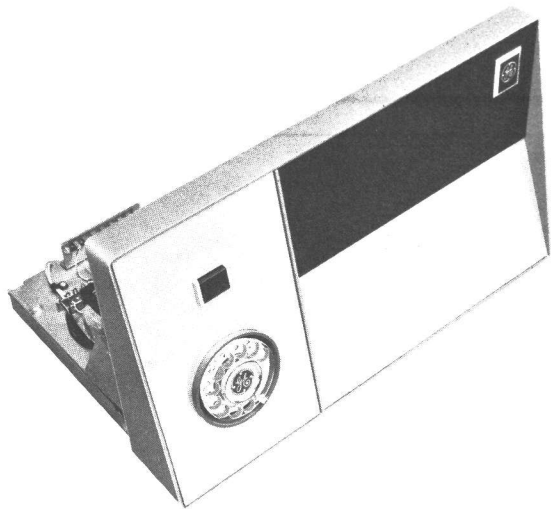
MOBILE RADIO

MAINTENANCE MANUAL

DIGITAL TONE ENCODERS
MODELS 4EH19C10-12

Maintenance Manual LBI-3987B



SPECIFICATIONS *

Encoder Console Tone Frequencies	
Model 4EH19C10, 13, 16	590 Hz
Model 4EH19C11, 14, 17	1500 Hz
Model 4EH19C12, 15, 18	2805 Hz
Tone Output Level	100 millivolts
Input Voltage Requirements	117 VAC
Temperature Range	-30° to +60°C (22°F to 144°F)

EH-19-C

These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

GENERAL ELECTRIC

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Table I - Encoder Application Chart

Model Number	Tone Frequencies	Used With:
4EH19A10	590 Hz	Standard Right Panel
4EH19A11	1500 Hz	Standard Right Panel
4EH19A12	2805 Hz	Standard Right Panel
4EH19A13	590 Hz	Single-Channel Voting Control Panel
4EH19A14	1500 Hz	Single-Channel Voting Control Panel
4EH19A15	2805 Hz	Single-Channel Voting Control Panel
4EH19A16	590 Hz	Two-Channel Voting Control Panel
4EH19A17	1500 Hz	Two-Channel Voting Control Panel
4EH19A18	2805 Hz	Two-Channel Voting Control Panel

WARNING

No one should be permitted to handle any portion of the equipment that is supplied with voltage or RF power; or to connect any external apparatus to the units while the units are supplied with power. KEEP AWAY FROM LIVE CIRCUITS.

DESCRIPTION

The General Electric Digital Tone Encoders Models 4EH19C10-12 are designed for use in the turret right - section of a Radio Control Center. Electrical components are mounted on a 19-inch drawer-type chassis which can be easily removed from the turret for maintenance and servicing.

The basic encoder circuits consist of a TGS-740 Code Sender which is described in a separate Instruction Manual.

Each encoder has a self contained power supply that operates from a 117-VAC power source. Interconnection between the tone encoder and the center section of the Radio Control Center is provided by cable W1 (see Interconnection Diagram).

ADJUSTMENT

The tone output has been set at the factory to produce 10 mV rms at TB-1 and TB-2 and should not require further adjustment. If adjustment becomes necessary, use the following procedure.

1. Connect a VTVM across TB1-1 and -2.
2. Rotate the dial on the front of the panel until one of the holes is beyond the finger stop. Insert the eraser end of a pencil in the hole to keep the dial "off normal" and keep the tone oscillator on.
3. Adjust the tone output control (R6) to obtain a meter reading of 10 mV rms.

OPERATION

A standard telephone dial is provided on the front of the tone panel for initiating the tone code. While the dial is "off normal" the tone oscillator is keyed and the red transmit lamp is lighted. As the dial returns to normal, the tone is pulsed in accordance with the selected code digit.

NOTE

Potentiometer R6 is accessible from the side of the code sender. See Figure 1 of the TGS-740 Instruction Manual for location of the potentiometer.

