

SOUTHERN AVIONICS COMPANY

MANUFACTURERS OF LOW FREQUENCY RADIOBEACONS AND ASSOCIATED PRODUCTS



700 MODIFICATION 83-3 (REV B)

ADDITION OF AUTOMATIC SHUTDOWN
RESET FWB 146

700 MODIFICATION 83-3 (REV B)

MODIFICATION: Addition of Automatic Shutdown Reset PWB 146

PURPOSE: To provide for automatic reset of the auto-shutdown feature of SAC NDB transmitters. The automatic shutdown board will be automatically reset after a selectable time delay of from 7.5 minutes to 84.6 minutes. If the condition that caused a shutdown still exists, the automatic shutdown board will again shut down the transmitter and the automatic reset board will again time out and attempt to reset the automatic shutdown board. This process will continue until the transmitter is successfully reset or until power is removed from the system.

INSTALLATION: Install the automatic reset PWB 146 in the location depicted in Figure 1. Make sure the terminals on the reset board are attached to the proper terminals on the transmitter power supply terminal block. If your transmitter was not equipped with the automatic shutdown feature when ordered from the factory and automatic shutdown was retrofitted later, the "sense" line may not be available at station number 6 on the power supply terminal block. If not, refer to the schematic diagram (Figure 2).

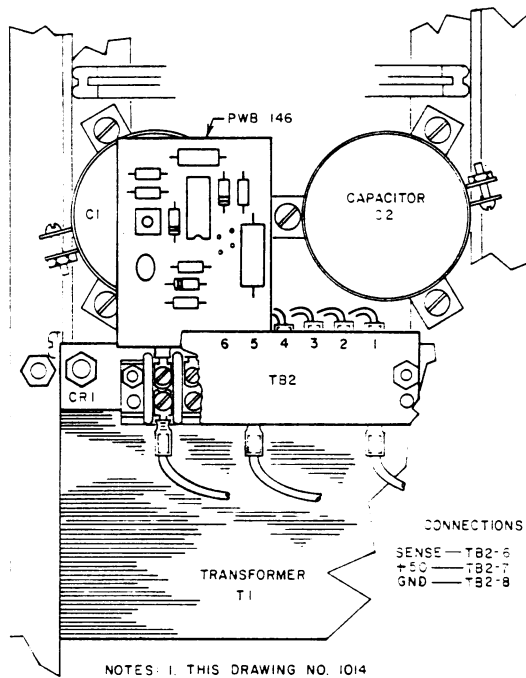
Note: When using the automatic reset PWB-146 on SAC NDB's with the optional battery standby unit installed, the battery system must be on and batteries must be connected or the automatic reset PWB-146 will not operate. If no battery standby unit is installed, the factory supplied jumper plug must be installed on the battery standby connector or some other means must be provided to make +50VDC available at station #7 on TB2.

CALIBRATION: The automatic shutdown reset PWB 146 is comprised of an RC oscillator whose output is divided by ICl, a 14 stage ripple carry binary counter. Resistor R7 on PWB 146 selects which output of the counter will be used to fire the reset circuit. The following outputs can be selected by moving resistor R7.

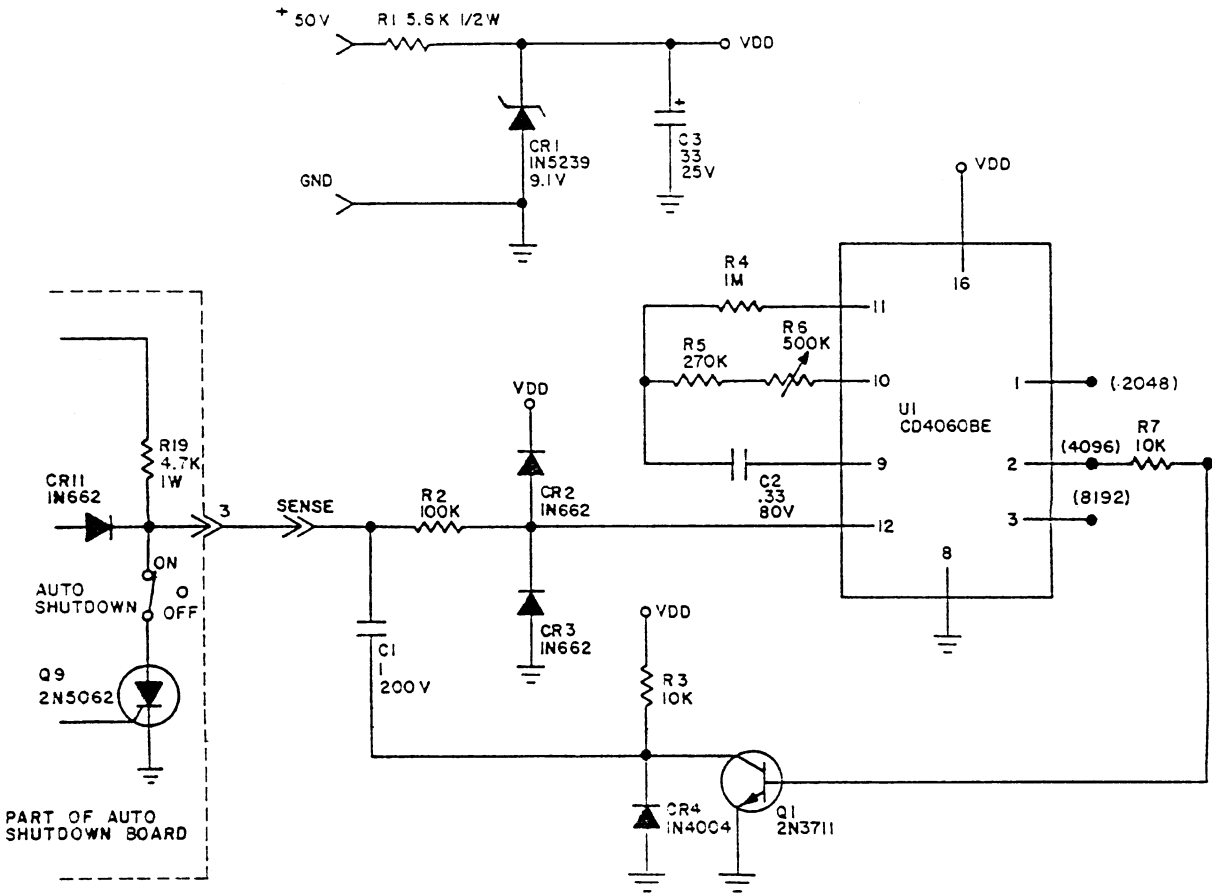
R7 to 1= T_0 x 2048
R7 to 2= T_0 x 4096
R7 to 3= T_0 x 8192

