#039 NEW FEATURE TO ALLOW USER TO SPECIFY WHICH INPUT QUEUES	00273800
273900	WILL BYPASS DISK AUDIT - SEE NEW FEATURES DOCUMENTATION	00273900
274000	ABOVE	00274000

274100		00274100
274200	#040 ALLOW MONITOR CODE IN PAGER STACK	00274200
274300		00274300
274400	#041 FIX OMIT CARDS IN READ SYSTEM TABLES PROCEDURE	00274400
274500		00274500
274600	#042 FIX VARIOUS TCL COMPILER SCANS	00274600
274700		00274700
274800	#043 FIX LOG OFF CODE	00274800
274900		00274900
275000	#044 FIX HANDLING OF STATION BITS	00275000
275100		00275100
275200	#045 CHANGES NECESSARY TO RUN ON UIO MACHINE	00275200
275300		00275300
275400	#046 FIX SETTING OF COMMON INDEX	00275400
275500		00275500
275600	#047 IMPROVE IQU SEARCH IN TP TO TP	00275600
275700		00275700
275800	#048 FIX IQUBSY BY UNSOLICITED OUTPUT FROM PROCESS TP	00275800
275900		00275900
276000	#049	00276000
276100		00276100
276200	#050 UPDATE REQUEST SET AFTER RECONFIGURATION	00276200
276300		00276300
276400	#051 FIX INV INDEX IN GETMESSAGE AFTER TRANSMISSION ERROR	00276400
276500		00276500
276600	#052 FIX SETTING UP OF CONVERSATION ON TP TO TP MESSAGE	00276600
276700		00276700
276800	#053 HOST TO HOST ROUTING - SEE ROUTEHEADER DOCUMENTATION ABOVE	00276800
276900		00276900
277000	#054 IMPROVE ERROR RESPONSES TO SWITCH REQUEST	00277000
277100		00277100
277200	#055 FIX HANDLING OF INTERCEPT	00277200
277300		00277300
277400	#056 FIX SEND MESSAGE TO VALIDATE DESTINATION	00277400
277500		00277500
277600	#057 IMPROVE PAGER BLOCKING OF INPUT MESSAGES	00277600
277700		00277700
277800	#058 FIX MCS SO THAT TEST IS DONE ON QUEUE.ACTIVE BEFORE FLUSH	00277800
277900		00277900
278000	#059 INCREASE SIZE OF OUTPUT STACK SIZE ESTIMATES WHEN MONITOR	00278000
278100	AND FORMATTING ARE USED	00278100
278200		00278200
278300	#060 FIX TCL COMPILER HANDLING OF DEFINES	00278300
278400		00278400
278500	#061 FIX TCL COMPILER SO THAT USERCODE ACCEPTED ON \$PATCH CARD	00278500
278600		00278600
278700	#062 PREVENT IO ERROR IN THE CASE OF A PROCESS TP SENDING AN	00278700
278800	UNSOLICITED PRIMARY OUTPUT	00278800
278900		00278900
279000	#063 CORRECT LOGIC IN PROCESSEVERYTHING THAT PREVENTED TP'S	00279000
279100	FROM BEING FIRED UP AS QUICKLY AS POSSIBLE	00279100
279200		00279200
279300	#064 FIX HANDLING OF FORMS REQUEST TO USE THE LOCAL ARRAY	00279300
279400	INSTEAD OF THE MESSAGE AREA TO BUILD A RESPONSE	00279400
279500		00279500
279600	#065 FIX TWO MORE PLACES WHERE MESSAGES BEING SENT TO SPOS	00279600
279700	INSTEAD OF TO THE MONITORS	00279700
279800		00279800
279900	#066 MARK MESSSAGES SIDEWAYS LINKED IN TO THE OUTPUT QUEUES.	00279900
280000	THIS CORRECTS SEVERAL LINKING PROBLEMS, ESPECIALLY IN	00280000

280100	THE DATA COMM DUMP IMPLEMENTATION	00280100
280200		00280200
280300	#067 OUTPUT NOW USES THE GLOBAL CLOCKEVENT ARRAY AND SO IS	00280300
280400	NO LONGER PROCESSED WITH A CLOCK PARAMETER	00280400
280500		00280500
280600	#068 ENHANCE THE "?WHERE" NETWORK CONTROL COMMAND TO	00280600
280700	INCLUDE IN THE RESPONSE THE SYSTEM IN WHICH THE	00280700
280800	USER IS LOGGED ON IF NO SYSTEM IS SPECIFIED IN	00280800
280900	THE REQUEST	00280900
281000		00281000
281100	#069 SET OQUPRM ON THE PRIMARY OUTPUT OF ALL TP'S, NOT	00281100
281200	JUST FOR RECOVERABLE ONES	00281200
281300		00281300
281400	#070 FIX SITUATION WHERE A ROW OF COMMON IS ALLOCATED FOR	00281400
281500	A PROGRAM BEFORE IT'S CURRENT ROW IS DEALLOCATED.	00281500
281600		00281600
281700		00281700
281800		00281800
281900	F. PATCHES TO 4.00 RELEASE ::::::::::::::::::::::::::::::	00281900
282000		00282000
282100		00282100
282200	FOLLOWING IS A DESCRIPTION OF ALL PATCHES TO GEMCOS RELEASE	00282200
282300	4.00 CONTAINED IN THE 4.10/5.00 RELEASES. ALL PATCHES APPLY TO	00282300
282400	THE TOTAL VERSION OF GEMCOS. NOT ALL PATCHES APPLY TO THE	00282400
282500	ADVANCED AND BASIC VERSIONS OF GEMCOS.	00282500
282600		00282600
282700		00282700
282800	#001 FIX TCL TO CHECK FOR MAXIMUM OF 3 QUEUES PER USER PROGRAM	00282800
282900		00282900
283000	#002 FIX MAXIMUM STATION NUMBER SO IT'S THE SAME FOR REAL AND	00283000
283100	SWITCH STATIONS	00283100
283200		00283200
283300	#003 FIX SO THAT OBJECT JOB DOES NOT CAUSE STATION TO BE	00283300
283400	PUT IN RCV	00283400
283500		00283500
283600	#004 FIX INVALID INDEX IN INPUTUSERHOOK WHICH OCCURS WHEN THERE	00283600
283700	ARE NO CONVERSATIONAL STATIONS. ALSO PASS MESSAGEKEYS	00283700
283800	ARRAY TO PROCEDURE AND PROCESS IT FOR TP TO TP.	00283800
283900		00283900
284000	#005 FIX SO SETTING OF STAWTG DONE WITHIN LOCK WITH PROHLD	00284000
284100		00284100
284200	#006 RETURN ERROR IF DUMP DATACOM NETWORK CONTROL COMMAND	00284200
284300	ENTERED ON NON-CONTINUOUS PROCESSING MCS	00284300
284400		00284400
284500	#007 FIX ARCHIVAL DUMP OF MULTIPLE RECORD NON-RECOVERABLE INPUTS	00284500
284600		00284600
284700	#008 FIX OUTPUT TO SET INTERNAL FORMAT ATTRIBUTES (FMTPAG,	00284700
284800	ETC) BASED ON THE TESTED OR PATCHED (FOR PRACTICE STAS)	00284800
284900	FORMATS	00284900
285000		00285000
285100	#009 PATCH IN 4.00 MADE EDITOR SEARCH OF COMMON ROWS FASTER	00285100
285200	BUT PRECLUDED USER PROGRAM FROM PASSING CONTROL BACK TO	00285200
285300	THE EDITOR. THIS PATCH TO THE EDITOR (ALONG WITH PATCH	00285300
285400	10 BELOW TO THE MCS) RE-ENABLES THIS CAPABILITY.	00285400
285500		00285500
285600	#010 MCS PATCH TO ALLOW USER PROGRAM TO PASS CONTROL BACK TO	00285600
285700	THE EDITOR	00285700
285800		00285800
285900	#011 DELETE DC1 AT BEGINNING OF MCS ERROR MESSAGES	00285900
286000		00286000