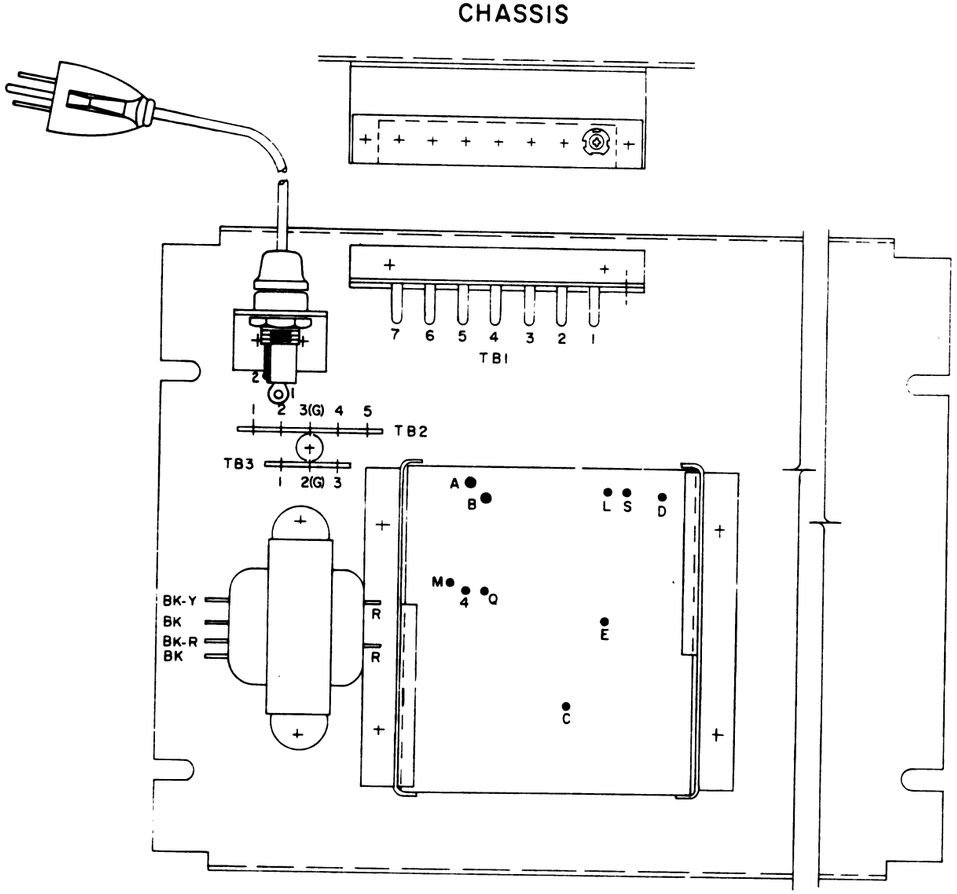
MAINTENANCE

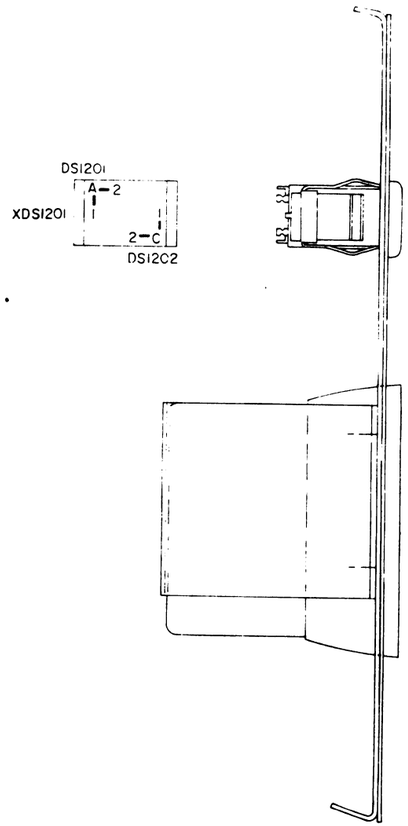
Remove the tone panel from the console turret in the following manner:

1. Grasp the tone panel frame and pull the panel forward until the stop is reached.
2. To completely remove the panel from the turret, lift the panel to clear the stop and pull forward. No electrical disconnections are required to set the panel on the desk top.