The automatic shutdown reset PWB 146 is shipped from the factory with the oscillator set for a period (T_0) of 440 MS and resistor R7 wired to option 3 which provides a time delay of 1 hour. (.44 seconds times 8192 divided by 60 = 60.07 minutes). Any time delay between 7.5 minutes and 84.6 minutes can be selected by choosing the correct position and setting the oscillator frequency for the chosen period.

Note: If you are operating two transmitters in a dual configuration, the automatic reset PWB 146 should be installed on the secondary transmitter.



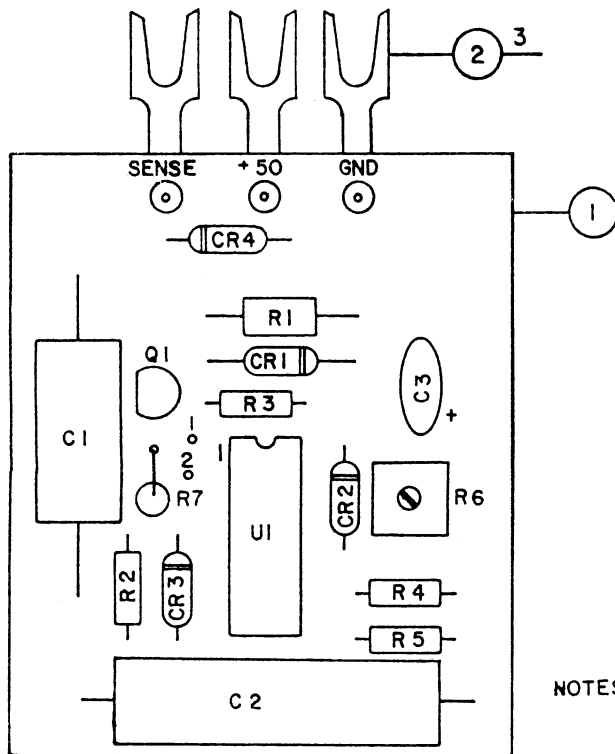
AUTOMATIC SHUTDOWN RESET
 PWB INSTALLATION



- NOTES: 1. THIS DRAWING NO. 940 REV. B.
 TITLED: AUTOSHUTDOWN RESET PWB 146-944 SCHEMATIC
 2. ASSEMBLY DRAWING NO. 944 REV. C.
 3. PART NO. PWB 146-944
 4. ALL RESISTORS 1/4W, 10% UNLESS NOTED.
 5. ALL CAPACITORS IN MFD UNLESS NOTED.

AUTO SHUTDOWN RESET PWB SCHEMATIC

REF. DES.	QTY.	PART NUMBER	DESCRIPTION
C1	1	MMW-1W1	CAP, 1UF, 100V, FILM
C2	1	192P3349R8	CAP, .33UF, 80V, FILM
C3	1	196D336X9025P	CAP, 33UF, 25V, TANT
CR1	1	1N5239B	DIODE, ZENER, 9.1V
CR2,3	2	1N662	DIODE, SWITCH, 80V, .040A
CR4	1	1N4004	DIODE, RECT, 400V, 1A
Q1	1	2N3711	XSTR, NPN, 30V, .03A
R1	1	OE5621	RES, 5.6KΩ, 10%, 1/2W, CC
R2	1	OC1041	RES, 100KΩ, 10%, 1/4W, CC
R3,7	2	OC1031	RES, 10KΩ, 10%, 1/4W, CC
R4	1	OC1051	RES, 1MΩ, 10%, 1/4W, CC
R5	1	OC2741	RES, 270KΩ, 10%, 1/4W, CC
R6	1	3386P-1-504	RES, VAR, 500KΩ, 1/2W
U1	1	CD4060BE	IC, BINARY COUNTER/DIVIDER, 16
1	1	DWG 946 REV B	PWB 146, BLANK
2	3	DWG 2524 REV A	DETAIL, TERMINAL LUG



- NOTES: 1. THIS DRAWING NO. 944 REV. C.
TITLED: AUTOSHUTDOWN RESET PWB 146-944.
2. SCHEMATIC DRAWING NO. 940 REV. B.
3. PART NO. PWB 146-944.
4. SEE BOM 944 REV. B.

AUTO SHUTDOWN RESET PWB ASSEMBLY