286100	#012 DON'T ALLOW DISABLE OF STATIONS THAT DON'T BELONG TO US	00286100
286200		00286200
286300	#013 FIX TRUNCATION OF DCRESULT MESSAGES OF LENGTH GREATER THAN	00286300
286400	THE LARGER OF INPUT AND OUTPUT AUDIT RECORD SIZE	00286400
286500	DLS UPDATES RESULTING FROM A ?CHANGE CLUSTER COMMAND.	00286500
286600		00286600
286700	#014 FIX RESIZE OF PAGING CONTROL AREAS TO ALLOW FOR REPEAT	00286700
286800	PAGES	00286800
286900		00286900
287000	#015 ON FORMS REQUEST, ALLOCATE AND BLANK FILL MAXIMUM SPACE	00287000
287100	REQUIRED FOR FORMAT	00287100
287200		00287200
287300	#016 ALL TCL DICTIONARY CHANGES ARE HERE	00287300
287400		00287400
287500	#017 FIX SYNTAXING OF "VARIABLE" ON UPDATE AND SEQUENTIAL	00287500
287600	FORMATS	00287600
287700		00287700
287800	#018 SIZE SECURITY TABLE TO LARGE ENOUGH FOR MAXSTATIONS *	00287800
287900	MAXUSERS	00287900
288000		00288000
288100	#019 ALLOW FILE EQUATE FOR FORMATGENERATOR PROGRAM OF A	00288100
288200	FORMAT FILE BEGINNING WITH *	00288200
288300		00288300
288400	#020 PREVENT DISABLE OF RESTART TP AND ITS ASSOCIATED INPUT	00288400
288500	QUEUE.	00288500
288600		00288600
288700	#021 ALLOW TP WHICH IS DS'ED AFTER COMING INTO THE MIX WHILE	00288700
288800	THE DATABASE IS ABORTING TO RUN WHEN RECOVERY IS COMPLETE.	00288800
288900		00288900
289000	#022 ALLOW MCS TO WAIT 5 MINUTES FOR BSY STATION AT EOJ.	00289000
289100		00289100
289200	#023 FIX OVERWRITING OF STAMRS FIELD WHEN ITS VALUE IS "DISABLED	00289200
289300	BY NETWORK CONTROL" TO ALLOW ALTERNATE OUTPUT TO CONTINUE.	00289300
289400		00289400
289500	#024 REMOVE UNECESSARY AND UNSAFE RESIZE OF TABLES IN PROCEDURE	00289500
289600	READSINGLEDEM.	00289600
289700		00289700
289800	#025 FIX INPUT QUEUE LINKAGE PROBLEMS CAUSED BY ENTERING A	00289800
289900	MESSAGE LARGER THAN INPUT AUDIT RECORD SIZE FROM A STATION	00289900
290000	IN TRANSACTION MODE.	00290000
290100		00290100
290200	#026 FIX DCWRITE ERROR 71 CAUSED BY AN INVALID MESSAGE KEY FROM	00290200
290300	A BATCH JOB LARGER THAN INPUT AUDIT RECORD SIZE.	00290300
290400		00290400
290500	#027 DISALLOW DUPLICATE AREA NAMES.	00290500
290600		00290600
290700	#028 IMPLEMENT LONOK, LOFOK, AND BUSY MESSAGES IN TCL & MCS	00290700
290800		00290800
290900	#029 CORRECTIONS TO CLASS & SUBCLASS USED TO PROCESS PROGRAMS	00290900
291000		00291000
291100	#030 ALLOW CONVERSATION AREA TO BE PASSED ON IN TP TO TP	00291100
291200	TRANSFER AND FIX SEG ARRAY ERROR CAUSED BY PROGRAMS HAVING	00291200
291300	DIFFERENT CONVERSATION SIZES.	00291300
291400		00291400
291500	#031 FIX INVALID INDEX CAUSED BY A PROGRAM REQUEST FOR THE	00291500
291600	VALIDATION OF AN AREA NAME WHEN THERE ARE MORE AREAS THAN	00291600
291700	STATIONS.	00291700
291800		00291800
291900	#032 MAKE SURE BIGBROTHERQ IS ACTIVE BEFORE FLUSHING ITS	00291900
292000	QUEUE	00292000

292100		00292100
292200	#033 MAKE SURE IQURBTS ARE BACKED UP	00292200
292300		00292300
292400	#034 FIX ABORT OF BACKUP STACK WHILE ATTEMPTING TO FIND AN	00292400
292500	ALTERNATE FOR A STATION DECLARED NOLINE &	00292500
292600	ONEOUTPUTPERBACKUP.	00292600
292700		00292700
292800	#035 FIX DCWRITE ERROR 72 CAUSED BY TP SENDING OUTPUT WHICH	00292800
292900	BYPASSES OUTPUT AUDIT (BIT 46:1 OF COMMON WORD 7 = 1)	00292900
293000	LARGER THAN OUTPUTRECORDSIZEINWORDS - 9.	00293000
293100		00293100
293200	#036 FIX OVERWRITING OF MSG[1] & VARIANT FIELDS FOR THE FIRST	00293200
293300	BLOCK OF FORMATTED BLOCKED OUTPUT.	00293300
293400		00293400
293500	#037 FIX SETTING OF FIELDS FROM CLASS 5 MESSAGES.	00293500
293600		00293600
293700	#038 DELETE TIME STAMP CHECKING IN BASE LINK UTILITY DUMP	00293700
293800	TO ALLOW DUMP TO CONTINUE THROUGH MIDNIGHT & TIME CHANGES.	00293800
293900		00293900
294000	#039 FIX UTILITY LOOP CAUSED BY INVALID DEFINE SYNTAX.	00294000
294100		00294100
294200	#040 RESIZE FMT RECORD AREA TO LARGE ENOUGH TO HOLD ENTIRE	00294200
294300	FORMAT IN UTILITY	00294300
294400		00294400
294500	#041 FIX FORMAT HEADER ARRAY DEFINES TO USE ADDITIONAL NEEDED	00294500
294600	PARAMETERS	00294600
294700		00294700
294800	#042 PASS ON OUTPUT MESSAGE ID ON RESPONSE FROM TP TO TP	00294800
294900	WITH WAIT.	00294900
295000		00295000
295100	#043 ADD RETAIN OPTION TO RESIZE OF MESSAGE WHILE FORMATTING	00295100
295200	IN THE MCS	00295200
295300		00295300
295400	#044 PREVENT SENDING OF TITLE TO STATION WITH NOTITLE=TRUE	00295400
295500	AFTER NAK ON SELECT.	00295500
295600		00295600
295700	#045 MAKE NO AUDIT OUTPUT TAKE STATION OUT OF TRANSACTION MODE	00295700
295800		00295800
295900	#046 THIS PATCH ALLOWS THE FORMATGENERATOR TO SCAN ONLY	00295900
296000	THE USER TERMINAL WIDTH ON A COMPILE OF A FORMAT.	00296000
296100		00296100
296200	#047 ALL PATCHES SPECIFICALLY RELATED TO PERFORMANCE	00296200
296300	IMPROVEMENT.	00296300
296400		00296400
296500	#048 PATCHES TO ENHANCE DELIMITED INTEGEROUT IN THE MCS	00296500
296600	FORMATTING PROCEDURE	00296600
296700		00296700
296800	#049 PATCH TO INSURE THAT ROUTING HEADER IS CREATED ONLY FOR	00296800
296900	ROUTING HEADER STATIONS. (MADE NECESSARY BY VARIABLE MKE	00296900
297000	POSITION FEATURE THAT MADE SOME TESTS INVALID)	00297000
297100		00297100
297200	#050 IMPLEMENT VARIABLES IN THE FORMATGENERATOR (RELEASE 2.00)	00297200
297300		00297300
297400	#051 PUT LOWEST BOT THAT ANY MULTIPLE COPY IS CURRENTLY WORKING	00297400
297500	ON IN WORD 10 OF COMMON INSTEAD OF RBT OR BOTBOT TO SPEED	00297500
297600	UP RECOVERY WHEN MULTIPLE COPIES ARE RUNNING.	00297600
297700		00297700
297800	#052 FIX BLOCKING OF LARGE MESSAGES TO STATIONS THAT HAVE	00297800
297900	FORMATTEDBLOCKEDOUTPUT=TRUE AND A LARGE NDL MAXOUTPUT	00297900
298000		00298000

