297-7001-501

DMS-100 Family

DMS VoiceMail

Routine Maintenance Procedures

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northern telecom

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Publication history

March 1994

Standard 02.02 is the first standard release of the SPM 02 version of this document. SPM 02 is the second software release for DMS VoiceMail.

February 1993

Standard 01.03 is the third standard release of the SPM 01 version of this document. SPM 01 is the first software release for DMS VoiceMail.

Contents

About this document

This document describes the routine maintenance procedures to be performed on the Service Peripheral Module (SPM). These procedures are usually performed by maintenance technicians.

Replacement parts

For information regarding replacement parts for your SPM, please contact your Northern Telecom representative.

Regulatory notices

1 Notice for Installations in Canada

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

DANGER
Risk of electrocution
User should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

2 Notice for Installations in the United States:

The Northern Telecom Service Peripheral Module (SPM) system complies with Part 68 of the FCC rules. On the inside door of the cabinet is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The Ringer Equivalence Number represents the electrical load that will be applied to your telephone line once a Service Peripheral Module modem port is connected to the network. The telephone line serving your premises will not operate properly if the total ringer load exceeds the capability of your telephone company central office equipment. If you desire to know the total REN allowed for your line, call your telephone company and they will inform you. Normally, no SPM modem port should share the line with any other device.

If your Northern Telecom SPM causes harm to the telephone network, the telephone company may disconnect your service temporarily. The telephone company may ask you to disconnect the equipment from the network until the problem has been corrected or may ask you to check for any equipment malfunction. If possible, the telephone company will notify you in advance of any loss of service; if not, you will be notified as soon as possible. You will then be advised of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. You will be given advanced notice of these changes in order to maintain uninterrupted service.

If you experience problems with your Northern Telecom SPM equipment, contact your Northern Telecom representative in the United States for repair and warranty information. If you are unable to contact your Northern Telecom representative, call 1-800-NORTHERN.

3 The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

Routine maintenance procedures

Task list

The following list provides the names of all the procedures in this chapter. To find the appropriate routine maintenance procedure, look for its name in the left column and go to the page number listed in the right column.

This chapter contains routine maintenance procedures for DMS VoiceMail. For each routine maintenance task, you will find a procedure containing the following:

- explanatory and context-setting information
- summary flowchart
- step-action instructions

Explanatory and context-setting information

In each procedure, the paragraphs titled “Task,” “Interval,” and “Action” contain important explanatory notes and context-setting information. Read these sections before you try to perform the routine maintenance task. The paragraph titled “Common procedures” lists the names of common procedures that you may be asked to perform as you follow the step-action instructions. Go to these common procedures only when directed to do so.

Summary flowchart

The flowchart is only a summary of the main actions, decision points, and possible paths you may take. Do not use the summary flowchart to perform the procedure. Instead, use it to review, and prepare for, the operation to be performed. For example, if you see that these instructions involve another

office, you will know to advise that office before you begin the step-action instructions.

Step-action instructions

The step-action instructions tell you how to perform the routine maintenance. Normally, you will perform the steps in order, but you may be directed to return to a previous step and repeat a sequence. The successful completion of a step may depend on previous steps. Therefore, always perform the steps in the order specified.

The step-action instructions provide the command syntax and machine output you use or see while performing this procedure.

Tape drive maintenance

Task

Maintaining the tape drive is a routine maintenance task required for the Service Peripheral Module. To replace the tape drive rather than maintain it, refer to NTP 297-7001-502, *Card Replacement Procedures.*

Interval

Because tape drive heads become contaminated with use, good preventative maintenance of the tape drive involves periodic cleaning. There is no need to re-tension the tape because it is performed automatically by the system on every backup.

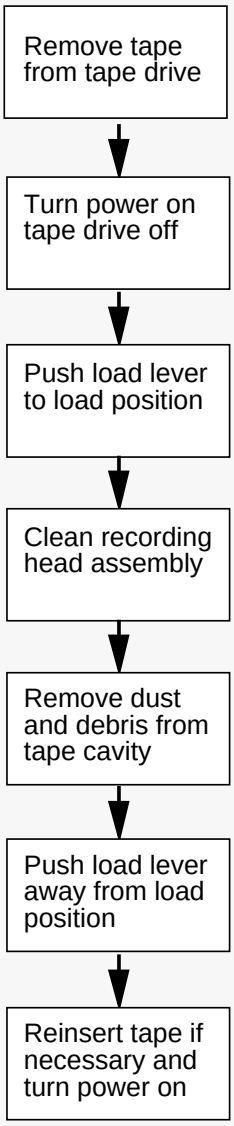
Tape drive cleaning should be performed on a regular three-month schedule, or more frequently if required. Clean the recording head after each initial pass with a new tape cartridge and after every eight hours of tape activity. The tape cartridge cavity should be cleaned whenever dust or debris is visible inside the cartridge cavity.

