"COMM-STOR*" II COMMUNICATIONS STORAGE UNIT

ROUTINE MAINTENANCE PROCEDURES

1. GENERAL

1.01 This section covers the COMM-STOR II Communications Storage Unit manufactured by Sykes Datatronics, Incorporated, as described in their section SYKS 578-400-750.

1.02 This section is reissued to provide additional information regarding the 8A1/8B1 protocol option and the Station Message Detail Recording (SMDR) feature.

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1.03 Routine maintenance procedures for the COMM-STOR II Communications Storage Unit are contained in the attached reprint of the practice prepared by Sykes Datatronics, Incorporated.

1.04 This section applies to basic COMM-STOR II units and also those equipped for 8A1/8B1 protocol or SMDR operation.

Comm-Stor II COMMUNICATIONS

STORAGE UNIT

ROUTINE MAINTENANCE PROCEDURES

1. GENERAL

1.01 This chapter provides the routine maintenance procedures for the Comm-Stor® II Communications Storage Unit, hereafter referred to as the Comm-Stor II unit.

1.02 This section has been reissued to provide additional information regarding the 8A1/8B1 protocol option. Further, references have been added regarding the SMDR (Station Message Detail Recording) feature.

1.03 This section applies to Comm-Stor II units equipped for 8A1/8B1 protocol or SMDR operation.

DANGER and WARNINGS

1.04

Danger: Turn off all power and signal sources before removing or replacing any module or component.

Warning 1:   To avoid possible internal damage to circuitry, wear a static discharge strap connected to ground to allow static discharge before handling circuit boards or components. Avoid touching circuit lands or components as much as possible.

Warning 2:   Put the replaced board in a static bag immediately after removal from unit. Never handle the board outside the bag without being properly grounded.

Warning 3:   Handle all diskettes with care:

Never touch the exposed diskette surface. Handle the diskette only near the label.

Do not write on the diskette cover; write only on the label. If possible; write on the label before placing it on the diskette.

Do not attempt to clean a dirty or dusty diskette; such a diskette should be discarded.

Keep the diskette away from potentially magnetic materials (paper clips, etc.) or magnetic sources (unshielded power supplied, CRT monitors, etc.).

Do not bend the diskette.

Do not expose the diskette to extremes of heat or cold.

Keep the diskette in its protective cover when not in use.

Store diskettes vertically in boxes when not in use.

2. TOOLS AND SUPPLIES

2.01 The following tools and supplies may be required to perform the routine maintenance procedures discussed in this manual.

TOOLS

Screwdriver, Phillips 1/4", 4" blade, 2 point size
Screwdriver, Slotted 1/8", 2" blade
Volt-ohm meter KS8455
Volt-ohm multi-meter KS14510
Nut Driver, 1/4"
Nut Driver, 11/32"
Screwdriver, Phillips 1/8", 2" blade, 0 point size
Screwdriver, Slotted 1/4", 4" blade
Penlight
Static Ground Strap (Simco Neutrostat, 3M Velostat, or equivalent)
Static Bag (Simco Neutrostat, 3M Velostat, or equivalent

SUPPLIES

Head Cleaner Solution
(Miller Stephenson—MS200 or Isopropyl Alcohol)
Soft wiping cloth (Lint-Free)
Fan Filter Spray (Super Filter Coat #418, Research Products Corp.)
Soft Bristled Brush

3. ROUTINE MAINTENANCE

3.01 The following routine maintenance procedures are to be performed on all Comm-Stor II units after *200 hours or one year of service* (whichever occurs first), except for cleaning the fan filter, which must be performed more frequently (Paragraph 3.09).

> *Note:* For disassenbly/reassembly procedures, refer to Section 578-400-700.

> *Warning: Do not use sharp objects, harsh cleaning agents, or any cleaning solution containing freon as these might scratch or damage plastic surfaces.*

GENERAL INSPECTION

3.02 Check for and correct any defects in the general appearance of the Comm-Stor II unit. Make sure:

- all connectors are seated properly and securely,

- there are no pinched or crimped wires or cables,

- doors open and close properly,

- all lamps and LEDs are functional,

- all hardware is secure,

- top cover is secure.

GENERAL CLEANING

3.03 Clean exterior surfaces:

(a) Wash with a mild detergent solution.

(b) Rinse with a damp cloth.

(c) Dry with a soft cloth.

3.04 Use a soft bristled brush to dislodge debris inside the unit. Vacuum the interior of the unit if possible.

DRIVE MAINTENANCE

3.05 If the Comm-Stor II unit is used in an extremely dirty environment, a more frequent cleaning schedule than that recommended may be necessary for the Flexible Diskette Drive (FDD) assembly.

3.06 If a drive malfunctions, it is recommended that it be inspected and cleaned as described below. Visual inspection is the first step in any maintenance operation. Always look for corrosion, dirt, wear, binds, and loose connections. Noticing these items may save downtime later.

3.07 Inspection and maintenance operations are listed in Table A. During normal maintenance, perform only those operations listed on the chart. Observe all safety procedures.

3.08 Cleanliness cannot be over emphasized in maintenance of the FDD. Do not lubricate the drive. Oil will allow dust and dirt to accumulate. The read/write/erase head should be cleaned, but only when signs of oxide build-up are present.