298100	#053	FIX SETTING OF FMTELC SO THAT IT OCCURS AFTER VARIABLE	00298100
298200		DECLARATIONS	00298200
298300			00298300
298400	#054	FIX CASE WHERE EDITOR IS P-DSED AND NEW TP REQUIRES	00298400
298500		THAT EDITOR	00298500
298600			00298600
298700	#055	MISCELLANEOUS MCS AND TCL PATCHES	00298700
298800			00298800
298900	#056	FIX SETTING OF OQUIML FOR OUTPUT MESSAGES WITH NO	00298900
299000		ASSOCIATED INPUT MESSAGE	00299000
299100			00299100
299200	#057	ALLOW ACCESS CONTROL PROGRAM TO LOG ON ACROSS SYSTEMS	00299200
299300			00299300
299400	#058	IMPLEMENT FIXED FIELD IN FORMATGENERATOR (RELEASE 2.00)	00299400
299500			00299500
299600	#059	FIX THE COMPUTE COMMAND TO OBTAIN VALID RESULTS	00299600
299700			00299700
299800	#060	FIX LINKBASEINTOOUTPUT SO THAT RESPONSE TO ODT COMMAND	00299800
299900		DOES NOT DESTROY THE OUTPUT BUFFER	00299900
300000			00300000
300100	#061	FIX UTILITY LISTING OF STATIONS SO THAT ALL STATIONS IN	00300100
300200		A SYSTEM ARE LISTED	00300200
300300			00300300
300400	#062	CORRECT SPACING OF RECFILE WHEN TP FAILS DURING RECOVERY.	00300400
300500			00300500
300600	#063	FIX DUPLICATE PROCESSING OF MESSAGES WHEN RUNNING MULTIPLE	00300600
300700		COPIES.	00300700
300800			00300800
300900	#064	FIX HANDLING OF TP WHICH FAILS OUTSIDE TRANSACTION STATE	00300900
301000		DURING RECOVERY.	00301000
301100			00301100
301200	#065	REMOVE USE OF CORE ESTIMATE TO PASS INFORMATION BETWEEN	00301200
301300		PROCESSES.	00301300
301400			00301400
301500	#066	REAL(PE) HAS BEEN DEIMPLEMENTED. THIS CONSTRUCT HAS	00301500
301600		BEEN CHANGED TO USE OFFSET(PE) WHERE POSSIBLE. ONE MORE	00301600
301700		PARAMETER IS NOW PASSED TO MAKESERVICEMESSAGE AND MAKE-	00301700
301800		MESSAGETITLE TO INDICATE WHETHER OR NOT THERE IS A ROUTING	00301800
301900		HEADER SINCE TESTING A NULLPOINTER IS NOT VALID.	00301900
302000			00302000
302100	#067	FOR A PROCESS PROGRAM, THE PROBSY AND TSKBSY ARE NOW	00302100
302200		SET BEFORE THE PROGRAM EVENT IS CAUSED	00302200
302300			00302300
302400	#068	IMPLEMENT MTS TERMINALS IN MCS AND UTILITY	00302400
302500			00302500
302600	#069	FLUSH ENTRIES FROM CONTROL QUEUE AT INITIALIZATION	00302600
302700			00302700
302800	#070	ENFORCE TCL SYNTAX THAT FUNCTIONS MUST PRECEDE FORMATS	00302800
302900			00302900
303000	#071	AVOID SITUATION IN RECURSIVE RECOVERY THAT FIRST RESTART	00303000
303100		TP HAS NOT LEFT MIX BEFORE SECOND RECOVERY GETS TO STAGE	00303100
303200		TWO. THIS RESULTS IN AN MCS LOOP BECAUSE EXCEPTIONEVENT	00303200
303300		DOES NOT HAVE PRIORITY AND RESTART TP WON'T BE CLEANED UP.	00303300
303400			00303400
303500	#072	FOR A SINGLE USER STATION WITH INDIVIDUALID SET TO TRUE,	00303500
303600		THE MCS DID NOT BUILD AN ENTRY IN THE INDIVIDUAL IDS TABLE	00303600
303700		WHICH WOULD RESULT IN AN INVALID INDEX WHEN THIS STATION	00303700
303800		WAS USED. THIS PATCH CORRECTS THAT PROBLEM.	00303800
303900			00303900
304000	#073	THE SEARCH FOR DUPLICATE OUTPUTS AFTER A RECOVERY WAS NOT	00304000

304100	COMPLETE AND IT NOW TAKES INTO ACCOUNT OUTPUTS ABOVE BOT	00304100
304200	AND THE NO DUPLICATES FEATURE.	00304200
304300		00304300
304400	#074 THIS CORRECTS A SCANNING PROBLEM IN THE BHS TCL LOGIC	00304400
304500	WHEN PARSING THE BHS PROGRAM OPTION.	00304500
304600		00304600
304700	#075 THE CURRENT DATE, TIME AND FILE SIZES ARE NOW CONTAINED	00304700
304800	IN THE INITIALIZE MESSAGE AND THE SYSTEM STATUS RESPONSE	00304800
304900		00304900
305000	#076 INACTIVETIMEOUT MAY NOW BE CHANGED DYNAMICALLY BY	00305000
305100	ENTERING THE NETWORK CONTROL COMMAND "?CHANGE	00305100
305200	<PRO DESIGNATOR> INACTIVETIMEOUT TO <INTEGER>"	00305200
305300		00305300
305400	#077 THE "?WHERE" NETWORK CONTROL COMMAND HAS BEEN	00305400
305500	IMPLEMENTED WHICH RETURNS A LIST OF EACH USER LOGGED	00305500
305600	ON AT EACH TERMINAL IN ALL SYSTEMS OR A SPECIFIC	00305600
305700	SYSTEM	00305700
305800		00305800
305900	#078 ALLOW GEMCOS TO PROCESS SS ODT COMMAND	00305900
306000		00306000
306100	#079 INCREASE SIZE OF ARRAY USED BY PAGER TO ALLOW FOR	00306100
306200	LARGE SEQUENTIAL FORMATS (DISK PAGING)	00306200
306300		00306300
306400	#080 FIX IQU LOCKING	00306400
306500		00306500
306600	#081 SEND MULTIPLE COPIES TO EOJ BASED ON INACTIVETIMEOUT	00306600
306700		00306700
306800	#082 UPDATE STABOT ON GOOD RESULT FROM NOP STATION TO AVOID	00306800
306900	DUPLICATE OUTPUT.	00306900
307000		00307000
307100	#083 DON'T HANG UP DIAL-IN STATION THAT TRANSFERS IN	00307100
307200		00307200
307300	#084 CHANGE FILEAREAS AND FILEAREASIZE TO INTEGERS	00307300
307400		00307400
307500	#085 IMPLEMENT AP300 INTERFACE	00307500
307600		00307600
307700	#086 MAKE MID LOCAL TO SENDMESSAGE SO THAT SIMULTANEOUS	00307700
307800	CALLS ON SENDMESSAGE DO NOT CAUSE INV IND IN PE	00307800
307900		00307900
308000	#087 FIX HANDLING OF INPUT QUEUE OF RECOVERING PROGRAM	00308000
308100		00308100
308200	#088 FIX UTILITY LOG FUNCTION FOR SIDEWAYS LINKED MSGS	00308200
308300		00308300
308400	#089 STABITS ARE NOW STORED IN AN ARRAY, THUS AVOIDING A	00308400
308500	DICTIONARY SEARCH.	00308500
308600		00308600
308700	#090 FIX INVALID INDEX IN PROCESSEVERYTHING WHEN	00308700
308800	INDEXING SYSTEM ACCESS CONTROL PROGRAM	00308800
308900		00308900
309000	#091 INCREASE COMMON IQU FIELD 8 BITS SO MAX IQU WILL FIT	00309000
309100		00309100
309200	#092 ALLOW STATION MONITORING IN FORMATTER	00309200
309300		00309300
309400	#093 ALLOW GEMCOS TO INITIALIZE WHEN NOT ALL DCPS ARE RUNNING	00309400
309500		00309500
309600	#094 ALLOW INPUT & BACKUP STACKS TO GO TO EOJ WHEN	00309600
309700	CHECKPOINTINTERVAL IS 5 SECONDS.	00309700
309800		00309800
309900	#095 FIX INPUT INVALID INDEX OR ERRONEOUS IQU VALUE IN INPUT	00309900
310000	AUDIT RECORDS WHEN BLOCKED INPUT IS RECEIVED BY	00310000

310100 CONTINUOUS PROCESSING MCS.
310200
310300 #096 FIX SO THAT RECOVERING SYSTEM IS NOT AFFECTED BY
310400 AN "?ENABLE ALL"; IMPROVE H/L RECOVERY CHECKING AT
310500 INITIALIZATION.
310600
310700 #097 FIXES PROBLEM WHERE "?RECOVER SYSTEM(1)" WAS ENTERED
310800 AND SYSTEM(1) HAS NO RESTART PROGRAM (I.E., IS NOT
310900 A RECOVERABLE SYSTEM)
311000
311100 #098 INCREASE THE SIZE OF THE STAQUE FIELD
311200
311300 #099 FIX BATCH RECOVERY PROBLEMS
311400
311500 #100 FIX SECURITY CHECK ON TP TO TP
311600
311700 #101 FIXES FILLING OF COMMON WITH LAST PART OF INPUT MESSAGE
311800
311900 #102 FIXES DISPLAY OF BATCHLSN MESSAGE TO DEPEND ON BATCHMAX
312000
312100 #103 FIX HANDLING OF BATCH ERRORS
312200
312300 #104 FIX HANDLING OF ZERO LENGTH BATCH MESSAGES
312400
312500 #105 FIX TESTING OF BATCHMAX
312600
312700 #106 INCREASE THE NUMBER OF PROGRAMS THAT MAY SIMULTANEOUSLY
312800 USE AN EDITOR
312900
313000 #107 MONITOR STATIONS ARE NOW TREATED AS MONITORS; SPOS NO
313100 LONGER RECEIVE MONITOR MESSAGES UNLESS THEY ARE ALSO
313200 MONITORS
313300
313400 #108 FIX PAGE CONTROL OF UPDATE FORMATS WHEN A PAGING CONTROL
313500 CHARACTER IS ENTERED WITH ONE DATA CHARACTER
313600
313700 #109 STATIONBITS ARE NOW BACKED UP CORRECTLY
313800
313900 #110 IMPROVES BLOCKING OF OUTPUT MESSAGES FOR LARGE QUEUE
314000 RECORD SIZES
314100
314200 #111 FIXES SETTING OF BATCH FRSN IN OUTPUT
314300
314400 #112 IMPLEMENTS SOME RESTART CAPABILITY IN ARCHREC PROGRAM
314500
314600 #113 PATCH TO FLASHED PATCH #033
314700
314800
314900
315000
315100
315200
315300
315400
315500
315600
315700
315800
315900
316000

IV. INSTALLATION

A. TAPE ID: MCT510

B. CONTENTS OF TAPE:

LISTED BELOW ARE THE FILES CONTAINED ON THE TAPE OF THE TOTAL
VERSION OF GEMCOS. FOR THE BASIC AND ADVANCED VERSIONS,
APPROPRIATE FILES ARE OMITTED FROM THE TAPE BASED ON THE

00310100
00310200
00310300
00310400
00310500
00310600
00310700
00310800
00310900
00311000
00311100
00311200
00311300
00311400
00311500
00311600
00311700
00311800
00311900
00312000
00312100
00312200
00312300
00312400
00312500
00312600
00312700
00312800
00312900
00313000
00313100
00313200
00313300
00313400
00313500
00313600
00313700
00313800
00313900
00314000
00314100
00314200
00314300
00314400
00314500
00314600
00314700
00314800
00314900
00315000
00315100
00315200
00315300
00315400
00315500
00315600
00315700
00315800
00315900
00316000

FEATURES CONTAINED IN THE VERSION.

