

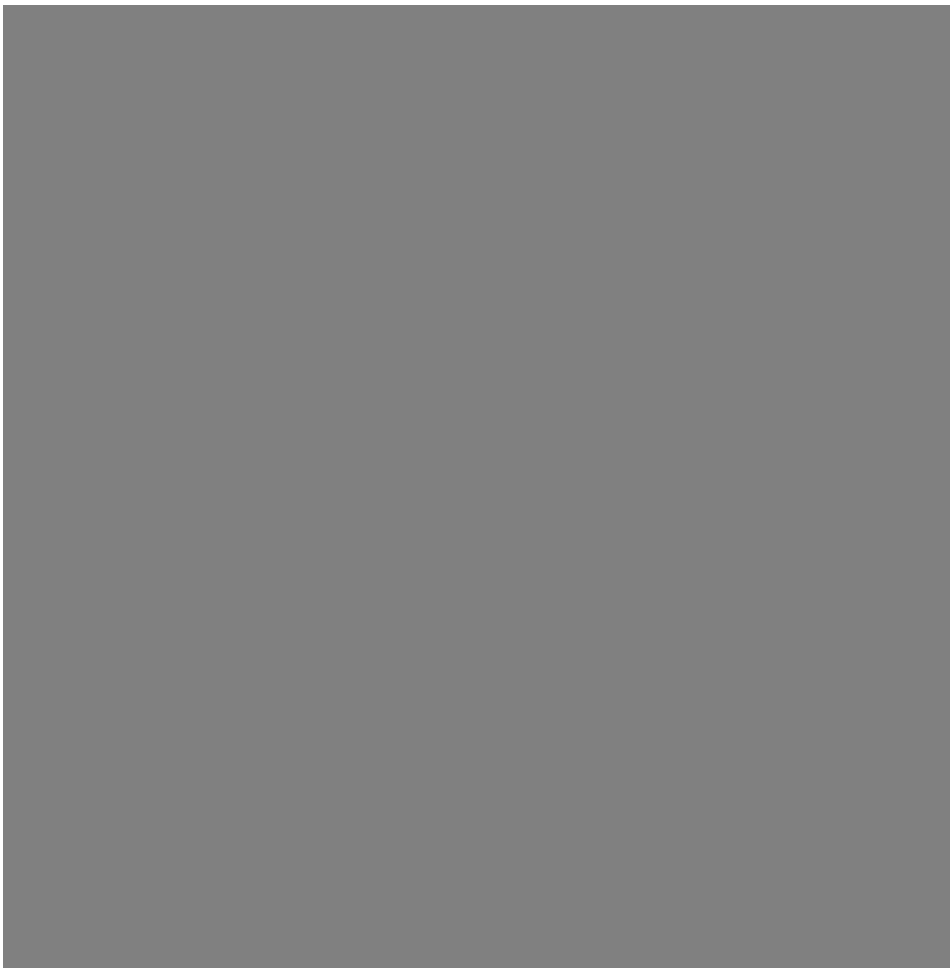


Network Operations Systems

Business Network Management

Data Forms

NSR27 and up March 1991 Standard



Network Operations Systems

Business Network Management

Data Forms

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Contents

Introduction	7
Overview	7
Using the forms and the questionnaire	7
Checklist	8

Data for DMS nodes	9
Overview	9
Procedure	10
ATTOPTNS table	12
ATTSCHEd table	17
BNMCUST table	19
CRSFMT table	21
CRSMAP table	23
DDU table	25
DIRPHOLD table	27
DIRPPool table	29
DIRPSSYS table	31
GDLADEV table	35
KTACTION table	37
KTGROUP table	37
KTPARMS table	39
MPC table	43
NOPADDR table	45
OFCENG table	47
OFCOPT table	49
OFCVAR table	51
OMACC table	53
OMTAPE table	55
STREAM table	57
X25LINK table	59

Initial parameters for DNC systems	61
Connection manager or communications service	62
DMS interface	63
File management	63
OM data collection	63
Call tracking	64
Data spooling	64

Database upload	64
Scheduling services	65
Passthrough map	65
Tape generation	65
Network data files	65
BNM table manager	66

DNC configuration data **67**

Overview	67
Procedure	68
Attendant subgroup table	71
Customer table	73
Customer DNC and other DNC table	77
Customer DNC requirements (DNC-50 or DNC-500)	77
Other DNC requirements (DNC-100)	78
Customer group table	81
DMOP table	83
DMUDF table	87
DNC-50 system, or DNC-500 system, owner profile	89
DNC-100 owner profile	91
Feature data table	93
Feature profile and customer feature profile	95
Link details table	97
Link configuration table	101
Mask table	105
Name/address table	107
Node table and customer node table	109
Subscriber line usage table	111
Trunk ownership table	113
User	115
Virtual facility trunk group table	117
X.25 details table	119

Network administration **121**

Table IBNRTE	123
Table NCOS	133
Table TRKGRP	137

Abbreviations **141**

Introduction

Overview

This practice contains two sets of forms and a questionnaire that are used by an operating company or a business customer to record certain basic information before the delivery of a new Business Network Management (BNM) system. Northern Telecom (NT) uses this information to prepare customized installation tapes. The required information includes:

- the connections to the Digital Multiplex System (DMS) nodes from which BNM is to collect data
- the types of data to be collected from the DMS nodes
- the initial parameters for the Dynamic Network Control (DNC) system on which the BNM application is to run
- the owners, users, and customers of the BNM system
- the DMS nodes, trunks, and lines of the centrex networks that are to be served by the BNM system

NT personnel prepare customized installation tapes by setting initialization (INIT) parameters, and by entering values for tables in the DMS software and the BNM software. The tapes allow BNM users to begin operation as soon as the system is installed. The authorized operating company, or customer personnel, can update tables and parameters after the system is installed to incorporate data changes that occurred after the tapes were prepared.

