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SYSTEM CENTURY®
DIGITAL CENTRAL OFFICE

PREVENTIVE MAINTENANCE GUIDE

1. INTRODUCTION

1.01 This section provides general guidelines and a schedule for doing preventive maintenance on Stromberg-Carlson digital central office switching systems. Because the DCO switching systems are primarily solid state, these instructions mainly concern electromechanical equipment not manufactured by Stromberg-Carlson.

2. RELATED INFORMATION

2.01 General.

A Sales and Instructional Literature Index of latest available publications can be obtained from your Stromberg-Carlson sales representative or from Publications Services, Stromberg-Carlson Corporation, P.O. Box 1698, Sanford, Florida 32771.

2.02 Related Publications.

- a. The following sections are recommended for use with this document:

23-002-97 System Operators Manual

23-221-51 DCO System Precautions

- b. The operation and maintenance manuals for all equipment associated with the DCO switching systems, but not manufactured by Stromberg-Carlson, should be available.

3. GENERAL

3.01 This section is to be used as general guide and reminder for doing periodic preventive maintenance. Specific instructions are provided in the manuals supplied with each non-Stromberg-Carlson item. Because most warranties are valid only if the manufacturer's maintenance procedures are followed, it is recommended that all central office maintenance personnel become

thoroughly familiar with the maintenance procedures provided in the applicable manuals.

4. CLEANING

4.01 General.

Any equipment is usually more reliable if it is kept clean and dust free. It is recommended that all exterior surfaces be vacuumed and wiped clean at least once a month. The equipment should be kept free of metallic objects, such as paper clips and staples. Manuals, books, meters, etc. should not be stacked on top of the equipment. Specific cleaning procedures for certain equipment are provided in the manufacturer's manuals.

4.02 Air Filters.

The air filters in the DCO equipment frames must be cleaned monthly. Cleaning instructions are provided on a decal on each filter.

4.03 Floppy Disk Drive Read/Write Heads.

Routine cleaning of the floppy disk drive read/write heads increases the life of the drive and the diskettes. The following procedure should be done weekly, during periods of light traffic using the commercially available SCOTCH® 7400 head-cleaning diskette kit (3M I.D. No. 84-9801-4388-1).

- Prepare the SCOTCH head-cleaning diskettes per the instructions included with the head-cleaning kit.
- On the basic maintenance panel (BMP), operate the WATCHDOG TIMER switch to the RESET position.
- On the maintenance processor (MP) PWBA (position 6 in cell position 6 of the MAF), operate the second switch from the top to the

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down position. This disables the AUTO INIT circuit. The red LED should light.

d. On the MP card, toggle the top switch one time to halt the processor. A six-digit number will be printed on the system console. This indicates the address at which the processor halted.

e. Remove both system disks, insert the two head-cleaning diskettes, and close the drive doors. The SCOTCH diskettes will make a hissing noise when running in the drives (as soon as the drive doors are closed).

f. On the MP, press the white pushbutton to reboot the MP. A clicking noise will be created in the drive mechanism as the head makes contact with the disk; this is due to operation of a relay in the drive unit.

g. After approximately 30 seconds, toggle the top switch on the MP card once to halt the MP. Remove the cleaning diskettes and replace the system disks in the drives.

h. On the MP, press the white pushbutton to reboot the MP.

i. When the message MP STARTUP COMPLETE is printed on the system console, restore the WATCHDOG TIMER on the BMP panel to the ON position.

j. On the MP card, restore the second switch from the top to the up position. The red LED will go dark indicating that the AUTO INIT circuit is enabled.

k. Record the use of the cleaning diskettes on the labels provided and then store the kit until the next periodic cleaning.

5. FLOPPY DISK REPLACEMENT

5.01 The floppy disks used in the system have an average rated life of 300,000 sector accesses. A software counter is provided in the maintenance processor to maintain a running count of all sector accesses to the diskettes.

5.02 The software counter is accessed by entering the command \$TIME U, followed by a carriage return; it can be reset to zero by the command \$TIME R. This counter should initially be read on a daily basis until the average number of daily sector accesses can be determined. Table 1 provides the data that can be used to aid in determining the replacement cycle for a given office.

NOTE. The contents of the counter are not maintained on the diskette. Whenever the maintenance processor is rebooted, the counter is reset to zero.

Table 1. Floppy Disk Replacement Period

AVERAGE NUMBER OF ACCESSES PER DAY	REPLACEMENT PERIOD (DAYS)
1,000	332
2,000	166
3,000	110
4,000	83
5,000	66
6,000	55
7,000	47
8,000	41
9,000	36
10,000	33
20,000	16
30,000	11
40,000	8
50,000	6

5.03 For planning purposes, a two-week replacement cycle should be used before the actual system replacement cycle is established. Both (or all three) diskettes should be replaced at the same time.

5.04 Use the "Copy Diskette" procedure in the section titled *System Operators Manual* (referenced in paragraph 2.02) to copy the contents of the old diskettes onto new diskettes. After the procedure is completed for all diskettes, insert the new diskettes into the appropriate drives and destroy the old, used diskettes.

6. PREVENTIVE MAINTENANCE SCHEDULE

6.01 Table 2 is a schedule showing when preventive maintenance must be done on each item of equipment. After determining that preventive maintenance is due on a certain item of equipment, refer to the

manufacturer's manual for specific instructions. Service personnel should be thoroughly familiar with the contents of the section titled *System Precautions* referenced in paragraph 2.02, particularly when they are servicing batteries.

Table 2. Preventive Maintenance Schedule

	Every 8 Hours of Operation	Every 500 Hours of Operation	Every 1000 Hours of Operation	Every 2500 Hours of Operation	Every 5000 Hours of Operation	Daily	Weekly	Monthly	Every 3 Months	Every 6 Months	Yearly	As Required
Input/Output Consoles												
Data General Data Terminals 6040 6043							X	X				
Diablo* HyTerm* Communications Terminal 1641		X								X		
Digital Equipment Corp. DEC writer* II							X	X				
General Electric Termi Net* 30 or 300			X							X		
Teletype* Teleprinter 33 or 43											X	
Texas Instruments 743 Keyboard												X
Floppy Disk Systems												
Charles River Flexible Disk System FD 11/L										X		
DEC* Floppy Disk System RXV-11 or 21												X
Scientific Micro Systems FWD 0122 Floppy Disk Drive												X
Data Cartridge Tape Drive												
Qantex Data Cartridge Tape Drive 650	X		X			X		X		X		
Magnetic Tape Systems												
Cipher Magnetic Tape System T-4000		X		X		X						
Cook Magnetic Tape System 2200						X	X				X	
Intercept Announcers												
Audichron Recorder Announcer HQI-112								X				
Cook Drum Intercept Announcer 101 or 201								X				
Cook Drum Intercept Announcer 212									X			
Batteries												
C & D Station Batteries						X		X				
Gould Stationary Batteries							X	X	X			
Air Filters								X				

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