1. FILES REQUIRED FOR NORMAL USAGE

316100			00316100
316200			00316200
316300			00316300
316400			00316400
316500			00316500
316600			00316600
316700			00316700
316800	GEMCOS/MCS	GEMCOS OBJECT CODE (DCALGOL)	00316800
316900			00316900
317000	GEMCOS/UTILITY	TRANSACTION CONTROL LANGUAGE	00317000
317100		COMPILER OBJECT CODE. ALSO	00317100
317200		ALSO PROVIDES DUMP AND LOG	00317200
317300		GENERATION UTILITIES	00317300
317400		(DCALGOL)	00317400
317500			00317500
317600	GEMCOS/EDITOR	SKELETON EDITOR PROGRAM OBJECT	00317600
317700		CODE. PERFORMS STANDARD	00317700
317800		INPUT FORMATTING.	00317800
317900		(DCALGOL)	00317900
318000			00318000
318100	GEMCOS/RECALL	STANDARD APPLICATION-LEVEL	00318100
318200		PROGRAM WHICH RETRIEVES	00318200
318300		AUDITED MESSAGES FOR	00318300
318400		RETRANSMISSION UPON REQUEST.	00318400
318500		OBJECT CODE	00318500
318600		(DCALGOL)	00318600
318700			00318700
318800	GEMCOS/ADMIN	STANDARD APPLICATION-LEVEL	00318800
318900		PROGRAM FOR STATION TO	00318900
319000		TO STATION(S) MESSAGE	00319000
319100		SWITCHING. OBJECT CODE.	00319100
319200		(DCALGOL)	00319200
319300			00319300
319400	GEMCOS/RESTART/SYMBOL	SOURCE CODE OF STANDARD	00319400
319500		APPLICATION-LEVEL PROGRAM	00319500
319600		WHICH RETRIEVES CERTAIN DMS II	00319600
319700		RESTART INFORMATION FOR A DMS II	00319700
319800		ENVIRONMENT. USER PATCHES IN	00319800
319900		IN SPECIFIC DATABASE, RESTART	00319900
320000		DATA SET, AND RESTART ITEM NAMES.	00320000
320100		(COBOL)	00320100
320150			00320150
320200	GEMCOS/RESTART74/SYMBOL	SAME AS GEMCOS/RESTART/SYMBOL	00320200
320300		EXCEPT THAT IT IS WRITTEN IN	00320300
320400		COBOL74 AND USES THE PORT	00320400
320500		PROGRAM INTERFACE AND THE NEW	00320500
320600		STYLE OF RESTART DATA SET.	00320600
320700			00320700
320800	GEMCOS/ARCHREC	ARCHIVAL RECOVERY INITIATOR	00320800
320900		OBJECT CODE	00320900
321000		(ALGOL)	00321000
321100			00321100
321200	2. OPTIONAL FILES		00321200
321300			00321300
321400	FILE NAME	DESCRIPTION	00321400
321500			00321500
321600			00321600
321700	GEMCOS/MCSDOC	PRODUCT DISTRIBUTION LETTER (PB)	00321700
321800			00321800
321900	GEMCOS/SAMPLE/TCL	EXAMPLE OF TRANSACTION CONTROL	00321900

322000		LANGUAGE INPUT.	00322000
322100		(DATA)	00322100
322200			00322200
322300	GEMCOS/SAMPLE/TP	SOURCE CODE OF SAMPLE TRANSACTION	00322300
322400		PROCESSOR(S).	00322400
322500		(COBOL AND BDMSCOBOL)	00322500
322600			00322600
322610	GEMCOS/SAMPLE/TP74	SOURCE CODE OF SAMPLE TRANSACTION	00322610
322620		PROCESSOR(S).	00322620
322630		(COBOL74 AND BDMSCOBOL74)	00322630
322640			00322640
322700	GEMCOS/SAMPLE/NDL	SOURCE CODE OF SAMPLE NDL	00322700
322800		REQUEST SETS WHICH FOLLOW THE	00322800
322900		GEMCOS INTERFACE CONVENTIONS.	00322900
323000		(DATA)	00323000
323100			00323100
323200	GEMCOS/SAMPLE/SERVICE	SOURCE CODE FILE OF SAMPLE	00323200
323300		SERVICE PROGRAM.	00323300
323400		(COBOL)	00323400
323500			00323500
323600	FORMATLIBRARY DEMO FILES:		00323600
323700		*****	00323700
323800	GEMCOS/SAMPLE/ALGOLLIB		00323800
323900		THESE FILES ARE	00323900
324000	GEMCOS/SAMPLE/COBOLLIB	DESCRIBED AT THE END	00324000
324100		OF SECTION B.2 (NEW	00324100
324200	GEMCOS/FORMATLIBRARY	FEATURES - 5.00 RELEASE,	00324200
324300		GEMCOS FORMATLIBRARIES)	00324300
324400	GEMCOS/SAMPLE/FORMATTP		00324400
324500		*****	00324500
324600	GEMCOS/FORMATTP/SYMBOL		00324600
324700			00324700
324800	GEMCOS/FORMATLIB/TCL		00324800
324900			00324900
325000	GEMCOS/FORMATLIB/PATCH		00325000
325100			00325100
325200			00325200
325300			00325300
325400	3. MAINTENANCE FILES		00325400
325500			00325500
325600	FILE NAME	DESCRIPTION	00325600
325700			00325700
325800			00325800
325900	GEMCOS/SYMBOL	COMMON SOURCE CODE FILE OF MCS	00325900
326000		AND UTILITY	00326000
326100			00326100
326200	GEMCOS/ARCHREC/SYMBOL	SOURCE CODE OF ARCHIVAL RECOVERY	00326200
326300		PROGRAM	00326300
326400			00326400
326500	GEMCOS/EDITOR/SYMBOL	SOURCE CODE OF STANDARD EDITOR	00326500
326600		PROGRAM	00326600
326700			00326700
326800	GEMCOS/ADMIN/SYMBOL	SOURCE CODE OF STANDARD	00326800
326900		ADMINISTRATIVE MESSAGE	00326900
327000		SWITCHING PROGRAM	00327000
327100			00327100
327200	GEMCOS/RECALL/SYMBOL	SOURCE CODE OF STANDARD MESSAGE	00327200
327300		RECALL PROGRAM	00327300
327400			00327400
327500			00327500

327600 THE MCS IS NOT "GENERATIVE" IN THE USUAL SENSE OF THE WORD.
 327700 ONCE A SYSTEM CODE FILE HAS BEEN CREATED, IT SHOULD NOT
 327800 BE NECESSARY TO RECOMPILE THE PROGRAM SHOULD THE
 327900 DATA COMMUNICATIONS ENVIRONMENT CHANGE. IN CERTAIN
 328000 INSTANCES IT MAY BE NECESSARY TO RUN THE TCL COMPILER
 328100 TO REGENERATE THE TABLES USED BY THE MCS; HOWEVER, CERTAIN
 328200 ON-LINE CHANGES TO TCL ARE PROVIDED (SEE THE USER REFERENCE
 328300 MANUAL).

CODE OPTIONS:

\$SET UTILITY	- EMITS UTILITY CODE
\$SET MONITOR	- EMITS ONLINE MONITOR CODE. TO BE USED ONLY IF COMPILING THE MCS.
\$SET UIO	- EMITS CODE FOR USE ON THE B5900 OR B6900. MUST BE SET FOR BOTH THE MCS AND THE UTILITY.
\$SET PORTS	- EMITS CODE FOR PORTS GEMCOS TO PROGRAM INTERFACE AND THE PORT STATIONS FEATURES. MUST BE SET FOR BOTH THE MCS AND UTILITY TO USE THIS FEATURE.
\$SET SUBSYSTEMS	- EMITS CODE WHICH ALLOWS THE SETTING OF THE SUBSYSTEM ATTRIBUTES FOR THE MCS STACKS AND FOR USER PROGRAMS. MUST BE SET FOR BOTH THE MCS AND UTILITY TO USE THIS FEATURE.