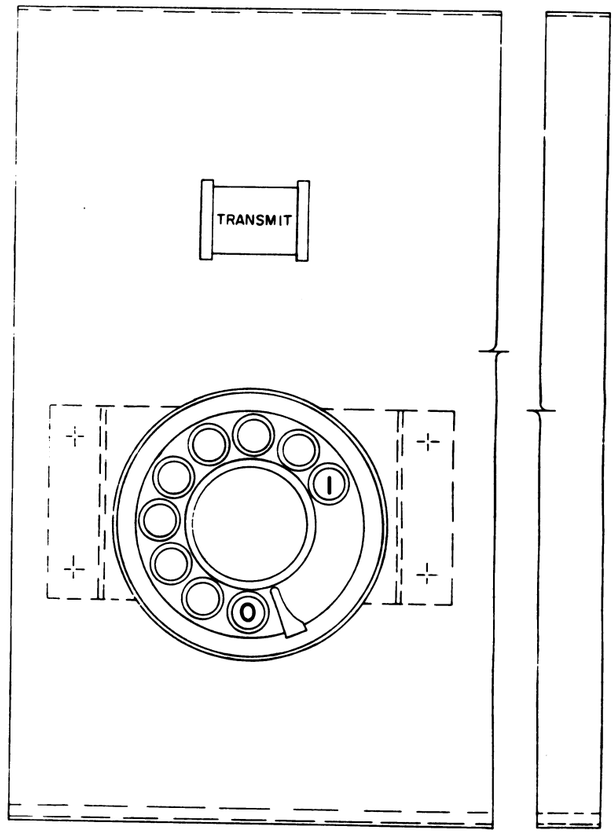
Refer to the Instruction Manual on the TGS-740 Code Sender for maintenance information of this unit (LBI-4438).

