SYSTEM INITIALIZATION AND RECOVERY PROCEDURE
PERIPHERAL DATA STORAGE PROCESSOR (PDSP)
2-WIRE NO. 1 ELECTRONIC SWITCHING SYSTEM

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1. GENERAL

1.01 This section provides procedural guidelines for the initialization and the rapid recovery of peripheral data storage processor (PDSP). The initialization part of this procedure will cover the manual start-up of the system, and the recovery part will be used when automatic emergency actions have failed to establish a working system and manual intervention becomes necessary. This condition may be indicated by continuous switching of control units, continuous bootstrapping, teletypewriter (TTY) messages, etc.

1.02 This section is reissued to show changes in the panel markings on the system status panel (SSP), and to reflect the 2A generic.

1.03 Figure 1 contains the procedures for initialization, and Fig. 2 contains the procedure for recovery. For an unattended office which has TTY communications, only that portion of Fig. 2, Sheet 1, which follows a "yes" response to the question—Is a CU running?—is applicable.

1.04 The procedures are presented in flowchart form and enable the user to quickly arrive at the most likely cause of the problem and to take appropriate corrective action. The flowcharts given should be followed anytime a serious system disruption (such as major, minor, or critical alarm or panel time-out) occurs, even if it is felt that the problem is entirely hardware.

1.05 The flowchart assumes no prior knowledge of the system condition other than the system's inability to process messages. The flowchart referencing is accomplished by double letters within the connector symbols, eg, (AA). When the connector symbol directs the user to a different sheet within the flowchart, the sheet number will appear adjacent to the symbol.

1.06 If the procedures in the flowchart do not lead to the restoration of service, the problem under investigation is beyond the scope of this section and other trouble clearing methods should be employed.

1.07 The flowchart will indicate the proper action to be taken. Notes accompany the flowchart to provide a more detailed explanation of some operations. The note associated with the flowchart symbol is indicated in the symbol by an encircled letter; eg (A). The notes are provided in 2.01.

1.08 In this section the use of the terms ***operate*** and ***release*** refers to successive depessions of a locking type key. The term ***depress*** refers to each momentary operation of a nonlocking type key. Relays operated through the depressing of a nonlocking type key require a depression of at

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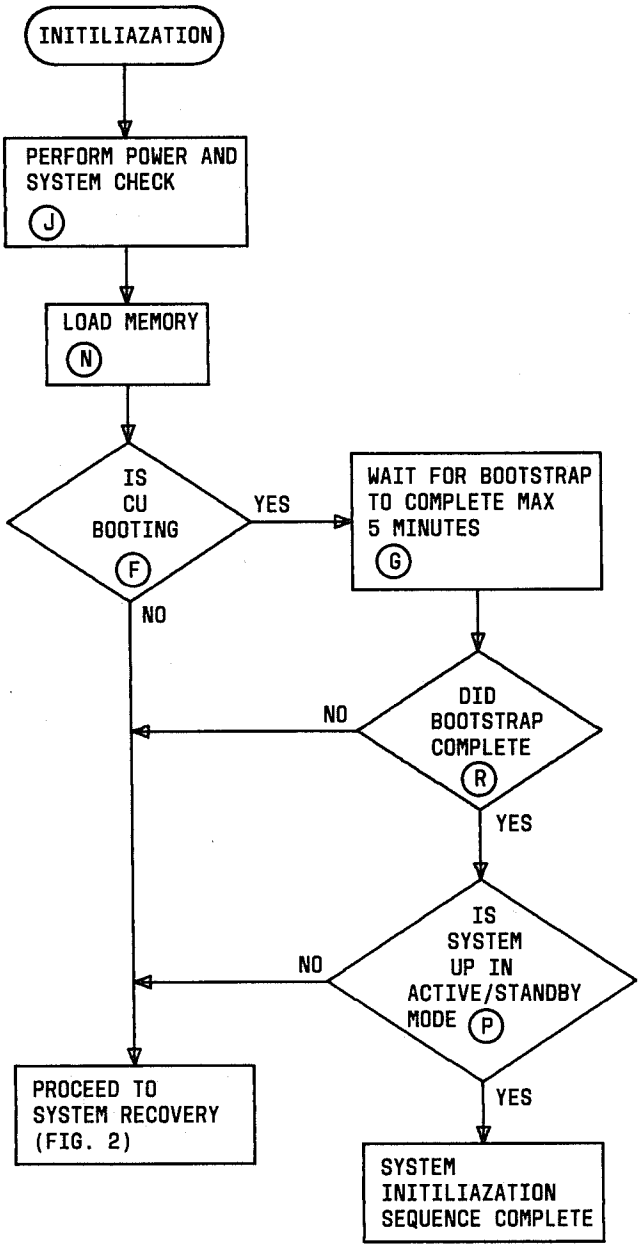