HANDLER LIST OPTIONS

\$SET SEEHANDLER	- COMPLETE LISTING OF THE MCS
\$SET SEEGETMESSAGE	- LIST PROCEDURE GETMESSAGE
\$SET SESENDMESSAGE	- LIST PROCEDURE SENDMESSAGE
\$SET SEEPROCESSEVERYTHING	- LIST PROCEDURE PROCESSEVERYTHING
\$SET SEEBIGBROTHER	- LIST PROCEDURE BIGBROTHER
\$SET SEEINPUT	- LIST PROCEDURE INPUT
\$SET SEEOUTPUT	- LIST PROCEDURE OUTPUT
\$SET SEEANALYZER	- LIST PROCEDURE ANALYZER

UTILITY LIST OPTIONS

\$SET SEEUTILITY	- COMPLETE LISTING OF UTILITY
------------------	-------------------------------

IN ADDITION, ALL OF THE STANDARD DCALGOL OPTIONS MAY BE USED.

EXAMPLES:

THE FOLLOWING ARE THE CONTROL CARDS NECESSARY TO COMPILE THE
 MCS WITH THE MONITOR INCLUDED AND GET A COMPLETE
 STACK LISTING WITH LINEINFO SET:

?COMPILE GEMCOS/MCS DCALGOL LIBRARY

00327600
 00327700
 00327800
 00327900
 00328000
 00328100
 00328200
 00328300
 00328400
 00328500
 00328600
 00328700
 00328800
 00328900
 00329000
 00329100
 00329200
 00329300
 00329400
 00329500
 00329600
 00329700
 00329800
 00329900
 00330000
 00330100
 00330200
 00330300
 00330400
 00330500
 00330600
 00330700
 00330800
 00330900
 00331000
 00331100
 00331200
 00331300
 00331400
 00331500
 00331600
 00331700
 00331800
 00331900
 00332000
 00332100
 00332200
 00332300
 00332400
 00332500
 00332600
 00332700
 00332800
 00332900
 00333000
 00333100
 00333200
 00333300
 00333400
 00333500

333600	?ALGOL FILE TAPE (TITLE = GEMCOS/SYMBOL)	00333600		
333700	?DATA CARD	00333700		
333800	\$SET MERGE LIST SINGLE STACK LINEINFO	00333800		
333900	\$SET MONITOR SEEHANDLER	00333900		
334000	?END	00334000		
334100		00334100		
334200	THE FOLLOWING ARE THE CONTROL CARDS NECESSARY TO COMPILE THE	00334200		
334300	UTILITY AND GET A COMPLETE STACK LISTING WITH LINEINFO SET:	00334300		
334400		00334400		
334500	?COMPILE GEMCOS/UTILITY DCALGOL LIBRARY	00334500		
334600	?ALGOL FILE TAPE (TITLE = GEMCOS/SYMBOL)	00334600		
334700	?DATA CARD	00334700		
334800	\$SET MERGE LIST SINGLE STACK LINEINFO	00334800		
334900	\$SET UTILITY SEEUTILITY	00334900		
335000	?END	00335000		
335100		00335100		
335200	NOTE THAT IF A COMPLETE LISTING OF THE MCS OR THE UTILITY	00335200		
335300	IS REQUIRED, THE LIST OPTION MUST BE USED ALONG WITH	00335300		
335400	SEEHANDLER OR SEEUTILITY.	00335400		
335500		00335500		
335600	THE TRANSACTION CONTROL LANGUAGE (TCL) PROVIDES THE USER WITH A	00335600		
335700	MEANS TO DESCRIBE HIS SYSTEM IN TERMS OF STATION DESCRIPTIONS,	00335700		
335800	ROUTING CRITERIA, AND CERTAIN OPTIONS HE HAS SELECTED. IN ADDITION	00335800		
335900	THE TCL WILL BE USED TO DESCRIBE ACCESS-CONTROL REQUIREMENTS,	00335900		
336000	FORMATTING AND MAPPING CRITERIA, REENTRANCY OF USER PROGRAMS, AND	00336000		
336100	PROVIDE INFORMATION NECESSARY TO THE OPERATION OF THE MCS.	00336100		
336200		00336200		
336300	THE LANGUAGE HAS A FREE FORM STRUCTURE, UTILIZING KEY WORDS TO	00336300		
336400	DESCRIBE THE DATA COMMUNICATIONS ENVIRONMENT. AS A BY-PRODUCT OF	00336400		
336500	THIS FORM, THE USER RECEIVES A RECORD DESCRIBING HIS SYSTEM AND	00336500		
336600	ENVIRONMENT FOR USE AS A REFERENCE DOCUMENT.	00336600		
336700		00336700		
336800	THE TCL PROCESSOR (GEMCOS/UTILITY) PERFORMS EXTENSIVE SYNTAX	00336800		
336900	CHECKING OF THE TCL. IN ADDITION, ONCE THE DRIVER TABLES HAVE	00336900		
337000	BEEN BUILT, A CONSISTENCY CHECK IS PERFORMED.	00337000		
337100		00337100		
337200	SYNTAX ERRORS ARE TEXTUAL AND ARE OUTPUT TO THE LINE PRINTER.	00337200		
337300	ERROR MESSAGES APPEAR IMMEDIATELY AFTER THE LINE IN ERROR FOR THE	00337300		
337400	USER'S CONVENIENCE. ERROR MESSAGES OUTPUT AS A RESULT OF THE	00337400		
337500	CONSISTENCY CHECK ARE ALSO TEXTUAL BUT APPEAR AT THE END OF THE	00337500		
337600	REPORT.	00337600		
337700		00337700		
337800		00337800		
337900	THE FULL SYNTAX NECESSARY TO DESCRIBE THE DATACOM ENVIRONMENT IS	00337900		
338000	GIVEN IN THE GEMCOS USER REFERENCE MANUAL.	00338000		
338100		00338100		
338200	GEMCOS/UTILITY CONTAINS FILES TO ACCOMPLISH ITS TASKS. THEY MAY BE	00338200		
338300	LABEL EQUATED TO SUIT THE USER NEEDS. THE FOLLOWING IS A PARTIAL	00338300		
338400	LIST OF THE INTERNAL NAMES, EXTERNAL NAMES, AND FILE DESCRIPTION	00338400		
338500	OF THE FILES NECESSARY TO GET A SYSTEM STARTED. A LIST OF ALL	00338500		
338600	FILES GIVEN IN THE USER REFERENCE MANUAL.	00338600		
338700		00338700		
338800	INTERNAL	EXTERNAL	FILE	00338800
338900	NAME	NAME	DESCRIPTION	00338900
339000				00339000
339100	CARD	CARD	CARD READER, 80 CHARACTER/REC	00339100
339200			SOURCE IMAGES	00339200
339300				00339300
339400	LINE	LINE	LINE PRINTER, 120 CHARACTER/REC	00339400
339500			SOURCE AND <LIST> OUTPUT	00339500

339600					00339600
339700	TAPE	DATACOM/DEFINITION/	DISK, 14 WORD RECORDS, BLOCKED 3		00339700
339800		DECK	LIBRARY SOURCE IMAGES		00339800
339900					00339900
340000	NEWTAPE	DATACOM/DEFINITION/	DISK, 14 WORD RECORDS, BLOCKED 3		00340000
340100		NEWDECK	<NEW> LIBRARY SOURCE		00340100
340200					00340200
340300	CQUS	DATACOM/QUEUE/	DISK, 30 WORD RECORDS, UNBLOCKED		00340300
340400		CONTROL	QUEUE CONTROL FILE		00340400
340500					00340500
340600	IQUS	DATACOM/QUEUE/INPUT	DISK, 30 WORD RECORDS, UNBLOCKED		00340600
340700			INPUT QUEUE FILE		00340700
340800					00340800
340900	OQUS	DATACOM/QUEUE/OUTPUT	DISK, 60 WORD RECORDS, UNBLOCKED		00340900
341000			OUTPUT QUEUE FILE		00341000
341100					00341100
341200	FMTFILE	DATACOM/FORMATS	DISK, 30 WORD RECORDS, UNBLOCKED		00341200
341300			FORMAT FILE		00341300
341400					00341400

THE FOLLOWING ARE THE CONTROL CARDS NECESSARY TO GENERATE A SET OF TABLES DESCRIBING THE DATACOM ENVIRONMENT. ALL GENERATED FILES ARE LABEL EQUATED. THE \$ CARD OPTIONS AND PATCHING CAPABILITIES AVAILABLE IN THE UTILITY PROGRAM ARE THE SAME AS THE ONES USED IN BURROUGHS' STANDARD COMPILERS. SEQUENCE NUMBERS SHOULD APPEAR IN COLUMNS 73-80.