Using the forms and the questionnaire

In many cases, it is not necessary to fill out all the forms that are described in this practice. Each set of forms is accompanied by a procedure that explains which forms must be completed in which circumstances, and in what order they should be completed. Each question in the questionnaire begins with a note about the circumstances to which the question applies, so you can ignore any question that does not apply to your system.

Blank pages are inserted in this practice to ensure that each form is placed on even pages with its procedure starting on the adjacent odd pages. Figure numbers are not used on the forms to avoid confusion when they are photocopied.

In some cases, you will need several copies of some of the forms. Do not enter information directly into the forms or the questionnaire in this practice; instead, photocopy the necessary pages before you begin, then enter data on the copies.

Checklist

The general procedure for completing the forms and the questionnaire is:

- (a) Make photocopies of each page to be completed. Some forms may require several copies to record all entries for the relevant table.

Note: To assure that clean originals of the questionnaire and the forms are always available, it is recommended that one copy of each be prepared initially and used to replace those in this practice. The originals are then filed separately to avoid them being marred during use of the practice.

- (b) Complete the fields in each form for all entries required, adhering to the following points:
 - Type or print each entry clearly in CAPITAL letters
 - For alphanumeric entries, ensure that the digit "0" and the letter "O" are distinguishable
 - Corresponding entries for the same fields in different forms must contain the same information
 - When the data that is to be filled occupies less than the available number of character positions for that field, the data is placed in the leftmost positions of that field
- (c) The date and page number of each form (for example, 88 01 15, Page 1 of 3).
- (d) When all the data has been entered properly, collect the forms and submit them to your NT representative.

Data for DMS nodes

Overview

The forms in this section are designed to record the information required by each DMS-100 switch that will be connected to a new DNC-50 or DNC-500 BNM system. These forms are taken from the complete set of DMS forms in DMS practice 297-1001-454. It should be noted that columns 77 to 80 are always used to record the form code number.

The form codes for the DMS-100 tables are listed in Table 2-A in alphabetical order.

The information in these tables allows the DMS nodes to communicate properly with the BNM system and ensures that the nodes produce the data that the BNM system requires.

Table 2-A
DMS-BNM tables and form code numbers

TABLE NAME	FORM CODE NUMBER
• ATTOPTNS	2502
• ATTSCHED	2504
• BNMCUST	2318
• CRSFMT	2331
• CRSMAP	2332
• DDU	2057
• DIRPHOLD	2325
• DIRPPool	2323
• DIRPSSYS	2324
• GDLADEV	2063
• IBNRTE	2433A&B
• KTAActive	2471
- continued -	

Table 2-A (Continued)
DMS-BNM tables and form code numbers

TABLE NAME	FORM CODE NUMBER
• KTGROU	2471
• KTPARMS	2470
• MPC	2661
• NCOS	2204
• NOPADDR	2138
• OFCENG	2374
• OFCOPT	2373
• OFCVAR	2374
• OMACC	2612
• OMTAPE	2611
• STREAM	2137
• TRKGRP	2156V
• X25LINK	2662

Procedure

- (1) Read through this procedure and note the names of the forms you need. Then photocopy the necessary forms from this document so that you can enter data onto the copies. You may need several copies of some forms.
- (2) Complete a copy the CRSFMT form and the CRSMAP form for each DMS node that is to generate Station Message Detail Recording (SMDR) data for the new BNM system. Then:
 - for DNC-500: go to step 3
 - for DNC-50: go to step 6
- (3) If the new DNC-500 is to collect any Automatic Trunk Test (ATT) data, complete copies of the ATTOPTNS and ATTSCHED forms for each DMS node that is to generate that data.
- (4) If the new DNC-500 is to collect any Killer Trunk (KT) data, complete a copy of the KTPARMS form for each DMS node that is to generate that data. If specific groups of trunks are to be tested, complete a copy of the KTGROU form for each relevant DMS node as well.
- (5) If the new DNC-500 is to collect any Operational Measurements (OM) data, complete copies of the OMTAPE and OMACC forms for each DMS node that is to generate that data.
- (6) Complete copies of the STREAM form to define the data streams for each DMS node is to generate data for the new BNM system.

- (7) Complete copies of the DIRPPPOOL and DIRPSYS forms to define the devices and files in which each DMS node is to store the streams of data that it generates for the new BNM system.
- (8) If the new DNC is to collect KT or ATT data or produce service orders, complete the OFCVAR form to define how much KT or ATT data the DMS makes available in its DIRP files and whether or not the DMS prompts the DNC for cable and pair identification numbers when accepting service orders.
- (9) If a new disk drive is being installed on the DMS to hold files for the DNC, complete the DDU form.
- (10) For each DMS that is to be connected to the DNC-50 or DNC-500 by way of a 1X67DB or 1X67BB DPC card, perform the following steps:
 - (a) Complete the NOPADDR form with the appropriate address information.
 - (b) Complete the OFCENG and OFCOPT forms.
- (11) For each DMS that is to be connected to the DNC-50 or DNC-500 by way of an NT1X89 MPC communications card, perform the following steps:
 - (a) Complete the MPC form to identify the card used for the DMS node.
 - (b) Complete the GDLADEV form.
 - (c) Complete the NOPADDR form.
 - (d) Complete the X25LINK form to identify the type of link used for the node.
 - (e) Complete the OFCENG and OFCOPT forms.