CHASSIS





FRONT PANEL

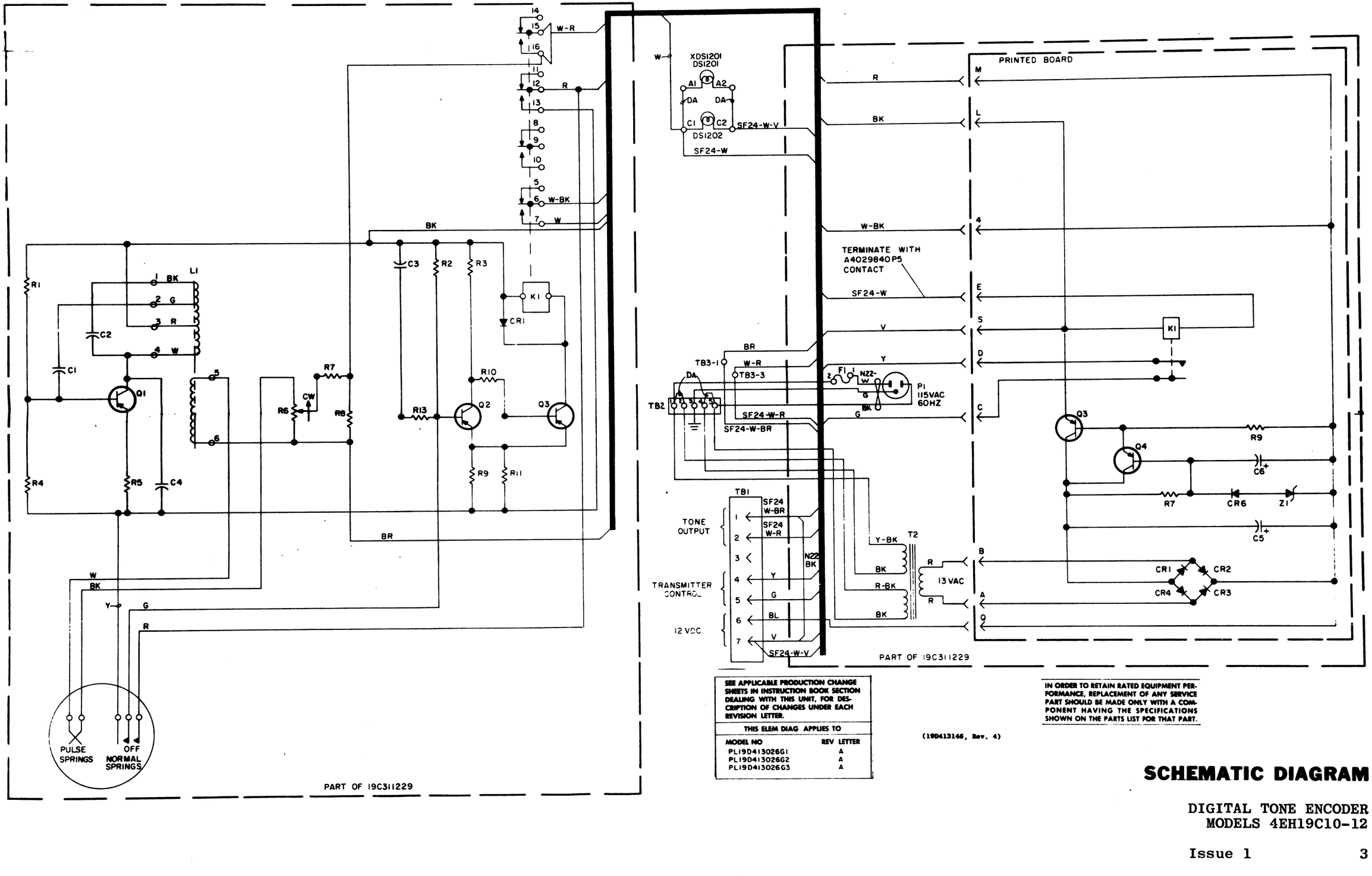


(19D413365, Rev. 1)

OUTLINE DIAGRAM

DIGITAL TONE ENCODER
MODELS 4EH19C10-12

2 Issue 1



SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO	
MODEL NO	REV LETTER
PLI9D413026G1	A
PLI9D413026G2	A
PLI9D413026G3	A

(19D413146, Rev. 4)

IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.