Fig. 1—System Initialization

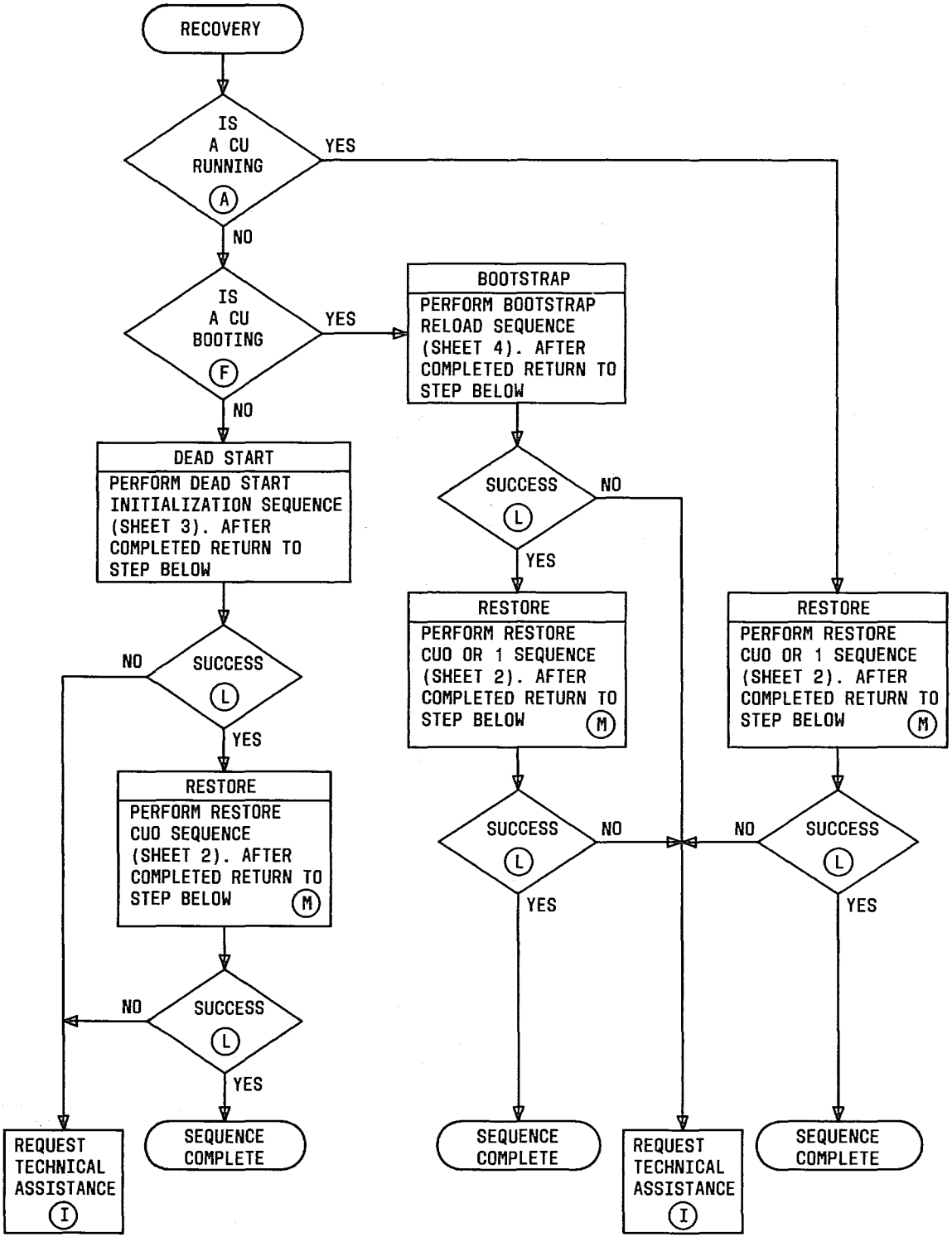


Fig. 2—System Recovery (Main Function) Sheet 1 of 5

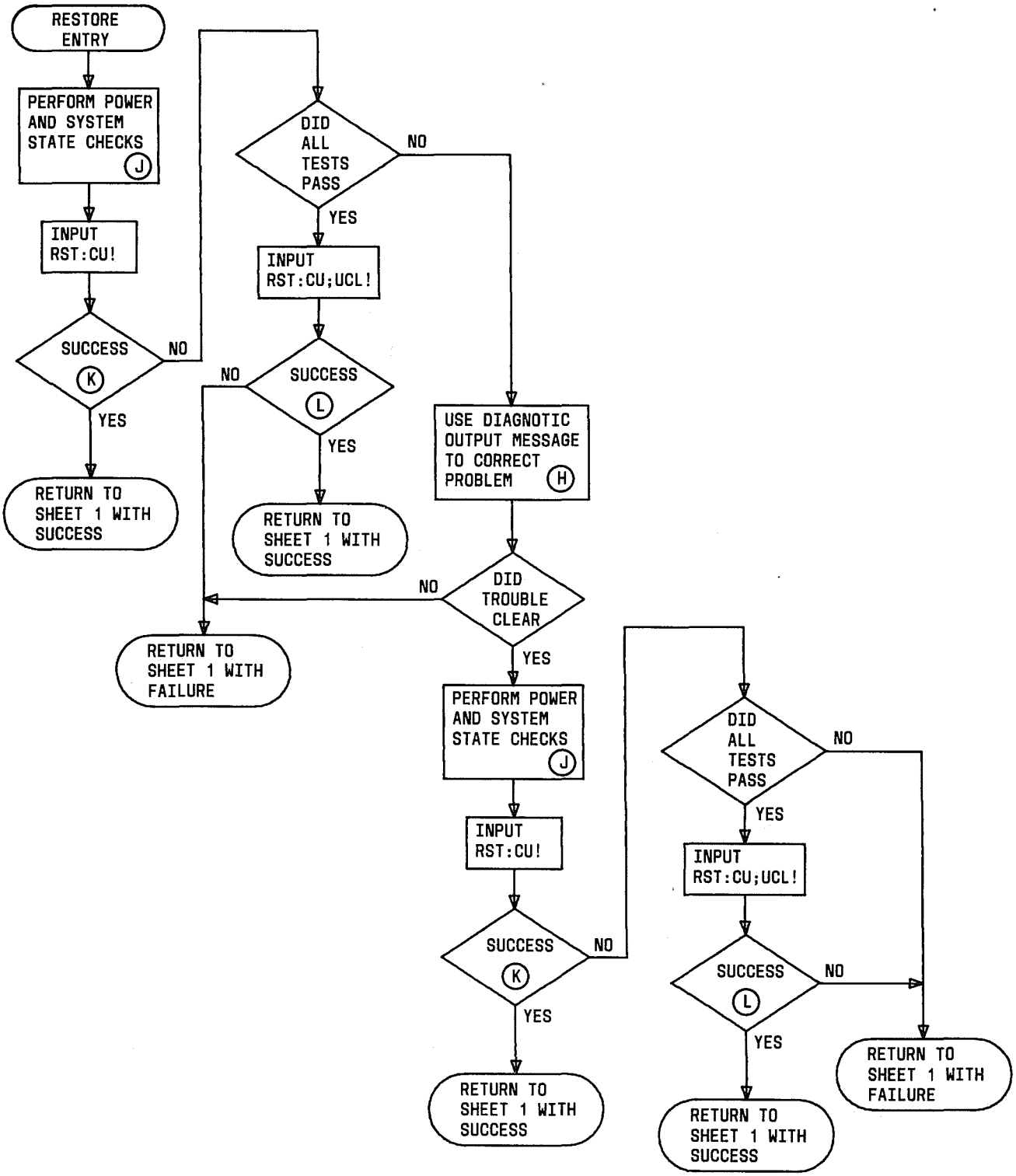


Fig. 2—System Recovery (Restore Seqence) Sheet 2 of 5

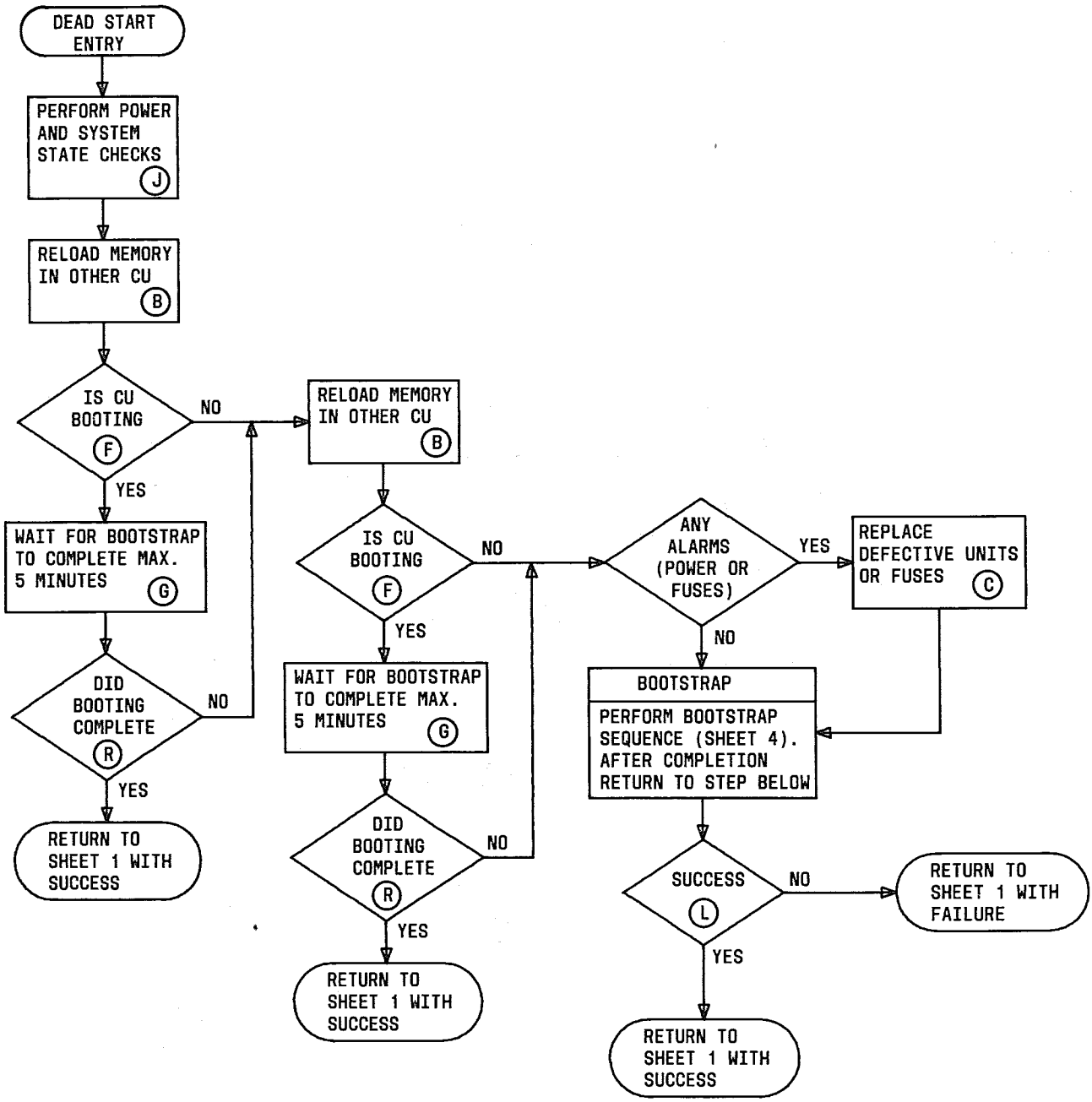


Fig. 2—System Recovery (Dead Start Sequence) Sheet 3 of 5

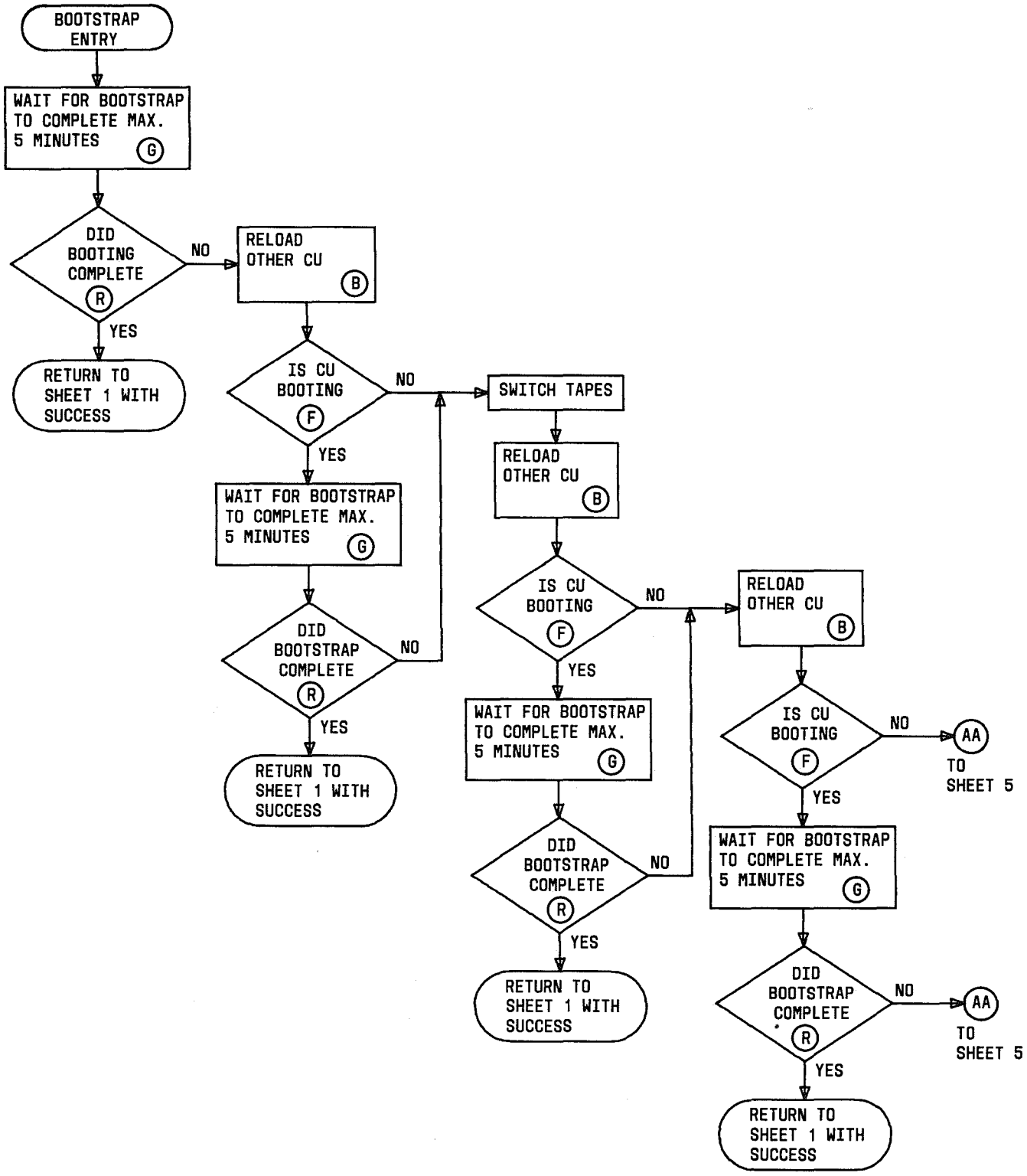


Fig. 2—System Recovery (Bootstrapping Sequence) Sheet 4 of 5

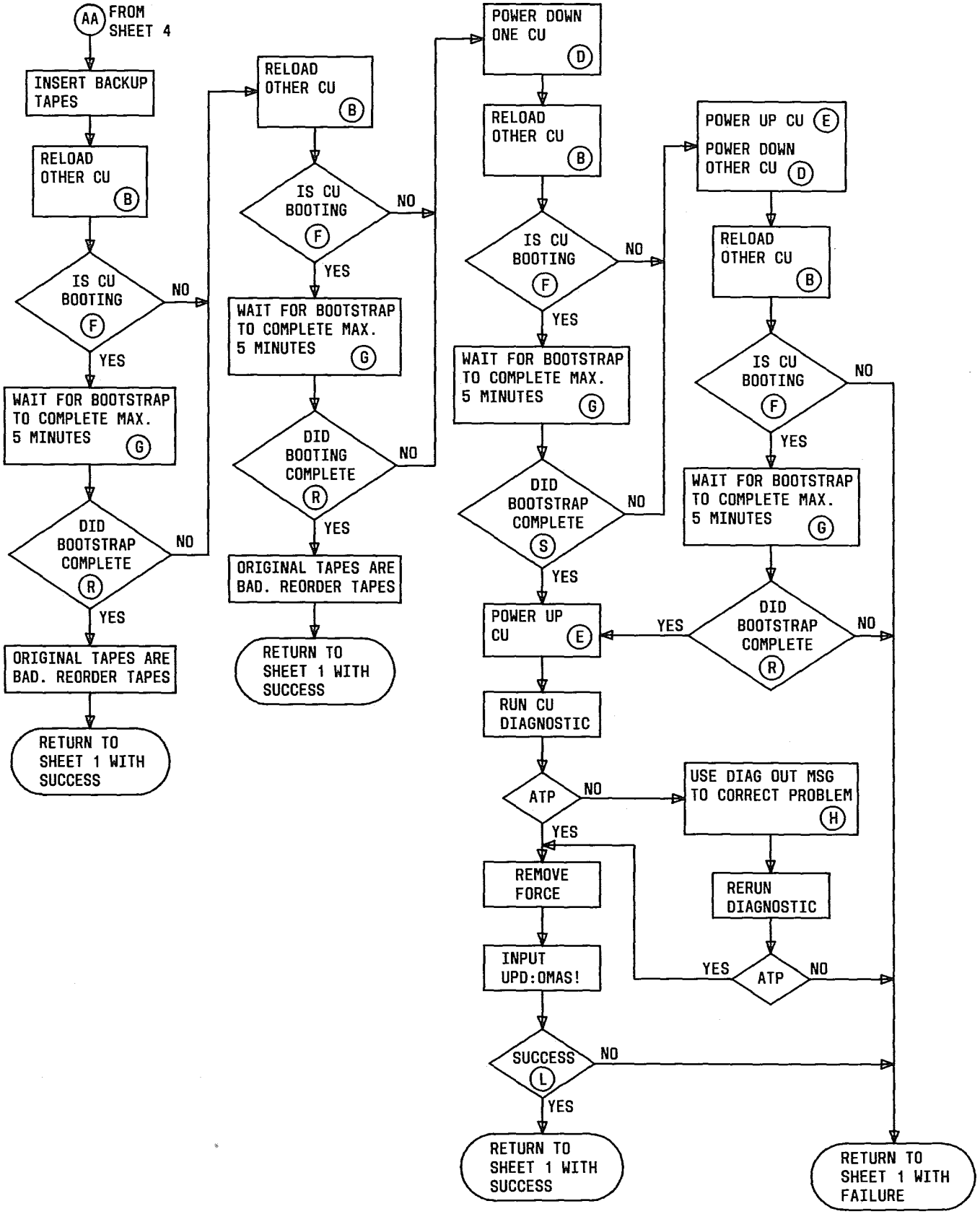


Fig. 2—System Recovery (Bootstrapping Sequence) Sheet 5 of 5