The descriptions of the forms in the following pages of this document are followed by paragraphs that include:

- a list of the available fields (shown in bold type)
- a list of the candidate entries (shown in upper case characters)
- a discussion of the field

12 Data for DMS nodes

DIGITAL MULTIPLEX SYSTEM Automatic Trunk Test Sequence Option Record Table Name: ATTOPINS										FORM CODE 2502 7 8 7 0
OFFICE _____										PAGE _____ OF _____
ORIGINATOR _____										DATE ISSUED _____
T A B A T T O P T N Stable Name										
C	O	M	M	A	N	D	OPEROUT	TRMSMOUT	RETSTSET	R E T S T R E M O V E O C C U R S V P C
0	0	0	0	0	0	1	1	1	1	1
1	2	3	5	6	7	8	9	0	1	2
0	0	0	0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8	9	0	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9
0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9	9

ATTOPTNS table

The Automatic Trunk Test Options (ATTOPTNS) Table specifies the parameters for all generally applicable automatic trunk tests (ATTs) that are carried out by the DMS-100 or DMS-200 node. An attached DNC system running the BNM application does not require any special entries in this table. However, in order for the DNC to collect the appropriate ATT data to produce ATT reports for its customers, the DMS nodes in the centrex network concerned must generate that ATT data. Therefore, the ATTOPTNS Table should be properly filled in at each DMS node from which ATT data is to be collected.

TSTCLASS

NSTD; PERD; PERD1; ATME; ATME1; MAN; MAN1; MAN2; MAN3; MAN4; QUAR; SYR

The test class name, which describes the general frequency of the ATTs to be run.

TRNSMOUT

ALLTR; ALTRFL; Q1T; Q2T

Test log outputs, which determine whether the test results from all trunks, only those that fail, or only those that exceed certain performance limits are to be logged.

OPEROUT

ALLOP; FAILOP

The operational test output setting, which determines whether all trunks or only failures are to be logged for operational tests.

Q1LIMIT

0-99

The transmission maintenance test limit (in tenths of decibels).

Q2LIMIT

0-99

The transmission immediate action test limit (in tenths of decibels).

Q1L404

0-99

The 404 Hz transmission maintenance test limit (in tenths of decibels).

Q2L404

0-99

The 404 Hz transmission immediate action test limit (in tenths of decibels).

Q1L1004

0-99

The 1004 Hz transmission maintenance test limit (in tenths of decibels).

14 Data for DMS nodes

Q2L1004

0-99

The 1004 Hz transmission immediate action test limit (in tenths of decibels).

Q1L2804

0-99

The 2804 Hz transmission maintenance test limit (in tenths of decibels).

Q2L2804

0-99

The 2804 Hz transmission immediate action test limit (in tenths of decibels).

NMLTA

0-99

The Noise Maintenance Limit and immediate action limit correction (in tenths of decibels).

WAITTIME

0-7

The number of minutes the system is to wait until one of a group of busy trunks becomes available for testing.

RETSTSET

TSTPASS; SIG_FAIL; BSY_FLASH_FAIL; MEAS_Q1_FAIL; MEAS_Q2_FAIL;
BSY_NE; BSY_FE; INST_INTER; MISC_FAIL; ALL; NONE

The Retest Set, which is the set of conditions under which a node is to retest a trunk that has failed an ATME test.

RETEST

Y or N

Determines whether the system is to retest a failed trunk.

REMOVE

Y or N

Determines whether the node is to remove from service a trunk that has failed a test.

RMV25PC

Y or N

Remove from service check, which sets a check of 25% on the maximum number of faulty trunks tested by this node that can be removed from service.

ATTSCHEDED table

The Automatic Trunk Test Group Schedule (ATTSCHEDED) Table schedules all automatic trunk tests (ATTs) carried out by the DMS-100 or DMS-200 node. The table lists the trunks in the switch with the type of test and frequency with which each trunk is to be tested.

An attached DNC system running the BNM application does not require any special entries in this table. However, each DMS node in the centrex network concerned must generate ATT data to be collected by the BNM system for its reports. Therefore, the ATTSCHEDED Table should be properly filled in for the appropriate trunks at each DMS node from which ATT data is to be collected.

ATTKEY

(CLLI and Test Name)

The Automatic Trunk Test Key, which identifies the trunk to be tested and the type of test to be run.

ABORTGRP

Y or N

A Y setting in this field removes the trunk listed from the ATT group (that is, of those to be tested) without removing the complete entry for the trunk from the table.

TSTSCHEDED

(Frequency and Time)

The Test Schedule specifies the frequency with which, and time when, each trunk listed is to be tested.

MAXTEST

0-999

The Maximum Test time, which is the maximum consecutive number of ten minute intervals that each trunk's test is to run.

TESTDLY

S, M, L, or E

The Test Delay allowed before the remote end drops in a trunk test. (Short = 1 second, Medium = 6 seconds, Long = 9 seconds, and Extra-long = 15 seconds.)