Action

Use the instructions in the following step-action table to perform maintenance procedures.

Tape drive maintenance (continued)

Summary of tape drive maintenance



Tape drive maintenance

Preventative maintenance of the tape drive involves periodic cleaning. However, to ensure reliable tape drive performance, you should establish a regular cleaning schedule and observe the following precautions:

- Maintain a clean, dust-free environment within the temperature and humidity limits listed in the specifications of the DMS VoiceMail system.
- Keep all liquids away from the drive and tapes to prevent spills into the equipment
- Exercise reasonable care when using and storing tape cartridges. Do not place cartridges on the DMS VoiceMail cabinet or the monitor of the System Administrator's terminal.
- When a stored tape is moved to an environment with a greatly different temperature, allow the tape to slowly reach room temperature before using it.
- Do not open the cartridge access door to touch the tape.
- Keep the tape drive turned on when it is connected to DMS VoiceMail.

Cleaning the tape drive

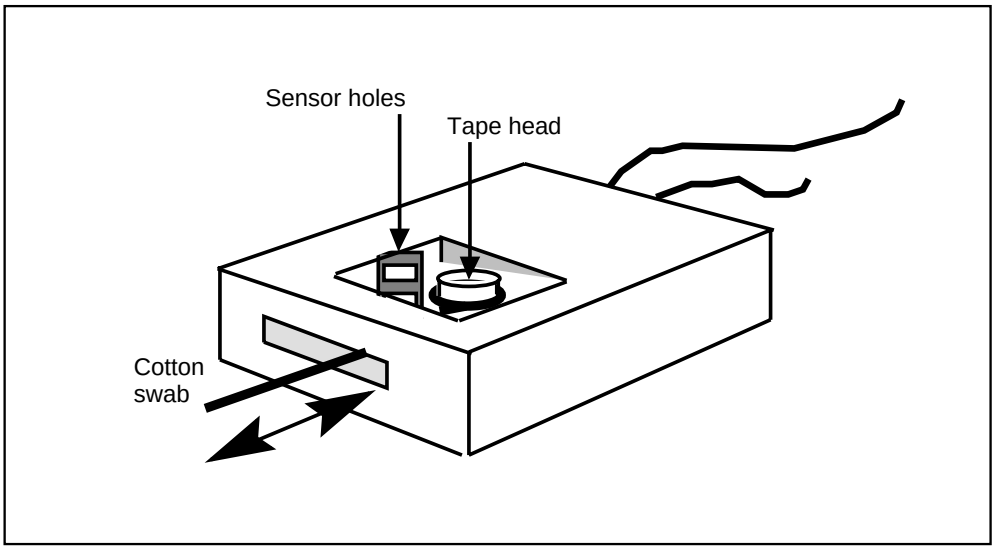
The tape cartridge cavity should be cleaned after an initial pass with a new tape cartridge, after eight hours of normal use, or whenever dust or debris is visible inside the cartridge cavity.

To clean the tape drive, you need the following supplies:

- low pressure aerosol air
- tape-head cleaning fluid, or reagent grade chemically-pure isopropyl alcohol
- tape-head cleaning pads, lint-free cotton swabs, or any industry-acceptable head-cleaning swabs, six inches or longer.

Tape drive maintenance (continued)

Figure 1-1
Tape drive cleaning



Tape drive maintenance

Step	Action
1	To clean the recording head assembly, use an industry acceptable head-cleaning kit.
	WARNING **Potential damage to the tape drive** Do not spray glass cleaner on the tape drive. You can damage the reading heads.
2	Remove the tape cartridge from the tape drive, if there is one present.
3	Turn off the power to the tape drive if it is on.
4	To remove dust and debris from the tape cavity, carefully blow out dust from the sensor holes and tape cartridge cavity with aerosol air. (Refer to Figure 1-1.)
5	Push the head loading lever to the load position.
6	Moisten a pad or swab with the head-cleaning fluid until it is saturated but not dripping.