least one-half second to insure system recognition. Some keys that can be ***operated*** manually can also be ***released*** by program control and vice versa. These keys are identified on Fig. 3.

1.09 Indicators directly associated with system initialization and recovery are located on the SYSTEM EMERGENCY MANUAL CONTROL SECTION of the SYSTEM STATUS PANEL (SSP). See Fig. 3. For the PDSP application, STAB CALL REC CHG, BACKDT OFFICE DATA, and EMER LINE TRFR, are not used.

2. SUPPLEMENTAL NOTES FOR INITIALIZATION AND RECOVERY PROCEDURES

2.01 The following notes are referred to by the flowcharts and will be used whenever they are identified in one of the symbols within the flowchart.

Ⓐ Proper operation of a control unit (CU) can be determined by the success of any of the following checks. Perform these checks in the sequence given and stop if first check is successful.

(1) At the maintenance TTY—type the "!" character. Successful response is "?A" with a carriage return and line feed.

(2) At the ***system emergency manual control*** panel—depress the TTY INIT key for a least one-half second. Successful response is—TTY INIT key is immediately extinguished by the program and an output message is received on the TTY.

Ⓑ Reload CU

(1) Remove FORCE if present

(2) Operate the appropriate SELECT key

(3) Operate the FORCE key

(4) Operate the ENABLE key

(5) Operate the MEMORY RELOAD key

(6) Operate the INIT EXEC key twice

(7) Repeat Steps (4) and (6) five times in rapid succession.

Note: If initialization takes place, the operated keys will release under program control.

