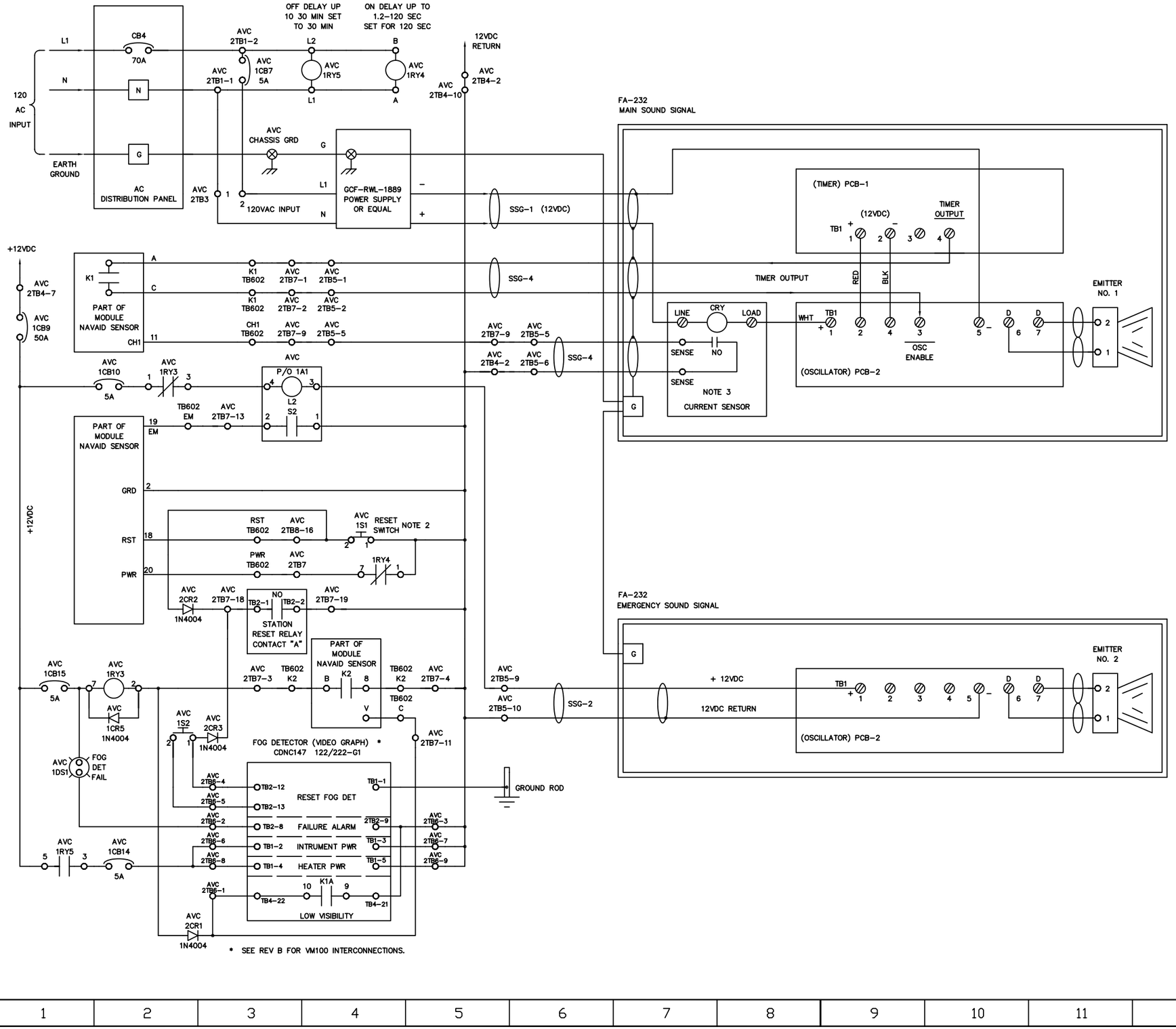

SEQUENCE OF OPERATION

INITIAL CONDITIONS:

ALL 12VDC AND 120VAC POWER SECURED. ALL RELAYS SHOWN DE–ENERGIZED.
CLEAR WEATHER, ALL SOUND SIGNALS SECURED.
UNLESS OTHERWISE PREFIXED, ALL COMPONENTS ARE PART OF FA–232 SOUND SIGNAL ASSEMBLIES.

SEQUENCE:

ENERGIZE ALL 12VDC SOUND SIGNAL CONTROL CIRCUITS BY CLOSING 1CB9(G1), 1CB10 (F2) BATTERY POWER, 1CB15(D1) AND 1CB14(B2) FOG DETECTOR (IF INSTALLED).
ENERGIZE ALL 120VAC POWER BY CLOSING CB4(J2) IN THE MAIN 120VAC DISTRUBUTION PANEL AND 1CB7(I3).
WHEN TIME DELAY RELAY 1RY4(I4) TIME OUT, 1RY4 CONTACTS (E4) OPEN PROVIDING AN AUTOMATIC POWER RESET TO THE NAVAID SENSOR MODULE.
THE FOG DETECTOR (IF INSTALLED) DETECTS ATMOSPHERIC VISIBILITY BELOW THE PRESET THRESHOLD SETTING AND OPENS ITS AUXILIARY RELAY CONTACT K1A (B4) WHICH DISCONNECTS THE GROUND FROM THE 'V' COMMAND LINE TERMINAL (C4) OF NAVAID SENSOR MODULE. THIS PRESENTS A 'SOUND SIGNAL SHOULD BE ON' COMMAND TO THE NAVAID SENSOR MODULE.
THE SENSOR MODULE ACTS TO CLOSE ITS K1 (G2) CONTACTS WHICH APPLY THE MAIN SOUND SIGNALS TIMER OUTPUT (G8) TO THE OSCILLATOR ENABLE TERMINAL TB1–3 (J9). THIS COMPLETES THE CODING CIRCUIT AND THE MAIN SOUND SIGNAL WILL NOW OPERATE ON THE CHARACTERISTIC PRESCRIBED BY THE TIMER.
MAIN SIGNAL OPERATION IS DETECTED BY THE CURRENT DETECTOR (G7) CONNECTING IN SERIES WITH THE SIGNALS POSITIVE POWER SUPPY LINE. THE CRY CONTACTS IN THE CURRENT DETECTOR PROVIDE A CLOSURE TO GROUND FOR THE DURATION OF EACH SOUND SIGNAL BLAST. THESE CLOSURES TO GROUND ARE FED TO THE NAVAID SENSOR MODULE CHANNEL NO. 1.
THE NAVAID SENSOR MODULE TIMING INTERVAL IS USUALLY SET FOR 150% OR MORE OF THE MAIN SOUND SIGNAL CHARACTERISTIC. WHEN THE NAVAID SENSOR MODULE ACTIVITY CHANNEL NO. 1 SENSES THAT THE CHARACTERISTIC OF THE MAIN SOUND SIGNAL EXCEEDS THE TIMING INTERVAL, IT DETERMINES THAT THE MAIN SOUND SIGNAL HAS FAILED. THIS CAUSES THE NAVAID SENSOR MODULE TO PROVIDE A MAIN SIGNAL "FAIL" INDICATION TO ANY CONNECTED MONITOR DEVICE AND TO OPEN K1 (G2) CONTACTS THUS SECURING THE MAIN SOUND SIGNAL. IT ALSO WILL OPEN ITS K2 (D4) CONTACTS THUS REMOVING THE GROUND FROM THE COIL OF 1RY3 (C2) AND DEENERGIZING THIS RELAY. THE 1RY3 CONTACTS (G2) THEN CLOSE APPLYING POWER TO THE EMERGENCY SIGNAL THROUGH THE 1A1 CURRENT DETECTOR COIL L2 (F3). THIS CURRENT DETECTOR'S S2 CONTACTS (F3) PROVIDE A CONTACT CLOSURE TO GROUND FOR THE EMERGENCY CHANNEL OF THE NAVAID SENSOR MODULE DURING EACH BLAST OF THE EMERGENCY SOUND SIGNAL. AS LONG AS THESE CLOSURES TO GROUND ARE WITHIN 150% OF THE SOUND SIGNAL CHARACTERISTIC, THE NAVAID SENSOR MODULE WILL PROVIDE AN EMERGENCY SOUND SIGNAL "ON" INDICATION TO ANY CONNECTED MONITOR DEVICE. UPON FAILURE OF THE EMERGENCY HORN (EITHER WRONG CHARACTERISTIC OR TOTAL FAILURE) THE NAVAID SENSOR MODULE WILL PROVIDE AN EMERGENCY SOUND SIGNAL "OFF" TO ANY CONNECTED MONITOR DEVICE.

NOTES:

1. TB–602 LOCATED IN NAVAID SENSOR PANEL. ALL OTHER PARTS LOCATED IN AUDIO VISUAL CONTROLLER (AVC) UNLESS NOTED.
2. THIS SWITCH RESETS THE NAVAID SENSOR MODULES MANUALLY, OTHERWISE IT PERFORMS THE SAME FUNCTION AS 1RY4 CONTACT (E5) AS DESCRIBED IN THE SEQUENCE OF OPERATION. THE RESET FUNCTION CLOSES K1 AND K2 CONTACTS.
3. SEE DWG 130435 FOR CABLE INTERCONNECTIONS. SEE DWG 130103–1 FOR ADDITION OF CURRENT DETECTOR TO FA–232.

REV.	DATE	APPR.	DESCRIPTION	BY
A	3/99	HRC	ADD GROUND CONNECTIONS TO VARIOUS EQUIPMENT.	STN

DESIGNED: CM/RAD
DRAWN:
TRACED:
CHECKED: D.C.WALKER
REVIEWED BY: W.W.RYAN
EQUIP MGR
REVIEWED BY: H.R.CLEVELAND
CH MAJ AID SYS
REVIEWED BY: C.W.SCHECK
CH SUP EQ BR

U.S. COAST GUARD HEADQUARTERS
CIVIL ENGINEERING

STANDARD AID TO NAVIGATION
SINGLE FA–232 MAIN SOUND SIGNAL WITH EMERGENCY SOUND SIGNAL TROUBLE SHOOTING DIAGRAM

APPROVED: K. D. URFER, CHIEF OF DIVISION
DATE: 6/29/78

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS ARE IN INCHES.
TOLERANCES: DIM.
ANG.

DRAWING NUMBER: 130735
REV.: A
SCALE: NONE
SHEET 1 OF 1