READ/WRITE/ERASE HEAD MAINTENANCE

> *Caution: Do not smoke while inspecting or cleaning. Do not touch the head face with fingers. Do not leave residue or lint on the head face. Trapped residual particles can result in irreversible damage to the head and/or a scored diskette.*

TABLE A

INSPECTION AND MAINTENANCE PROCEDURES

UNIT	OBSERVE	CLEANING PROCEDURE
Read/Write/Erase Head	Oxide build up and scratches	Clean Read/Write/Erase Head *only if necessary.*
Stepper Motor Shaft and Carriage	Inspect for nicks and burrs	Clean off all dust, dirt, and *excess* lubricant.
Belt	Frayed or weakened areas	Replace if necessary.
Chassis	Inspect for loose screws, connectors, switches, etc.	Clean Chassis.
Head Load Arm	Check the head load pad for wear.	Replace head load pad if necessary (refer to Section 578-400-700, Disassembly/Reassembly and Parts).
Motors	Check for noisy bearings	Replace the motor (refer to Section 578-400-700).
Battery	Check for minimum 3.5 VDC.	Replace if necessary.

(a) Remove AC power.

(b) Remove the top cover.

   Note: Use a suitably bright penlight during the following steps.

(c) Be sure carriage is fully retracted to Track 00. Rotate stepper shaft to position carriage if necessary.

   Caution: Do not attempt to manually force the carriage assembly.

(d) Inspect head face for reddish-brown oxide deposits. Proceed to step (e) and clean head *only if deposits exist.*

(e) If oxide deposits are found, use a lint-free cloth to lightly dry-buff head face. Cleaning is completed when deposits are removed.

(f) Dampen (do not soak) gauze with head cleaning solution or isopropyl alcohol and wipe head face if oxide deposits were not removed in previous step. Use dry gauze to lightly buff head face to remove any remaining deposits.

FAN FILTER CLEANING

3.09 The Comm-Stor II unit must not be operated without the filter, as this provides protection against entry of airborne dust and lint through the cooling fan. Routine cleaning of the filter is recommended as follows: every six months for a Comm-Stor II unit operated in a clean office environment, or at three-month intervals if conditions are less ideal. A clogged filter may cause the unit to overheat. This may cause damage to the unit itself or any diskettes in the drive. Clean the filter as follows:

(a) Turn the Comm-Stor II unit power OFF (indicator not illuminated).

(b) Remove the two screws which fasten the filter cover.

(c) Remove the filter cover and air filter.

(d) Brush the frame to remove any dust dislodged by filter removal. Also, brush the fan to remove all dirt accumulated on the fan blades. If possible, blow out the fan assembly from inside the unit with compressed air and vacuum clean.

(e) Wash the filter in a detergent solution; then rinse and let air dry.

(f) Coat the filter media with a dust-collecting adhesive (Research Products Corporation Super Filter Coat Adhesive Spray #418 or equivalent).

(g) Reverse procedure to replace filter.

BATTERY

3.10 Replace the battery located on the base card assembly.

POWER SUPPLY

3.11 Using a voltmeter, check the voltages on the power supply. The voltage adjustments should be within ±5% of the normal voltages shown in Fig. 1.

4. OPERATIONAL CHECKOUT

4.01 After servicing the Comm-Stor II unit, perform the diagnostics as discussed in the appropriate Testing and Troubleshooting section.

4.02 On-line testing must be performed as discussed in Section 578-400-200, Installation Procedures for those units *not* equipped with the 8A1/8B1 protocol option or SMDR feature.

4.03 Units equipped with the 8A1/8B1 option should be tested as discussed in Section 578-400-201.

4.04 Units equipped with the SMDR option should be tested as discussed in Section 578-400-202.

+5, ± 12 RETURN

+12 VOLT ADJUST

+12 VDC

+5 OVER CURRENT ADJUST +5 VDC

+5 VDC

+5 VOLT ADJUST
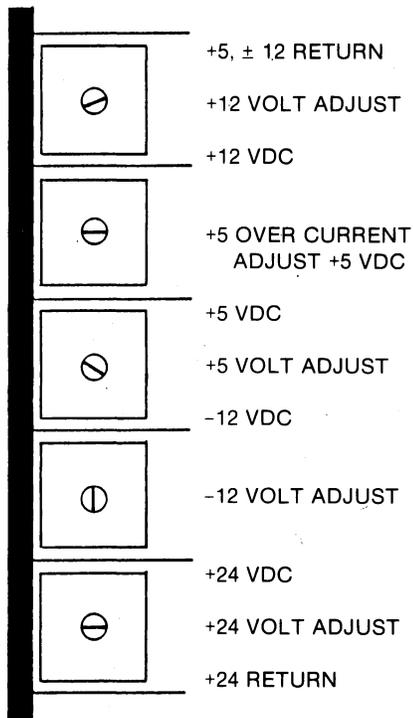
−12 VDC

−12 VOLT ADJUST

+24 VDC

+24 VOLT ADJUST

+24 RETURN

Fig. 1—Power Supply Voltage Adjustments