342100					00342100
342200		?RUN GEMCOS/UTILITY			00342200
342300		?FILE CQUS(TITLE = MYFILE/CQUS)			00342300
342400		?FILE IQUS(TITLE = MYFILE/IQUS)			00342400
342500		?FILE OQUS(TITLE = MYFILE/OQUS)			00342500
342600		?FILE FMTFILE(TITLE = MYFILE/FMT)			00342600
342700		?DATA CARD			00342700
342800		\$SET LIST SINGLE			00342800
342900		(TCL DEFINITION DECK)			00342900
343000		?END			00343000

TRANSACTION PROCESSORS ARE THE APPLICATION PROGRAMS WHICH COMMUNICATE WITH THE DATACOM NETWORK THROUGH THE MCS. IF NOT SUPPLIED BY BURROUGHS, THESE MUST BE WRITTEN BY THE USER. THESE PROGRAMS MAY BE WRITTEN IN COBOL, ALGOL, PL/1 (OR THEIR DMS II COUNTERPARTS), OR DCALGOL. PROGRAMS WHICH NEED THE CAPABILITIES OF DCALGOL AND WHICH MUST ACCESS A DMS II DATABASE SHOULD BE COMPILED WITH SYSTEM/DMALGOL. ALL TRANSACTION PROCESSORS MUST BE WRITTEN USING THE INTERFACE CONVENTIONS OUTLINED IN THE USER REFERENCE MANUAL.

EVERY SYSTEM THAT HAS A RECOVERY = TRUE INPUT QUEUE MUST HAVE A RESTART PROGRAM DEFINED. THE RESTART PROGRAM IS DEFINED IN THE PROGRAM SECTION OF TCL LIKE OTHER USER PROGRAMS WITH THE FOLLOWING SPECIAL SYNTAX ADDED:

RESTARTPROGRAM = TRUE.

ONLY ONE RESTART PROGRAM MAY BE DEFINED FOR A "SYSTEM". SEE THE SECTION IN THE USER REFERENCE MANUAL FOR THE SPECIAL MEANING OF "SYSTEM" USED IN THIS CONTEXT.

WHEN DMS II ROLLS BACK A DATABASE, THE RESTART PROGRAM IS PROCESSED BY THE MCS AS THE FIRST STEP IN ITS SYNCHRONIZED RECOVERY MECHANISM

00339600
00339700
00339800
00339900
00340000
00340100
00340200
00340300
00340400
00340500
00340600
00340700
00340800
00340900
00341000
00341100
00341200
00341300
00341400
00341500
00341600
00341700
00341800
00341900
00342000
00342100
00342200
00342300
00342400
00342500
00342600
00342700
00342800
00342900
00343000
00343100
00343200
00343300
00343400
00343500
00343600
00343700
00343800
00343900
00344000
00344100
00344200
00344300
00344400
00344500
00344600
00344700
00344800
00344900
00345000
00345100
00345200
00345300
00345400
00345500

IT RETRIEVES ALL OF THE DATABASE RESTART DATA OF TRANSACTION PROCESSORS THAT WILL BE INVOLVED IN THE RECOVERY MECHANISM, SORTS AND PASSES IT ON TO THE MCS. THE RESTART PROGRAM WAITS UNTIL NOTIFIED BY THE MCS THAT RECOVERY IS COMPLETE, THEN DELETES THE RESTART AREAS AND GOES TO END-OF-JOB.

GEMCOS SUPPLIES A FULLY DOCUMENTED SOURCE FILE OF A SAMPLE RESTART PROGRAM TO BE USED WITH DMS II. THIS SAMPLE DEMONSTRATES THE PROPER PASSES OF CONTROL FROM THE RESTART PROGRAM TO THE MCS AS WELL AS THE LOGIC FLOW WITHIN THE PROGRAM. THIS SAMPLE SOURCE FILE MAY BE PATCHED BY THE USER TO REPLACE THE NAMING CONVENTIONS OF THE RESTART DATA SET USED BY GEMCOS WITH THE USER'S DATA NAMES. IN ADDITION, IF THE USER IS USING MORE THAN ONE DATABASE IN HIS DATACOM ENVIRONMENT THE ADDITIONAL DATABASE INVOKES AND RETRIEVALS MUST BE PATCHED INTO THE SOURCE.

THE FOLLOWING ARE THE CONTROL CARDS NECESSARY TO COMPILE THE RESTART PROGRAM:

```
?COMPILE GEMCOS/RESTART/PROG WITH BDMSCOBOL LIBRARY
?COBOL FILE TAPE(TITLE = GEMCOS/RESTART/SYMBOL)
?COBOL FILE NEWTAPE(TITLE = GEMCOS/RESTART/SYMBOL)
?DATA CARD
    $SET MERGE LIST SINGLE STACK NEW
    (COBOL SOURCE CARD PATCH DECK)
?END
```

IN A TEST ENVIRONMENT, THE CANDE/RJE ORIENTED REQUEST SETS SUPPLIED ON THE SYSTEM SOFTWARE TAPE WILL SUFFICE; HOWEVER, DUE TO THE INTEGRAL ASSOCIATION BETWEEN A TRANSACTION ORIENTED MCS (GEMCOS) AND THE APPLICATION ORIENTED PARTS OF THE NDL, THE NDL CONVENTIONS AS SPECIFIED IN THE USER REFERENCE MANUAL MUST BE FOLLOWED. IN PARTICULAR, THE NDL SHOULD SPECIFY ENABLEINPUT = FALSE FOR ALL STATIONS.

D. PRODUCT MAINTENANCE

FROM TIME TO TIME, IT MAY BE NECESSARY TO ISSUE INTERIM PATCHES TO UPDATE THE STANDARD GEMCOS RELEASE. THESE PATCHES WILL BE ISSUED A FORM TO BE USED AS INPUT TO SYSTEM/PATCH WHICH IS SUPPLIED SYSTEM SOFTWARE TAPE.

THE FOLLOWING CONTROL CARDS SHOULD BE USED TO UPDATE GEMCOS/M

```
?JOB MCS/UPDATE;
  BEGIN
?DATA MCS/PATCH
$#
  (INSERT HERE ALL THE COMPILER $ OPTION CARDS NECESSARY TO
  CONTROL THE COMPILE)

  (INSERT HERE THE DCALGOL SOURCE CARD PATCH DECK)

?RUN SYTEM/PATCH[T]; VALUE = 0;
  FILE PATCH (TITLE = MCS/MERGEDINPUT)
  TILE TAPE (TITLE = GEMCOS/SYMBOL);
  FILE CARD (TITLE = MCS/PATCH);
  WAIT(T);
  IF VALUE(T) = 1 THEN
  BEGIN
```

351600	COMPILE GEMCOS/MCS DCALGOL LIBRARY;	00351600
351700	COMPILER FILE TAPE (TITLE = GEMCOS/SYMBOL)	00351700
351800	COMPILER FILE CARD (TITLE = MCS/MERGEDINPUT);	00351800
351900	END	00351900
352000	?END JOB	00352000
352100		00352100
352200	THE CONTROL CARDS TO UPDATE GEMCOS/UTILITY ARE THE SAME AS THOSE	00352200
352300	ABOVE EXCEPT "COMPILE GEMCOS/UTILITY" REPLACES "COMPILE GEMCOS/MCS".	00352300
352400		00352400
352500	THE FOLLOWING CONTROL CARDS SHOULD BE USED TO UPDATE GEMCOS/EDITOR:	00352500
352600		00352600
352700	?JOB MCS/UPDATE;	00352700
352800	BEGIN	00352800
352900	?DATA MCS/PATCH	00352900
353000	\$#	00353000
353100	(INSERT HERE ALL THE COMPILER \$ OPTION CARDS NECESSARY TO	00353100
353200	CONTROL THE COMPILE)	00353200
353300		00353300
353400	(INSERT HERE THE DCALGOL SOURCE CARD PATCH DECK)	00353400
353500		00353500
353600	?RUN SYTEM/PATCH[T]; VALUE = 0;	00353600
353700	FILE PATCH (TITLE = MCS/MERGEDINPUT)	00353700
353800	FILE TAPE (TITLE = GEMCOS/EDITOR/SYMBOL);	00353800
353900	FILE CARD (TITLE = MCS/PATCH);	00353900
354000	WAIT(T);	00354000
354100	IF VALUE(T) = 1 THEN	00354100
354200	BEGIN	00354200
354300	COMPILE GEMCOS/EDITOR DCALGOL LIBRARY;	00354300
354400	COMPILER FILE TAPE (TITLE = GEMCOS/EDITOR/SYMBOL);	00354400
354500	COMPILER FILE CARD (TITLE = MCS/MERGEDINPUT);	00354500
354600	END	00354600
354700	?END JOB	00354700
354800		00354800
354900	THE CONTROL CARDS TO UPDATE GEMCOS/ADMIN AND GEMCOS/RECALL ARE THE	00354900
355000	SAME AS THE ABOVE WITH EACH OCCURRENCE OF "EDITOR" REPLACED BY	00355000
355100	"ADMIN" OR "RECALL" RESPECTIVELY.	00355100
355200		00355200
355300	THE FOLLOWING CONTROL CARDS SHOULD BE USED TO UPDATE GEMCOS/ARCHREC:	00355300
355400		00355400
355500	?JOB MCS/UPDATE;	00355500
355600	BEGIN	00355600
355700	?DATA MCS/PATCH	00355700
355800	\$#	00355800
355900	(INSERT HERE ALL THE COMPILER \$ OPTION CARDS NECESSARY	00355900
356000	CONTROL THE COMPILE)	00356000
356100		00356100
356200	(INSERT HERE THE DCALGOL SOURCE CARD PATCH DECK)	00356200
356300		00356300
356400	?RUN SYTEM/PATCH[T]; VALUE = 0;	00356400
356500	FILE PATCH (TITLE = MCS/MERGEDINPUT)	00356500
356600	FILE TAPE (TITLE = GEMCOS/ARCHREC/SYMBOL);	00356600
356700	FILE CARD (TITLE = MCS/PATCH);	00356700
356800	WAIT(T);	00356800
356900	IF VALUE(T) = 1 THEN	00356900
357000	BEGIN	00357000
357100	COMPILE GEMCOS/ARCHREC ALGOL LIBRARY;	00357100
357200	COMPILER FILE TAPE (TITLE = GEMCOS/ARCHREC/SYMBOL);	00357200
357300	COMPILER FILE CARD (TITLE = MCS/MERGEDINPUT);	00357300
357400	END	00357400
357500	?END JOB	00357500