TSTSEQ

NSTD; PERD; PERD1; ATME; ATME1; MAN; MAN1; MAN2;MAN3; MAN4; QUAR; SYR

The Test Sequence describes the general frequency of the ATTs to be run. The entry in this field must be the same as the entry in the TSTCLASS field of Table ATTOPTNS.

BNMCUST table

The BNMCUST Table assigns a customer name to each customer group. Each customer name may be assigned to a number of customer groups, but only a customer group can be assigned only one customer name.

The BNMCUST Table is datafilled after the CUSTENG Table has been datafilled.

CUSTNAME

(Up to 16 characters)

The name of the customer to which the customer group is assigned.

CUSTGROUP

(Up to 16 characters)

The name of the customer group, as it is known in the CUSTENG Table.

CRSFMT table

The Call Record Stream Format (CRSFMT) Table determines the number and format of call record output data streams to be produced by a DMS-100 or DMS-200 DMS node. The DMS node automatically produces call record data and divides it into the number and type of streams required. The switch requires two streams, NIL and AMA, for its internal Automatic Message Recording features. To produce SMDR reports, an attached BNM system needs to receive its own stream of SMDR data in SMDR format from each DMS node. The CRSFMT Table must be datafilled to define this stream at each switch.

KEY

SMDR

Name of new data stream.

Usually, SMDR, but can be different (for example, DNC) if the operating company has defined other SMDR data streams for its own purposes.

FORMAT

SMDRFMT

SMDR Format (similar to NTFMT).

To be used by the DNC, the SMDR data stream must be in the standard SMDR Format.

DATADUMP

Y

Dump of SMDR stream required.

The SMDR data must be dumped to certain files in certain disk locations (specified in the DIRP Tables) in order to be accessible to the DNC system.

CDRSRCH

NIL_FM

Call Detail Recording Search.

The DNC system does not use this stream option.

ALARMS

N

Audible billing failure Alarms.

The DNC has no connection with the DMS audible alarm system.

DEFERRED

N

Deferred formatting.

The DNC system does not require deferred BOC AMA formatting.

CRSMAP table

The Call Record Stream Mapping (CRSMAP) Table assigns the data stream defined in the CRSFMT Table to the appropriate type of data stream within the DMS node. This table completes the definition of a new SMDR data stream within the switch for the use of the attached DNC system.

KEY**SMDR**

Name of new data stream.

Usually SMDR, but can be different (for example, DNC) if the operating company has defined other SMDR data streams for its own purposes. Must be the same as the KEY used for the appropriate SMDR stream in Table CRSFMT.

STREAM**SMDR**

The type of data stream being defined.

The DNC system requires an SMDR data stream in order to collect SMDR records from this DMS node.

DDU table

The Disk Drive Unit (DDU) Table registers all the disk drives used by the DMS node. A working DMS will already have a complete DDU Table. When connecting a DNC system, it is necessary to alter Table DDU only if a new disk drive is installed to hold the data files required by the DNC system.

DDUNO

0-9

Disk Drive Unit Number.

IOCNO

0-12

Input/Output Controller Number. The number of the I/O controller the DMS is to use for this disk drive.

IOCKTNNO

0, 4, 8, 12, 16, 20, 24, 28, 32

Input/Output Controller Circuit Number. The number of the circuit the IOC is installed on.

EGPEC

1X55xx

Disk drive controller interface card code, where xx is the vintage number of the card.

DIRPHOLD table

Table DIRPHOLD is a directory on a DMS node to all files that are currently on the disk and are ready for transmission. Normally the table contains DIRP files that have just been closed. The names of all unprocessed files, that is files that the DMS has not been transmitted, are prefixed with a U; the names of processed files are prefixed with a P; the names of files that are manually added to the table for transfer are prefixed with an R.

HOLDNO

0 to 99

The DIRPHOLD index number to identify the file that is being added.

SSYSNAME

SMDR, KT, OM, or TTRF

The subsystem names of files that are to be accessed by a DNC system.

FILENAME

A to Z, 0 to 9 (up to 17 alphanumeric characters)

Identification of a file to be added to Table DIRPHOLD.

VOLSER

A to Z, 0 to 9 (1 to 8 characters)

The volume serial number to identify the tape or disk volume where the file is located.

COUNT

(numeric characters) or 0 to 9

The quantity of logical records in the file, for use in checking for missing records after transmission of the file.

ALARM0 - ALARM3

CR, MJ, MN, or NA

Alarms for the active and standby files.

A DNC system does not have any connection with audible alarms at its connected DMS nodes.

RETPD

0-499

The minimum Retention Period (in days) of the original files created by the various data streams. Should be some reasonable value to assure the security of the data.

CRETDP

0-499

The minimum Retention Period (in days) of the files (on disk) that the original files were copied to. The default value is the same as that entered for RETPD.

PARDTYPE

DISK or TAPE

Parallel Device Type.

All data to be accessed by a DNC system must be recorded to a disk or tape file.

PARVOL

\$

Parallel Volume.

A "\$" entry allows the DMS system to create its own disk volumes for data files as required.

FILEDATE

FIRSTACT

The DMS node should record on all files to be accessed by a DNC system the date that the file first became active.

SHEDDAYS

(seven entries of Y or N)

Scheduled rotation Days.

Determines the days of the week (in the set Monday through Sunday: indicated by a "Y") that the DMS is to rotate the files.