Ⓒ Attempt to restore power to the converters by operating the POWER key on the 3A central control panel (Fig. 4) of the appropriate frame. If power cannot be restored by operation of the POWER key, replace the bad converter pack or packs indicated by power alarms.

Ⓓ To power down the CU:

(1) Insure that the SELECT key for the desired off-line CU is released at the ***system emergency manual control*** panel.

(2) Operate the ***SELECT*** key for the desired on-line CU.

(3) Operate ***FORCE*** key.

Note: Any time both CUs are powered down, a bootstrap operation must be performed to load memory before attempting to run after powering up.

(4) At the front of the 3A central control panel of both processor frames, operate the MANUAL key. See Fig. 4.

(5) At the front of the off-line 3A central control panel, depress the ***POWER*** key.

(6) Check that all lamps on the off-line 3A central control panel are off except TEST mode lamp.

Note: If CU cannot be powered down, replace board FA-1032 54-25 and FA-1033 54-24. If this does not solve the problem, obtain further technical assistance.

Ⓔ To restore power to the CU:

(1) Depress ***POWER*** key.

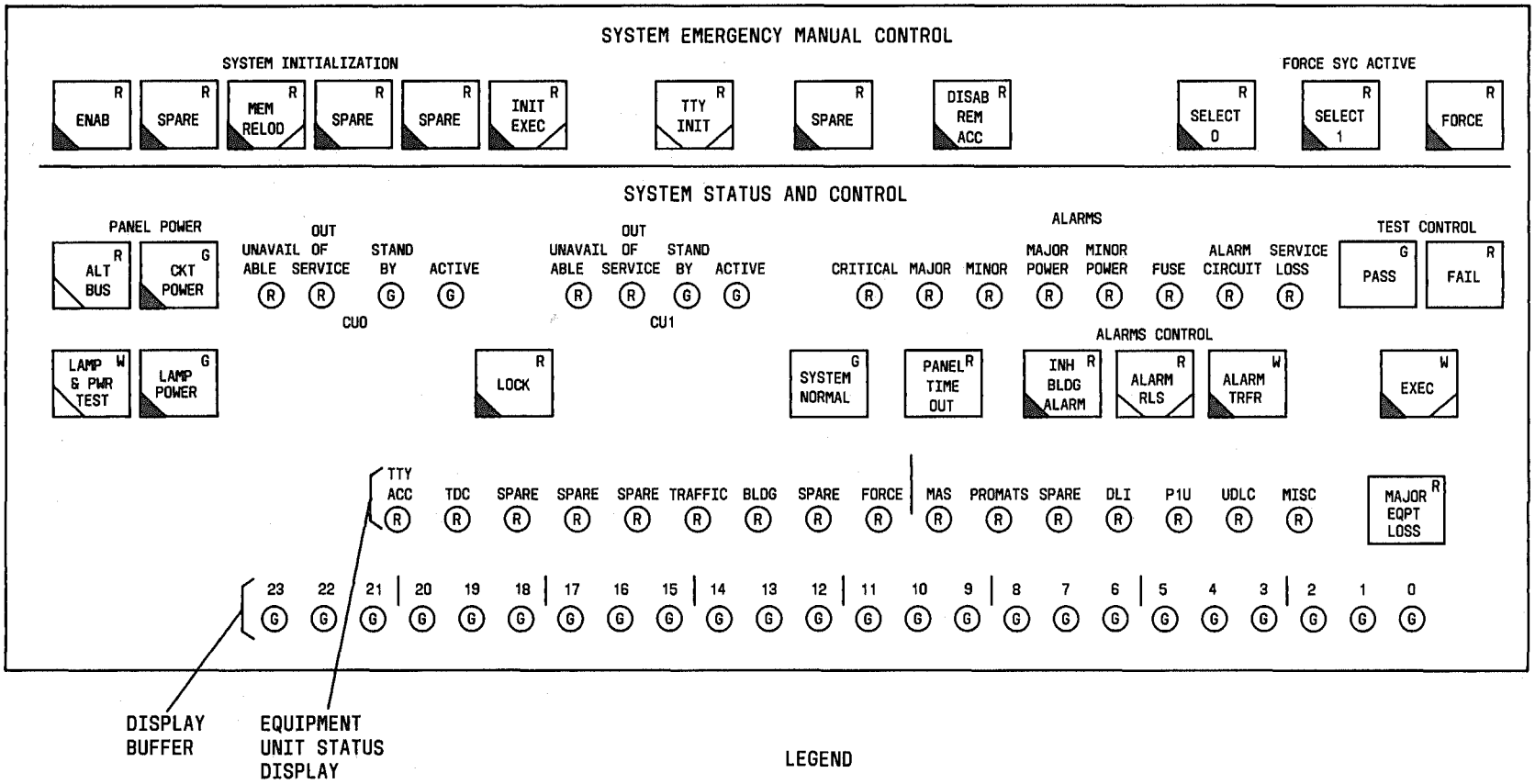
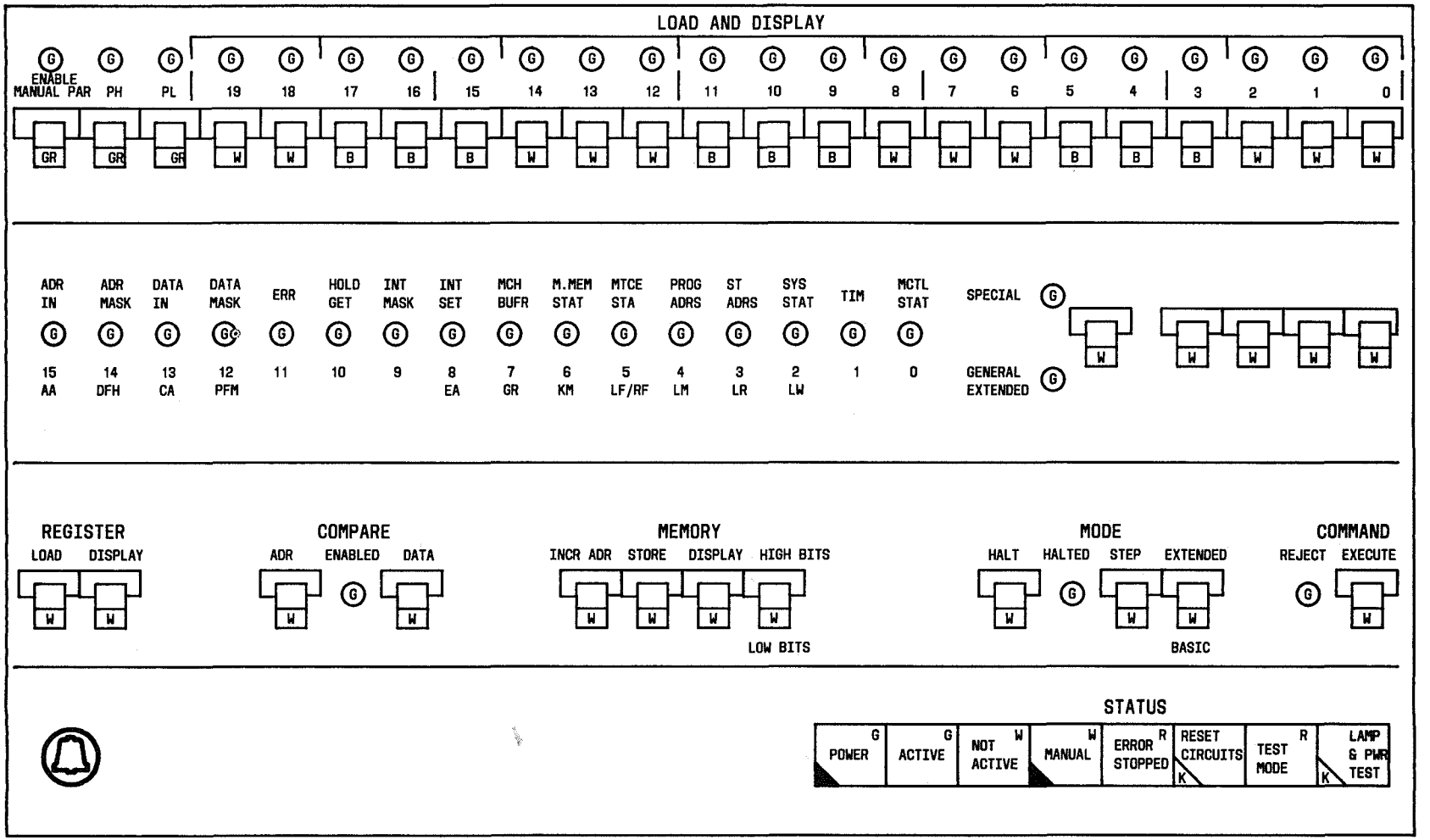