V. USAGE AND EXAMPLES

INCLUDED ON THE GEMCOS RELEASE TAPE ARE TWO FILES WHICH CAN BE USED TO DEMONSTRATE THE SYSTEM AND TEST THE CORRECT INSTALLATION OF THE PRODUCT.

THE FIRST FILE IS GEMCOS/SAMPLE/TCL, A DATA FILE WHICH CAN BE USED AS INPUT TO GEMCOS/UTILITY TO DESCRIBE A SPECIFIC DATACOM ENVIRONMENT. THE SAMPLE TCL MAY BE USED AS IT IS EXCEPT FOR THE STATION NAMES WHICH MUST BE PATCHED OVER WITH NAMES WHICH ARE VALID FOR THE SPECIFIC SITE. THE FOLLOWING CONTROL CARDS SHOULD BE USED TO GENERATE THE FOUR FILES USED BY THE MCS TO DESCRIBE THE DATACOM ENVIRONMENT:

```
?RUN GEMCOS/UTILITY
?FILE TAPE (TITLE = GEMCOS/SAMPLE/TCL)
?FILE NEWTAPE (TITLE = GEMCOS /SAMPLE/NEWTCL)
?DATA CARD
$MERGE LIST SINGLE NEW
      (PATCH CARDS TO INSERT LOCAL STATION NAMES OVER THE SAMPLE
      STATION NAMES)
?END
```

THE SAMPLE DATACOM ENVIRONMENT USES THREE TRANSACTION PROCESSORS, WHOSE SOURCE IS INCLUDED AS GEMCOS/SAMPLE/TP, PLUS A RESTART PROGRAM, WHOSE SOURCE IS INCLUDED AS GEMCOS/RESTART/SYMBOL. THE SAMPLE TRANSACTION PROCESSORS WERE DESIGNED TO THOROUGHLY TEST ALL FACETS OF THE MCS'S OPERATIONS. IT IS UNLIKELY THAT A NORMAL USER PROGRAM WOULD HAVE TO DO ALL THE MCS FUNCTIONS EXERCISED IN THE SAMPLE PROGRAM.

TO COMPILE THE NON-DMS TRANSACTION PROCESSOR, THE FOLLOWING CONTROL CARDS SHOULD BE USED:

```
?COMPILE GEMCOS/SAMPLE/PROG COBOL LIBRARY
?COBOL FILE TAPE (TITLE = GEMCOS/SAMPLE/TP)
?DATA CARD
      $SET MERGE LIST SINGLE STACK
?END
```

TO GENERATE THE ACCESS CONTROL MODULE, TYPE THE FOLLOWING COMMAND AT A SUPERVISORY CONSOLE:

```
COPY GEMCOS/SAMPLE/PROG AS GEMCOS/SAMPLE/ACCESS
```

TO COMPILE THE SERVICE PROGRAM REQUIRED BY THE SAMPLE DATACOM ENVIRONMENT THE FOLLOWING CONTROL CARDS SHOULD BE USED:

```
?COMPILE GEMCOS/SERVICE COBOL LIBRARY
?COBOL FILE TAPE (TITLE = GEMCOS/SAMPLE/SERVICE)
?DATA CARD
      $SET MERGE LIST SINGLE STACK
?END
```

IF IT IS DESIRED TO USE THE TRANSACTION PROCESSOR WHICH ACCESSES A DMS DATABASE, THE DATABASE MUST BE COMPILED FIRST. THE DATABASE DEFINITION WHICH IS ASSUMED BY THE SAMPLE TP IS GIVEN BY THE FOLLOWING CARD IMAGES ALONG WITH THE CONTROL CARDS NECESSARY TO GENERATE THE DATABASE FILES:

363600	?COMPILE GEMCOSDB WITH DASDL LIBRARY	00363600
363700	?COMPILER FILE NEWTAPE (TITLE = GEMCOS/SAMPLE/DASDL)	00363700
363800	?DATA CARD	00363800
363900	\$SET LIST SINGLE NEW SEQ 100 +100	00363900
364000	GEMCOS-DB DATA SET	00364000
364100	(GEMCOS-VALUE NUMBER(8));	00364100
364200	GEMCOS-DB-SET SET OF GEMCOS-DB KEY IS GEMCOS-VALUE DUPLICATES;	00364200
364300	CONTROL-DATA DATA SET	00364300
364400	(LAST-VALUE REAL (S11);	00364400
364500	LAST-VALUE-KEY NUMBER(8));	00364500
364600	CONTROL-SET SET OF CONTROL-DATA KEY IS LAST-VALUE-KEY;	00364600
364700	RESTARTAREA RESTART DATA SET	00364700
364800	(RESTARTTYPE RESTART TYPE;	00364800
364900	TC TRANSACTION COUNT;	00364900
365000	GEMCOS-LITERAL ALPHA(6) INITIALVALUE IS "GEMCOS";	00365000
365100	GEMCOS-INTERFACE GROUP	00365100
365200	(GEMCOS-DATA REAL (S11);	00365200
365300	GEMCOS-DBSN REAL (S11);	00365300
365400	GEMCOS-SSN REAL (S11)) OCCURS 3 TIMES);	00365400
365500	RESTARTSET SET OF RESTARTAREA	00365500
365600	KEY IS GEMCOS-LITERAL DUPLICATES;	00365600
365700	?END	00365700
365800		00365800
365900		00365900
366000	AFTER THE DATABASE IS GENERATED, AND WITH THE FILE	00366000
366100	"DESCRIPTION/GEMCOSDB" PRESENT, THE TRANSACTION PROCESSOR WHICH	00366100
366200	ACCESSES THE DATABASE MAY BE COMPILED. THE FOLLOWING CONTROL CARDS	00366200
366300	SHOULD BE USED:	00366300
366400		00366400
366500	?COMPILE GEMCOS/SAMPLE/DMS/PROG WITH BDMSCOBOL LIBRARY	00366500
366600	?COBOL FILE TAPE (TITLE = GEMCOS/SAMPLE/TP)	00366600
366700	?DATA CARD	00366700
366800	\$ SET MERGE LIST SINGLE STACK DMS	00366800
366900	\$ SET WAITFORAUDIT RECOVERY	00366900
367000	?END	00367000
367100		00367100
367200	NOTE: THE USERS OF THE BASIC AND ADVANCED VERSIONS SHOULD NOT USE THE	00367200
367300	WAITFORAUDIT AND RECOVERY OPTIONS IN THE ABOVE COMPILATION. IF THESE	00367300
367400	OPTIONS ARE USED IN THE BASIC AND ADVANCED VERSIONS, A PARAMETER	00367400
367500	MISMATCH WILL OCCUR BETWEEN THE PROGRAM AND THE MCS DURING PROGRAM	00367500
367600	INITIALIZATION.	00367600
367700		00367700
367800	IF USING THE TOTAL VERSION, THE RECOVERY PROGRAM SHOULD BE COMPILED	00367800
367900	USING THE FOLLOWING CONTROL CARDS:	00367900
368000		00368000
368100	?COMPILE GEMCOS/RESTART/PROG WITH BDMSCOBOL LIBRARY	00368100
368200	?COBOL FILE TAPE (TITLE = GEMCOS/RESTART/SYMBOL	00368200
368300	?DATA CARD	00368300
368400	\$ SET MERGE LIST SINGLE STACK DMS	00368400
368500	?END	00368500
368600		00368600
368700	THE NETWORK MAY NOW BE INITIALIZED. THE NAME OF THE MCS MUST BE ONE	00368700
368800	WHICH IS DECLARED IN THE NDL. ASSUMING THAT "GEMCOS/MCS" IS A VALID	00368800
368900	MCS IN YOUR NDL, AND ASSUMING THAT THE DCP HAS BEEN INITIALIZED (TYPE	00368900
369000	IDN AT THE SUPERVISORY CONSOL, WHERE N IS THE NUMBER OF THE DCP), THE	00369000
369100	FOLLOWING CONTROL CARDS MAY BE USED:	00369100
369200		00369200
369300	?RUN GEMCOS/MCS	00369300
369400	?END	00369400
369500		00369500

IF FILES WERE LABEL EQUATED IN THE TCL RUN, THEY MUST BE SIMILARLY LABEL EQUATED HERE ALSO. THE SAMPLE USES THE STANDARD EDITOR SUPPLIED ON THE RELEASE TAPE, SO THIS MUST BE LOADED BEFORE ANY TRANSACTIONS ARE PROCESSED.