Tape drive maintenance (continued)

Tape drive maintenance (continued)

Step	Action
7	Carefully wipe the head in the direction that the tape travels. (Refer to Figure1-1). Do not wipe perpendicularly or use a circular scrubbing motion.
8	Discard the used swab and repeat steps 6 and 7 with new swabs until the swab shows no signs of dirt.
9	Use a new, dry swab to remove any remaining cleaning fluid from the head.
10	Push the head loading lever away from the load position. If there was a tape cartridge in the tape drive, reinsert it.
11	Turn on the power to the tape drive.

Tape drive maintenance (end)

Replacing cooling fan filters

Task

The fan filters for the Service Peripheral Module require regular replacement.

The filter is a disposable unit consisting of the filter material and frame. Used filters should be handled gently during removal to prevent dust escaping into the air, and should be removed from the Equipment room immediately.

The tray which holds the filter is located outside of and below the fan enclosure so that the filter can be replaced more quickly and safely.

Interval

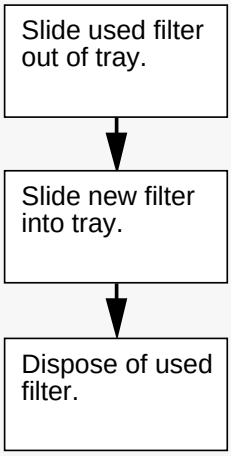
The filter should be replaced once every three months.

Action

The following flowchart is a summary of this procedure. Use the instructions in the step-action table that follows the flowchart to perform the procedures.

Replacing cooling fan filters (continued)

Summary of replacing cooling fan filters



Replacing cooling fan filters (continued)

Replacing cooling fan filters	
Step	**Action**
1	Grasp the two tabs on the front edge of the used filter and gently slide the filter out of its tray.
2	Slide the new filter into the tray.
3	Dispose of the used filter immediately, outside the Equipment room.

Replacing cooling fan filters (end)

Replacing the cooling fans

Task

The cooling fans in the Service Peripheral Module should be replaced if they are not operating properly. A light may turn on at the frame supervisory panel (FSP) to indicate a malfunction.

Interval

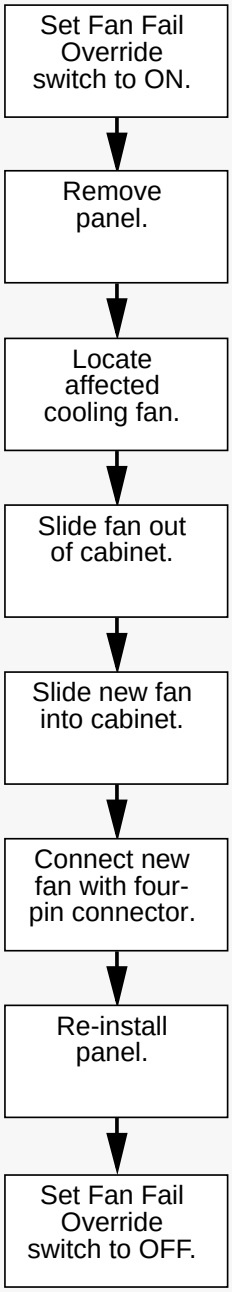
The cooling fans need only be replaced as required.

Action

The following flowchart is a summary of this procedure. Use the instructions in the step-action table that follows the flowchart to perform the procedures.

Replacing the cooling fans (continued)

Summary of replacing the cooling fans



Replacing the cooling fans (continued)

Replacing the cooling fans

Step	Action
1	At the frame supervisory panel (FSP), set the Fan Fail Override switch to ON.
2	Remove the panel at the bottom of the cabinet by removing the nine screws on the panel using a 1/4” nut driver. This allows you access to the three cooling fans.
	 **WARNING** **Do not leave the cooling fan disconnected for an extended period of time** Leaving the cooling fan disconnected could cause the equipment to overheat and possibly fail.
3	Locate the affected cooling fan and disconnect its four-pin connector, visible on the underside of the plenum.
4	Slide the cooling fan out of the cabinet.
5	Slide the replacement cooling fan into place.
6	Connect the new cooling fan with the four-pin connector.
7	Re-install the panel.
8	At the FSP, set the Fan Fail Override switch to OFF.

Replacing the cooling fans (end)

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