Fig. 3—System Status Panel Keys, Lamps, and LEDs



LEGEND:
- A - AMBER
- B - BLUE
- G - GREEN
- GR - GRAY
- R - RED

LIGHT EMITTING DIODE (LED)

SWITCH

LAMP

ALTERNATE-ACTION KEY/LAMP

MOMENTARY-ACTION KEY

MOMENTARY-ACTION KEY/LAMP

Fig. 4—3A CC Control Panel

(2) At the front of the 3A central control panel, release the ***Manual*** key. Make sure both CUs are out of the manual mode.

(3) Check that some of the lamps and LEDs are lighted on the 3A central control panel.

(4) Set test mode switch to NORMAL. This switch is located on the rear of the CU control panel. See Fig. 5.

Ⓕ A system bootstrap is recognized by a continual movement of an opposing pair of lights on the CU and SSP display buffers, the movement of tape, and possibly the TTY bell sounding at approximately one-half second intervals.

Ⓖ The bootstrap has completed when the changing pattern on the display buffer and TTY bell ceases. This is followed by the start of system initialization printout.

Ⓗ See Input Message Manual and Output Message Manual for a detailed explanation of audit requests, postmortem dumps, and/or other printouts. See TLM for diagnostic printout.

Ⓘ Request additional technical assistance through normal channels.

Ⓙ Perform POWER and LAMP TEST on both CUs and Maintenance frame.

(1) Replace defective lamps.

(2) Verify that both CUs are powered up.

(3) Verify that neither CU is in MANUAL Mode.

(4) Verify that neither CU is FORCED.

(5) Verify that neither CU is in test mode. The Test MODE/NORMAL switch is located on the rear of the CU from panel. See Fig. 5.

Ⓚ Verify that the on-line CU is still ACTIVE and the off-line CU is in STAND-BY.