SCHEMATIC DIAGRAM

DIGITAL TONE ENCODER
MODELS 4EH19C10-12

PARTS LIST

LBI-3990A

DIGITAL TONE ENCODER
4EH19C10-12

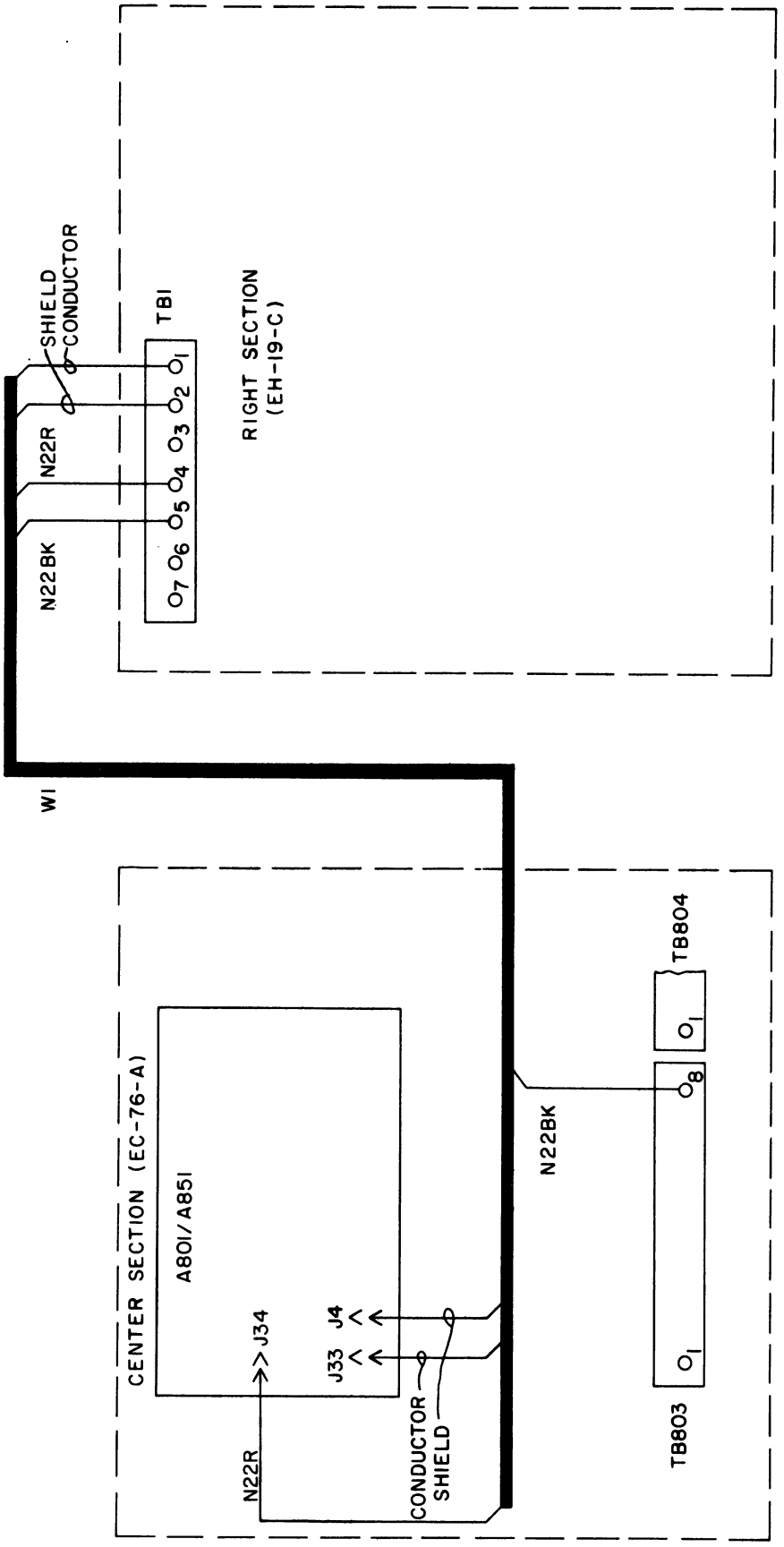
SYMBOL	GE PART NO.	DESCRIPTION
		DIGITAL TONE ENCODER MODEL 4EH19C10 590 Hz MODEL 4EH19C11 1500 Hz MODEL 4EH19C12 2805 Hz
		- - - - - - - - INDICATING DEVICES - - - - - -
DS1201 and DS1202	19C307037P9	Lamp, incandescent: 14 v; sim to GE 330.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	7117710P7	Phen: 7 terminals; sim to Cinch 1770.
TB2	7775500P11	Phen: 5 terminals.
TB3	7775500P7	Phen: 3 terminals.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XDS1201	19C307029P1	Lamp, socket: 2 sockets; sim to Micro Switch 2F1.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19C307029P3	Retainer, lampholder. (Used with DS1201, DS1202).
	19C307029P10	Lens, panel light. (Used with DS1201, DS1202).
	NP249217P5	Nameplate. (TRANSMIT -Used with DS1201, DS1202).
	19C311229P3	SECODE TGS-740, 117 VAC, 590 Hz.
	19C311229P2	SECODE TGS-740, 117 VAC, 1500 Hz.
	19C311229P1	SECODE TGS-740, 117 VAC, 2805 Hz.
	19B216196P1	Support. (Secures TB1).
	4029851P13	Cable, loop. (Secures Power cable).
		FRAME ASSEMBLY 19C311561G1
	19A115873P2	Bumper, plastic: Gray; sim to Plastiglide 01-12-1015.
	N402P8C13	Flatwasher: No. 8. (Used with plastic bumpers).
	N80P15012C6	Screw, phillips: No. 8-32 x 3/4. (Used with plastic bumpers).
	19B216199G1	Grille.
	19B216197G1	Faceplate.
	N402P37C13	Flatwasher: No. 6. (Used with grille and faceplate).
	N80P13007C6	Screw, phillips: No. 6-32 x 7/16. (Used with grille and faceplate).
		ASSOCIATED ASSEMBLY
W1	19A127248G1	Interconnection Harness: 4 wire, approx 33 inches long. (Located between Center Section and Right Section).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A - To increase the on/tone off ratio.
Moved Black jumper from TB1-2 to TB1-1.



(19C311834, Rev. 2)

INTERCONNECTION DIAGRAM

DIGITAL TONE ENCODER
MODELS 4EH19C10-12

ORDERING SERVICE PARTS

Each component appearing on the schematic diagram is identified by a symbol number, to simplify locating it in the parts list. Each component is listed by symbol number, followed by its description and GE Part Number.

Service parts may be obtained from Authorized GE Communication Equipment Service Stations or through any GE Radio Communication Equipment Sales Office. When ordering a part, be sure to give:

1. GE Part Number for component
2. Description of part
3. Model number of equipment
4. Revision letter stamped on unit.

These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance.

Should further information be desired, or should particular problems arise which are not covered sufficiently for the purchaser's purposes, contact the nearest Radio Communication Equipment Sales Office of the General Electric Company.

DF-5038

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

GENERAL ELECTRIC

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