SHEDBASE

0-23

Scheduled rotation Base.

Hour of day at which the first file rotation occurs. Files to be accessed by a DNC system should be rotated at midnight, if possible.

SHEDINCR

X24

Scheduled rotation Increments.

X24 specifies that the files concerned are to be rotated once every 24 hours.

Files to be accessed by a DNC system must not be rotated more than once a day.

ROTACLOS

BOTH

Rotate Close.

Files to be accessed by a DNC system should be closed after both manual and scheduled rotations.

AUTOXFER

PARTIAL

Automatic Transfer.

Setting this field to PARTIAL prevents a connected DNC system from rotating files at its DMS nodes (since these rotations should be controlled by the DMS).

GDLADEV table

The Generic Data Link Application Device (GDLADEV) Table defines the device used for each data transfer application. Each application must be associated with only one device.

APPLN

NOP

This field identifies the application to which data is to be transferred.

DEVICE

MPC

This field identifies the device that is to be used for data transfer.

KTACTIVE table

Table KTACTIVE (Killer Trunk Group Active) lists the trunk groups that the DMS node is testing for KT properties. It displays only the group of trunks that the DMS node is currently set to test.

KTGROUP table

The Killer Trunk Group (KTGROUP) lists the trunk groups that the DMS node is to test for killer trunk (KT) properties. It is an input table to specify a subgroup of trunks to be tested when the MODE in Table KTPARMS is set to MANUAL.

A BNM system produces KT reports to tell centrex customers which of their trunks may need maintenance or repair. However, if the centrex network concerned does not include all trunks handled by each MDC node, not all trunks at each node need be tested. The operating company can use the KTACTIVE Table to see if the required trunks are being tested, or the KTGROU Table to specify the group that must be tested, or both.

**GROUP
(CLLIs)**

This parameter defines the group of trunks at the node that are to be or are being tested for killer trunk indicators. In the Table KTACTIVE this field only displays the currently active group.

KTPARMS table

The Killer Trunk Parameter (KTPARMS) Table controls the Killer Trunk (KT) testing and identification feature at each DMS node in a centrex network. A DMS-100 or DMS-200 can identify KTs in its group by their unusually short or long holding times.

A properly configured BNM system can produce KT reports to indicate to centrex customers which of their trunks may need maintenance or repair. To do so, each connected DMS node in the centrex network concerned must have its KT feature enabled and properly configured through the KTPARMS Table.

-CAUTION-

While this form suggests input for certain fields, the operating company concerned should decide the appropriate KTPARMS settings in consultation with maintenance personnel. Indiscriminate changes to the settings of this table can corrupt the trunk translations produced for existing trunk groups.

KEY

KTPARMS

Identifies the tuple (that is, complete entry) for this table.

ENABLE

ON

In order to collect KT information, the BNM system requires the KT feature to be enabled at each DMS node in the centrex network to which the system is connected.

START

0-23 and 0-59

The hour and minute of each day that killer trunk testing is to start.

STOP

0-23 and 0-59

The hour and minute of each day that killer trunk testing is to stop.

REPORT

0-23 and 0-59

The hour and minute interval(s) between the start and the stop time at which the node is to examine the test data collected for killer trunk indicators. After each interval the node compiles a report and starts collecting new data. The interval chosen should not be very long for nodes with heavily used trunks, and should take into consideration the volume of traffic that will exceed KTPEGMIN.

KTPEGMIN

0-32769

The Killer Trunk Peg Minimum, which is the minimum number of monitored calls the node requires to identify whether it is a killer trunk. For accuracy, this number should be at least 20.

KTHTMAX

0-32769

The Killer Trunk Holding Time Maximum, which is the average number of seconds a trunk holds a call. The node identifies the trunk as a killer trunk if its call holding times are less than this average, which is usually only a few seconds.

SRHTMIN

0-32769

The Slow Release Holding Time Minimum, which is the average number of seconds a trunk holds a call, The node identifies the trunk as a slow release killer trunk if its average holding time is more than this number, which is often set at 1800 seconds.

REPTYPE

ALLTRKS or EXCEPTION

The Report Type, which determines whether the node reports the test results for all trunks or only those that seem to indicate a KT problem. A connected DNC only requires the latter (that is, EXCEPTION).

NTRUNKS

0-2047

The maximum Number of Trunks the node is to test for killer trunk indicators at one time.

MODE

AUTOMATIC or MANUAL

The Mode of killer trunk testing, which determines whether the node is to automatically test as many trunks as possible during each interval, or is only to test those trunks listed in the KTGROU Table.

42 Data for DMS nodes

PRACTICE 297-1001-454
SECTION 078
RELEASE AB01

OFFICE _____
ORIGINATOR _____

DIGITAL MULTIPLEX SYSTEM
Multi-Protocol Controller
Table Record
Table Name: MPC

FORM CODE 2661
7 8
7 0

PAGE ____ OF ____
DATE ISSUED ____

0	0	0	0	0	0	0	0	1	1	1																													
1	2	3	4	5	6	7	8	9	0	1	2																												
T A B M P C																																							
C O M M A N D	I N D E X	I O C	C A R D	E Q P E C	P R O T O C O L	D L D F I L E																																	
0	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5
1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0

5
5
4

MPC table

The Multi-Protocol Controller (MPC) Table registers the configuration of each NT1X89 MPC board used by the DMS node.