AN INITIALIZATION MESSAGE SHOULD APPEAR AT A NETWORK CONTROL STATION. MCS IS NOW UP AND RUNNING. THE FIRST THING WHICH MUST BE DONE PRIOR TO INPUT OF TRANSACTIONS IS TO ENABLE THE NETWORK. THIS IS DONE BY TYPING FOLLOWING NETWORK CONTROL COMMAND AT A NETWORK CONTROL STATION:

?ENABLE ALL

THE FULL LIST OF NETWORK CONTROL COMMANDS IS CONTAINED IN THE USER REFERENCE MANUAL.

FOLLOWING IS A LIST OF TRANSACTIONS WHICH MAY BE USED WITH THE SAMPLE PACKAGE:

LOGON.A	TO GAIN ACCESS FROM A SIGNON = TRUE STATION
LOGOFF.	TO SIGN OFF OF A SIGNON=TRUE STATION
ECHO0.<STRING>	ECHOOES THE STRING
ECHO1.<INTEGER>#<ALPHA>*	EDITS AND ECHOOES THE DATA. THE ORDER OF APPEARANCE OF THE INTEGER AND ALPHA STRINGS MAY VARY.
ECHO2.<INTEGER>#<ALPHA>*	SAME AS ECHO1 EXCEPT DIFFERENT EDITING
MONITOR.	TURNS MONITOR FUNCTION ON IN SAMPLE TP
SERVICE.	CAUSES ALL SUBSEQUENT INPUT TO SAMPLE/TP TO BE SENT TO GEMCOS/SAMPLE/SERVICE.
DMS01.UPDATE	OPENS THE DATABASE IN UPDATE MODE
DMS01.INITIALIZE	INITIALIZES THE DATABASE AND LEAVES IT IN UPDATE MODE.
DMS01.INQUIRY	OPENS THE DATABASE IN INQUIRY MODE
DMS01.TEMPORARY	OPEN THE DATABASE IN TEMPORARY MODE
DMS01.CLOSE.	CLOSES THE DATABASE
DMS06.NNNNNN	CREATES A DATABASE RECORD WITH INTEGER VALUE NN INSERTED AS DATA
DMS07.	LISTS VALUES OF ALL RECORDS IN THE DATABASE

VI. ASSISTANCE

COMMENTS, INQUIRIES, AND FIELD TROUBLE REPORTS SHOULD BE DIRECTED TO THE LOCAL BURROUGHS BRANCH OFFICE FOR FORWARDING TO :

375600 B7700/B6800/B6700 GEMCOS SUPPORT
375700 APPLICATION SUPPORT CENTER
375800 BURROUGHS CORPORATION
375900 3519 W. WARNER AVENUE
376000 SANTA ANA, CALIFORNIA 92704
376100 U. S. A.
376200
376300 IN ORDER FOR THE ASC TO MORE EFFECTIVELY ADDRESS GEMCOS-RELATED
376400 PROBLEMS, FIELD TROUBLE REPORTS SHOULD BE SUBMITTED WITH A DUMP (COPY)
376500 OF THE OUTPUT, CONTROL AND FORMAT FILES, A DUMP OF THE TCL SOURCE
376600 INPUT FILE, AND A DUMP OF THE PRINTER BACKUP DISK FILE CONTAINING THE
376700 STACK DUMPS OF THE GEMCOS STACKS (NOT A FULL SYSTEM MEMORY DUMP).
376800
376900 IN SOME INSTANCES THERE IS OBVIOUSLY NO NEED FOR STACK OR FILE DUMPS
377000 (E.G. INVALID TCL SYNTAX ERROR); HOWEVER, IF THERE IS ANY DOUBT ABOUT
377100 THIS, THESE DUMPS SHOULD BE PROVIDED.
377200
377300 A PATCH LISTING OF ALL PATCHES TO THE STANDARD RELEASE TAPE SHOULD ALSO
377400 ACCOMPANY THE FIELD TROUBLE REPORT.

00375600
00375700
00375800
00375900
00376000
00376100
00376200
00376300
00376400
00376500
00376600
00376700
00376800
00376900
00377000
00377100
00377200
00377300
00377400

GEMCOS

500
RELEASE
2082

PRIMARYLY MAINTENANCE ITEMS

PLUS

AUTOENABLE	(#64)
CHARGECODE/USERCODE	(#29)
FORMATLIBRARY CHANGES	(#57-58)
MINCOPIES	(#69)
SPO RESPONSE	(#62)
STATIONTIMEOUT	(#123)
SWITCHSTATION	(#120)

AUTOENABLE

TCL PARAMETER

SYSTEM SECTION

SYNTAX:

AUTOENABLE = <LOGICAL VALUE>, / <EMPTY>

DEFAULTS TO FALSE

SEMANTICS:

ALLOWS USER TO SPECIFY WHICH SYSTEMS
ARE TO BE ENABLED AUTOMATICALLY BY
GEMCOS AFTER GEMCOS COMPLETES ITS
INITIALIZATION.

CHARGECODE / USERCODE

TCL PARAMETERS

PROGRAM SECTION

SYNTAX:

CHARGECODE = <IDENTIFIER> ./ <EMPTY>

USERCODE = <IDENTIFIER> ./ <EMPTY>

DEFAULTS ARE NULL

SEMANTICS:

THESE NEW TCL PARAMETERS HAVE BEEN
ADDED TO ALLOW USERS TO SPECIFY THE
CHARGECODE AND/OR USERCODE TO BE ASSIGNED
TO THE EXECUTING CODE FILE.

THE PROGRAM WILL BE PROCESSED USING THE
OBJECT CODE IDENTIFIED BY THE PROGRAM
TITLE STATEMENT. THE USERCODE OF THE TASK
WILL BE SET TO THE VALUE OF THE RESPECTIVE
PARAMETER. IF NOT SPECIFIED, PROGRAMS
WILL INHERIT THE USERCODE OF THE MCS.

FORMATLIBRARY CHANGES

GEMCOS WILL PASS THE STATION NUMBER OF THE
OUTPUT DESTINATION TO THE FORMATLIBRARY.

GEMCOS WILL PASS THE ACTUAL OUTPUT MESSAGE
LENGTH TO THE FORMATLIBRARY.

MINCOPIES

NETWORK CONTROL COMMAND ENHANCED TO
DYNAMICALLY CHANGE THE TCL MINCOPIES
ATTRIBUTE.

SYNTAX:

?CHANGE <PRO SPEC> MINCOPIES TO <INTEGER>

SEMANTICS:

THE VALID RANGE FOR THE INTEGER IS
0 UP TO THE VALUE OF MAXCOPIES SPECIFIED
IN THE TCL.

STATIONTIMEOUT

TCL PARAMETER

STATION SECTION

SYNTAX:

STATIONTIMEOUT = <LOGICAL VALUE> ./ <EMPTY>

DEFAULTS TO FALSE

SEMANTICS:

ALLOW USER TO DETERMINE IF STATIONS
SHOULD TIMEOUT. ALSO, IF STATIONS ARE
NOT TO TIMEOUT, PAGER WILL NOT TAKE
THE STATION OUT OF PAGING MODE AFTER
10 MINUTES OF INACTIVITY.

SPO RESPONSE

DISPLAYED

FOR

1

AUDIT

RECORD

LENGTH

SWITCHSTATION

TWO MORE ATTRIBUTES MAY NOW BE SPECIFIED FOR
SWITCHSTATIONS. THIS ENHANCEMENT ALLOWS
DIFFERENT PROGRAM PRODUCTS (E.G., BHIS, DIS)
TO USE THE SAME STATIONS IN DIFFERENT GEMCOS
SYSTEMS.

SYNTAX:

FORMSCOMPOSE = <IDENTIFIER> ./ <EMPTY>

FIXEDMKE = <IDENTIFIER> ./ <EMPTY>

SEMANTICS:

PREVIOUSLY, IF FORMSCOMPOSE AND/OR
FIXEDMKE WERE SPECIFIED FOR THE REAL
STATION, THE VALUE OF THE ATTRIBUTE
CARRIED OVER TO THE SWITCHSTATION. THIS
MADE IT IMPOSSIBLE FOR BHIS(FIXEDMKE=4)
TO USE AS A SWITCHSTATION A DIS STATION
(FIXEDMKE=5). IF FORMSCOMPOSE IS NOT
SPECIFIED, IT DEFAULTS TO NO FORMSCOMPOSE
IF FIXEDMKE IS NOT SPECIFIED, THE STATION
DEFAULTS TO VARIABLE LENGTH MKE.