

2.3 SELF-TEST SEQUENCE

2.3.1 General

The self-test sequence is performed in two stages:

Stage 1 is a fully automated test of safety monitoring and high-voltage safety interlocks;

Stage 2 is a semi-automatic test of keyboard and display functions, which also responds to operator's key selections.

2.3.2 Stage 1 (Fig. 2.1)

Entry into Stage 1 is selected automatically whenever the **TEST** key is pressed for the first time (the test is not allowed if **OUTPUT ON**, **ERROR** or **SPEC** are selected or when in remote control). Indication of test mode is given by the LED in the **TEST** key being lit. The full sequence of Stage 1 must be completed before exit from the test mode can be made. The tests performed in Stage 1 are as follows:

1. Safety Monitor Watchdog Test. In this, the safety monitor is tripped causing the word '**SAFETY**' to appear in the Mode display, the **Reset** LED flashes and the buzzer sounds continuously. It is necessary for the operator to reset the safety monitor by pressing the **Reset** key, after which the '**SAFETY**' display is replaced by the 'running' message, and the test sequence continues.
2. Calibration Memory Test. The contents of the non-volatile calibration RAM are checked for validity. Failure results in the message '**FAIL 6**' appearing on the Mode display.
3. High-voltage Protection. This test ensures that a voltage demand made to the power amplifier does not trip the software voltage detector when immediately below the detector threshold level, but when raised to a level above the detector threshold the detector is tripped.

Incorrect detect action is shown by the message '**FAIL 2**' on the **MODE** display. No voltages appear at the output terminals during this test.

Fail messages are updated as the test sequence progresses through the calibration memory and high-voltage tests. After completion of the high-voltage test, the test mode ends and the Test LED is cancelled. If faults were encountered the last **FAIL** message will remain on the display replacing the running message. Fault diagnosis can now be performed. If no faults are encountered during Stage 1, the message '**PASS**' is displayed. The calibrator can now be returned to normal operation, or Stage 2 of the self-test sequence can be selected.

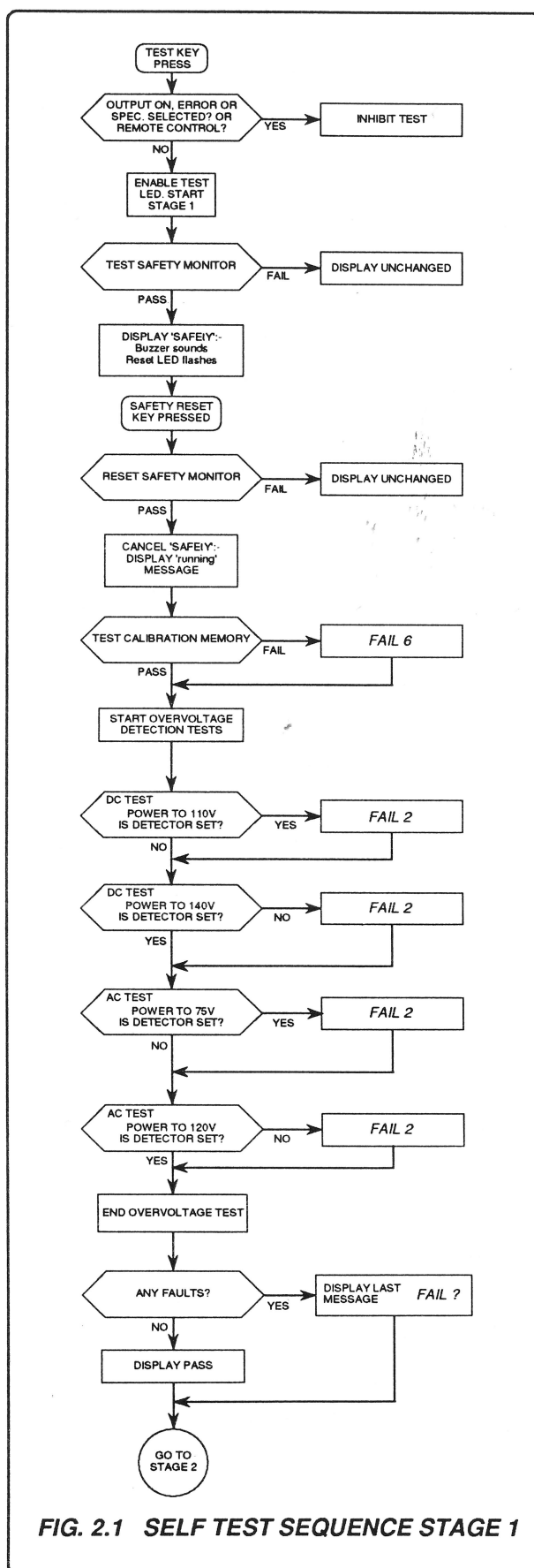


FIG. 2.1 SELF TEST SEQUENCE STAGE 1