The NT1X89AA board is located in the Input - Output Controller shelf of the DMS node. It is connected to a BNM system via whatever data communications facilities are currently being used. The MPC handles the lower levels of the communications protocol between a BNM system and a DMS node. Its main function is to maintain synchronization with the DNC-500 and to handle the BNM system's logon requests to the DMS node.

INDEX

0-255

The number of the MPC board used by the DMS node to handle communications with the DNC-500 system.

MPCIOD

0-12

The number of the shelf on the Input/Output Controller (IOC) of the DMS in which this MPC board is installed.

IOCCCT

0, 4, 8, 12, 16, 20, 24, 28, or 32

The number of the slot to which this MPC board is assigned on the IOC shelf.

EQ

NT1X89AA

The Product Engineering Code of the specified MPC board, where AA is the vintage number of that board.

PROTOCOL

X25LINK

Specifies that the X.25 protocol, as configured in Table X25LINK, is to be used for all data handled by this MPC.

DLDFILE

(eight alphanumeric characters)

The name of the Download File to be used for this MPC. The name of the file for the appropriate MPC is available from NT personnel.

NOPADDR table

The Network Operating Protocol Address (NOPADDR) Table registers the address of a connected DNC system. This address is used by the DMS node to validate incoming calls from the DNC-500.

INDEX

0-15

Virtual channel index.

UNIT

0-255

MPC board device number. This number should be the same as that in the INDEX field of Table MPC. If there is more than one NT1X89 MPC device defined in Table MPC, ensure that this field refers to the correct device.

LINK

2 or 3

The number of the communication link that this MPC handles.

ADDRESS

(up to 8 digits)

The logical address of a connected BNM system. A DNC-500 sends its own address to a DMS node as part of each logon attempt. If the address sent by the DNC-500 does not correspond to this entry, the DMS refuses the DNC-500's logon attempt and clears the call from the line. This address must be the same for all DMS nodes in the centrex network controlled by the BNM system.

PROTOCOL

0 0 0 0

Four, one-digit numbers that identify the exact protocol that the BNM system uses when transmitting its address.

OFCENG table

The Office Engineering (OFCENG) Table consists of two fields, PARMNAME and PARMVAL, into which the various DMS node parameters and their respective values are entered. An attached BNM system may require certain special parameter settings in this table.

NOS_QUANTITY_OF_SVCS

5-15

The number of Switched Virtual Circuits (SVCs) that a connected BNM system requires. The initial set up for file transfer to a BNM system usually requires at least one session for each type of data plus one for transactions. BNM options such as Map Passthrough and Station Administration each require an additional session. You must also allow for three CMAP sessions to be active at the same time. The number used should be the same as the entry for NUMSVCS in Table X25LINK.

OMTAPESUPPRESSION

Y or N

Specifies whether all values of zero in OM data are to be suppressed when the DMS node writes that data to tape or disk. An entry of Y is recommended to greatly reduce the size of the OM files stored on the DMS and transmitted to an attached BNM system. However, the parameter may remain set to N because of existing processing requirements of the DMS operating company.

OMXFER

X15 or X30

Specifies the minimum accumulation time for OM data on the DMS node. This parameter affects the OM data collection settings in the OMACC Table. The current setting should only be changed with the advice of local DMS personnel.

TAPEXLATE

EBCDIC, ASCII, EBCDIC_BINARY, or ASCII_BINARY

This parameter determines the format in which the DMS node will produce OM data. Although OM data in any format other than ASCII must be translated, a BNM system can accept OM data in any of the four formats available. However, the format chosen must be consistent in ALL DMS nodes in the MDC network connected to the BNM system.

AMA_EBCDIC_CONVERT

N

The Automatic Message Accounting (AMA) Extended Binary Coded Decimal Interchange Code (EBCDIC) Convert parameter. This parameter must be entered with an N since a BNM system must receive SMDR data in the default Binary Coded Decimal (BCD) format.

OFCOPT table

The Office Options (OFCOPT) Table defines the various DMS-100 office option parameters. Although the OFCOPT Table is usually reserved for use by NT personnel, the operating company owner of a DMS node can change parameters in this table using the table editing facility.

The OFCOPT Table has the same basic format as the OFCENG Table.

AMA_EBCDIC_CONVERT_ENABLE

Y or N

This parameter determines whether the AMA_EBCDIC_CONVERT parameter is to appear in the OFCENG Table. If this parameter is set to N, the default setting (also N) applies for AMA_EBCDIC_CONVERT. If this parameter is set to Y, refer to the description of Table OFCENG for instructions.

ENHANCED_PASSWORD_CONTROL

Y or N

This parameter affects the BNM parameter num_lines_per_cmap_login in the init file :LOCAL:PRU:NOS:B:DI:DMSINIT:TEXT. ENHANCED_PASSWORD_CONTROL must be the same value in all DMS offices connected to the same DNC-500.

OFCVAR table

The Variable Office Parameter (OFCVAR) Table lists certain parameters related to DNC operation that the operating company owner of the DMS-100 or DMS-200 node can change using the table editing facility.

KT_SELECTION_OPTION

ALL_DATA

The value ALL_DATA instructs the DMS to transfer all killer trunk (KT) data (versus NO_DATA, CUSTOMER_DATA, or TELCO_DATA) to the DIRP files, allowing an attached DNC-500 access to that data.