Note: The off-line CU will be restored to STAND-BY only after the CU diagnostic, initiated by the RST:CU!, is successfully completed and the off-line store is updated.

Ⓛ Verify that the on-line CU is ACTIVE and that the off-line CU is in STAND-BY. If not, verify the off-line CU is not in MANUAL.

Note: A delay of up to 30 seconds must be allowed for the off-line store to be updated.

Ⓜ If no hardware problems are detected, replace any tape that would not load.

Ⓝ Load Memory

(1) Verify that both tapes are in place in the TDC and that both tapes are identical and current.

(2) Remove force if present.

(3) Operate the ENABLE key.

(4) Operate the MEMORY RELOAD key.

(5) Operate the INIT EXEC key twice.

(6) Repeat Steps (3) and (5) five times in rapid succession.

Note: If initialization takes place, the operated keys will release under program control.

System Verification

(1) Verify that CU is running. See A.

(2) Verify post-mortem output on TTY.

(3) Verify that on-line CU is active.

(4) Verify that off-line CU is in the stand-by mode. If not, verify the off-line CU is not

in MANUAL or the on-line CU is not FORCED.

Ⓡ Bootstrapping Verification.

(1) Verify that CU is running.

(2) Verify post-mortem dump at TTY.

(3) Verify UPD OMAS complete message at TTY. If not, verify the off-line CU is not in MANUAL or the on-line CU is not FORCED.

Ⓢ Single CU Bootstrap

(1) Verify that CU is running. See A.

(2) Verify post-mortem dump at TTY

(3) Keep on-line CU FORCED.

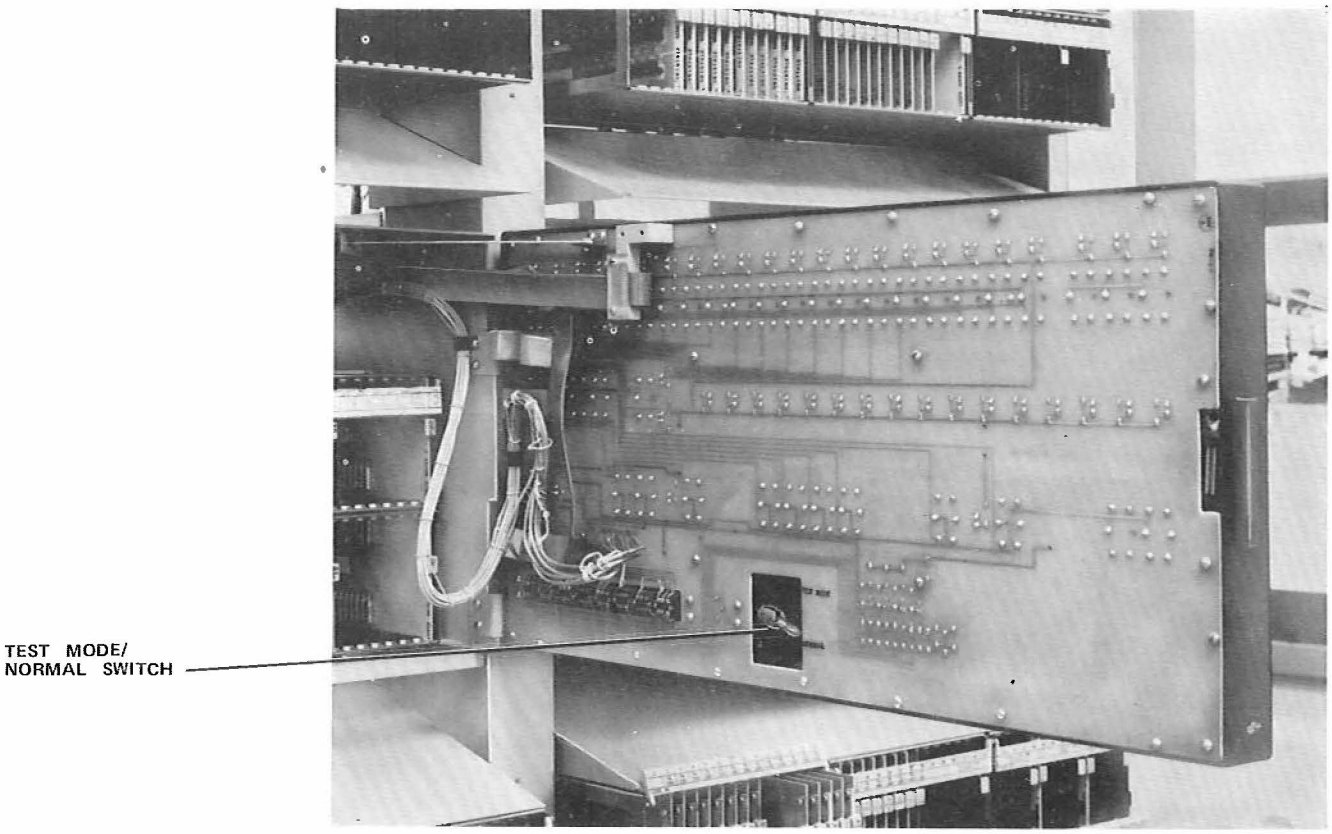


Fig. 5—Test Mode/Normal Switch