TTR_SELECTION_OPTION

ALL_DATA

The value ALL_DATA instructs the DMS to transfer all Automatic Trunk Test (ATT or TTRF) data (versus NO_DATA, CUSTOMER_DATA, or TELCO_DATA) to the DIRP files, allowing an attached DNC-500 access to that data.

SO_PROMPT_FOR_CABLE_PAIR

Y or N

The value for this parameter determines whether the DMS node is to prompt the DNC for cable and pair identification numbers when accepting service orders. If "Y" is entered, the DNC will return cable and pair numbers of zero for all such requests.

OMACC table

The Operational Measurement Accumulation (OMACC) Table activates and schedules the regular transfer of a class of OM data from holding to accumulation files within a DMS-100 or DMS-200 node. The table lists the general classes of OM data defined on the node along with whether the class is enabled and the class' scheduling parameters.

If an existing OM class is used, an attached DNC-500 system may not require any special entries in OMACC. However, the class must be enabled and scheduled in this table so that the DMS node generates the appropriate data for the BNM system's reports.

Note: This chart lists and describes the fields in the OMACC Table in general terms. If changes in scheduling are required for an existing class, the operating company should decide the appropriate entries for this table in consultation with local DMS personnel.

CLASS

(alphabetic, display only)

The name of the new holding and accumulating class defined for OM records to be accessed by a DNC system.

ENABLE

Y

The new OM output class used must be enabled in order to hold and accumulate data for a connected DNC system.

WHEN

This field is used to determine how often the OM measurements are to be accumulated, in accordance with data that is entered in the subfield REP, and the period during which the measurements are collected, in accordance with data that is entered in the Refinements For REP subfield. If the entry for REP is AUTO, no entry is required for Refinements For REP, and the collection period is set at about 15 minutes by the System. 297-1001-454 Section 005 should be referred to for complete details.

Any entries in this field for an existing class should only be changed with the advice of local DMS personnel.

OMTAPE table

The Operational Measurement output recording (OMTAPE) Table activates and schedules the regular transfer of accumulated OM data to an output device (disk or tape) within a DMS-100 or DMS-200 node. The table lists the general classes of OM data defined on the node along with scheduling parameters and whether the class is active.

If an existing OM class is used, an attached DNC-500 system may not require any special entries in OMTAPE. However, the class must be active in this table so that the DMS node generates the appropriate data for the BNM system's reports.

Note: This chart lists and describes the fields in the OMTAPE Table in general terms. If changes in scheduling are required for an existing class, the operating company should decide the appropriate entries for this table in consultation with local DMS personnel.

NUMBER

0-31

The number automatically assigned by the system to this class of OM output records.

A maximum of 32 different classes are permitted on each DMS system.

ACTIVE

Y

The OM output class used must be active in order to transfer data to the appropriate files for access by a connected DNC system.

CLASS

(alphabetic, display only)

The name of the accumulating class defined for OM output records. The existing class on each node most commonly used for records accessible by a DNC system is TAPE.

A new class can only be entered on this table with the OMCLASS command from the CI level.

WHEN

AUTO

Determines when the OM records are to be output to a recording device. The entry AUTO specifies that this is to occur at the end of each accumulation period defined in Table OMACC for this class, or every time the holding registers are updated.

Any other entries in this field for an existing class should only be changed with the advice of local DMS personnel.

STREAM table

The STREAM Table defines the protocol IDs of the types of data to be transferred to the attached BNM system. The definition entered in this table must match the information in the Feature Data Table of the BNM DNC-500 system. This information enables the DMS node to create the appropriate data transfer streams for the BNM system.

INDEX

1; 2; 3; 4

The index numbers (protocol IDs) of the various data streams required for the attached BNM system.

In each case, the index number entered must match the number (usually between 1 and 4) of the appropriate entry in the Feature Data Table.

STRING

SMDR; KT; OM; TTRF

The type of data being defined for each stream.

TTRF is equivalent to the ATT data type on a BNM system.

X25LINK table

The X.25 Link Table configures the X.25 layered protocol links handled by each Multi-Protocol Controller (MPC) of the DMS node. The table also has a set of link parameters, the default values of which can be specified for the links with a BNM system.

INDEX

0-15

The number of the X.25 link (virtual channel).

MPCNO

0-255

The MPC board Number, which should be the same as that in the UNIT field of Table NOPADDR. If there is more than one NT1X89 MPC device defined in Table NOPADDR, ensure that this field refers to the correct device.

LINKNO

2 or 3

The Number of the communications link that this MPC handles. This number should be the same as the LINKNO for this device in Table NOPADDR.

LINKNABL

0 to 32765 (in 5 minute intervals, where 0 means an indefinite period)

The Link Enable parameter, which is the number of minutes a communications link between the DNC-500 and the DMS node may remain unused in an enabling (ready) state before the DMS will "busy" (reset) the link. The recommended value is 0.

CONVNABL

0 to 32765 (in 5 minute intervals, where 0 means an indefinite period)

The Conversation Enable parameter, which is the number of minutes a conversation on the communications link between the DNC-500 and the DMS node may be in an "enabling" state before the DMS will "busy" (reset) the link.

PARMS

The settings for the parameters on this X.25 Link, where each setting must be entered on a separate line, and the parameter and its value are separated by a space. The entries are as follows:

- L3DATA P256
- TINACTIVE 1 to 255
- TIDLE 1 to 255
- L2WINDOW 1 to 7
- L3WINDOW 2
- N2 10
- T1 1 to 255
- BAUDRATE B9600
- T20 20
- STANDARD 1
- NUMPVCS 0 to 10
- NUMSVCS 0 or 5 to 15
- \$ (terminates the parameter list)

EXTRINF

This field contains data that is not sent to the MPC in the same way as configuration parameters are. The entries are as follows:

- SVCDNA 0 to 9
- SVCTYPE DATAPAC
- \$ (the user does not wish to enter any data)

Initial parameters for DNC systems

For each DNC-500, DNC-100 or DNC-50 used in the new BNM system, NT personnel must set certain "initiation" parameters. These parameters serve to configure the operation of each system to the requirements of the operating company and customer owners.

The following questionnaire includes fields to record the required information. Photocopy each page of the questionnaire before filling it out. Since each question requires one answer per system, each new DNC-50 or DNC-500 or DNC-100 requires one copy of each relevant page. At the end of each question is the name of the relevant DNC "init" file in brackets to assist NT personnel.

-CAUTION-

While the following questionnaire refers to the relevant "init" files, you should not attempt to access and change any of these files on a BNM system without consulting NT personnel. Improper changes could have an adverse affect on the operation of the system.

Call tracking

- (1) (DNC-500 or DNC-100) If you have the Call Tracking feature, how many simultaneous Call Tracking sessions would you like to be able to use: 2, 4, or 6? The default number is 2.

(:LOCAL:PRU:NOS:CT:BSCTINIT.TEXT)

|_|

Data spooling

- (1) (DNC-500 or DNC-50 or DNC-100) Are directory numbers specified in the Mask Table also to be masked in SMDR data spooled to customers ?

(:LOCAL:PRU:NOS:DS:DSINIT.TEXT)

|_| YES or |_| NO (check one)

- (2) (DNC-500 or DNC-50 or DNC-100) Are carriage control characters (line feed and carriage return) to be inserted after each SMDR record spooled to a customer ?

(:LOCAL:PRU:NOS:DS:DSINIT.TEXT)

|_| YES or |_| NO (check one)

- (3) (DNC-500 or DNC-50 or DNC-100) If data is to be spooled to customers using a packet network, such as DATAPAC, what is the data packet length used by the network? The default length is 512.

(:LOCAL:PRU:NOS:DS:DSINIT.TEXT)

|_|_|_|_|

Database upload

- (1) (DNC-500) For Station Administration customers, how often should the system generate a journal message during the initial Database Upload procedure? The default is after every 2000 lines of data transferred and after every 500 stations checked. These numbers should be increased if customers have large centrex networks and decreased if their networks are small.

(:LOCAL:PRU:NOS:DU:DUAGINIT.TEXT)

|_|_|_|_|_| (number of lines of data transferred)

|_|_|_|_|_| (number of stations checked)

- (2) (DNC-500) For Station Administration customers, how often should the system generate a journal message during the processing of service order batches? The default value is 100, causing a message after every 100 commands in a batch.

(:LOCAL:PRU:NOS:SO:SOAGINIT.TEXT)

|_|_|_|_|

Scheduling services

- (1) (DNC-500) For Station Administration customers, how many simultaneous Service Order sessions should be permitted on this DNC system: 2, 4, or 10? The default number is 2. (:LOCAL:PRU:NOS:JS:BSJSINIT.TEXT)

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Passthrough map

- (1) (DNC-500) If your BNM system has the "Passthru Map" feature, what minimum and maximum numbers of simultaneous "CMAP" sessions should be available on this DNC system? The default minimum number is 5 and maximum number is 16.

(:LOCAL:PRU:NOS:PT:CMAPINIT.TEXT)

__|__| (minimum number)

__|__| (maximum number)

Tape generation

- (1) (DNC-500 or DNC-100 or DNC-50) If your system has the 9-track data tape drive, are directory numbers specified in the Mask Table also to be masked in SMDR data files written to tape?

(:LOCAL:PRU:NOS:TG:TGINIT.TEXT)

YES or NO (check one)

- (2) (DNC-500 or DNC-100 or DNC-50) If your system has the 9-track data tape drive, is a tape generation job by the system to be aborted if an error is found in the Mask Table?

(:LOCAL:PRU:NOS:TG:TGINIT.TEXT)

YES or NO (check one)

- (3) (DNC-500 or DNC-50 or DNC-100) If your system has the 9-track data tape drive, are SMDR data files to be encoded in ASCII format before being written to tape?

(:LOCAL:PRU:NOS:TG:TGINIT.TEXT)

YES or NO (check one)

- (4) (DNC-500 or DNC-50 or DNC-100) If your system has the 9-track data tape drive, are the files in each tape generation job to be appended to (that is, written after) those of the previous job on the tape?

(:LOCAL:PRU:NOS:TG:TGINIT.TEXT)

YES or NO (check one)

Network data files

- (1) (DNC-50/DNC-500/DNC-100) How many simultaneous users of BNM Network Data Files options should the DNC system permit: 2, 4, or 10? The default number is 2. (:LOCAL:PRU:NOS:UF:BSUFINIT.TEXT)

__|__|

BNM table manager

- (1) (DNC-500 or DNC-50) What is the maximum number of customers you wish your BNM system to handle? The current absolute maximum number is 64.

(:LOCAL:PRU:NOS:US:BSUSINIT.TEXT)

|_|_|