Customer	
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INSTRUCTIONS

FOR

GENERAL ELECTRIC 100 CALL DISPATCHER

MODEL 4EC40A1 REV. C

LBI-10405 DF-5015





LBI-10405 GENERAL ELECTRIC 100 CALL DISPATCHER

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GENERAL ELECTRIC 100 CALL DISPATCHER MODEL 4EC40A1

Tone Dispatcher Model 4EC40Al is a selective signaling unit which provides a means of alerting any one or all of the mobile units in a system by transmitting audio tones at various frequencies corresponding to codes assigned to the mobile units. The 4EC40Al is a self-contained tone dispatch console capable of signaling up to 100 individual units, one or more groups of units, or all units in a system.

The tone dispatcher is a tone generating and switching device permitting the selection of 100 combinations of two sequential audio frequency tones, with provision for keying the station ratio transmitter which, in turn, transmits the tones for a pre-determined period.

Power is provided by a self-contained AC power supply. Provision for connecting a 12-volt battery is included for use in case of emergency. A diode switch in the power supply circuit allows the battery to take over automatically in the event of power line failure.

INSTALLATION

Position the dispatcher in a location convenient for the operator. Connect the line cord to the nearest 117-volt, 50/60-cps outlet. The 10-foot output cable connects to J1221 and to the station audio input circuit. The microphone cable connects to J1222. The microphone and output jacks on the dispatcher are compatible with General Electric Progress Line Station Combinations.

The emergency battery may be connected permanently to TB1201. Accidental reversing of the battery leads will cause no damage or blown fuses. No provision is made for charging the battery; thus periodic checks of the battery condition are necessary and separate facilities for battery charging should be available.

The dispatcher is supplied with an 'L' pad (R1246 and R1247) in the tone output circuit. This pad limits the tone to approximately 25 millivolts. R1246 may be clipped out of the circuit if more output is required.

ADJUSTMENT

Tone Level

Each tone generator must be adjusted individually in the dispatcher to the level necessary to properly modulate the transmitter. These adjustments are made on the basis of each tone being adjusted to equal voltage levels. This voltage is measured at the radio transmitter and equals that voltage required when a 967.5-cps generator produces a 3-KC swing in narrow band transmitters or a 6-KC swing in wide band transmitters.

- 1. The transmitter must be adjusted for full limiting at 5.0 KC (narrow band) or 13 KC (wide band). Refer to the transmitter instructions.
- 2. Release all push-buttons on the dispatcher.
- 3. Depress B9. This will be the highest tone frequency used in the system.
- 4. Test switch S1207 by-passes the timing circuits and permits transmission of the selected tones in the B group continuously for these adjustments. The test switch should be released periodically while making the adjustments, in keeping with the rated duty cycle of the transmitter
- 5. Adjust the level potentiometer (R7) on the top of the tone generator to a position 10° of rotation from its minimum position.
- 6. Place the test switch (S1207) in the TEST position. Adjust the master level potentiometer (R1201) to produce a deviation of 3 KC (narrow band) or 6 KC (wide band) as measured with a modulation monitor at the transmitter. Do not exceed this deviation. Measure the r.m.s. tone voltage at the radio transmitter. Note reading.
- 7. Release B9. Select another tone frequency in the B group. Adjust the level potentiometer (R7) on this generator to produce the same amount of tone voltage at the radio transmitter as noted in Step 6.
- 8. Selecting one tone frequency at a time in the B group, set R7 on each generator to obtain the same tone voltage as obtained in Step 6.
- 9. Release S1207.
- 10. Operate the TEST switch (S1203) for the A group and adjust each tone in the A group for the same voltage as obtained in Step 6.
 - NOTE: The procedure for adjusting the dispatcher for use with the EC-28 Remote Control unit is the same as outlined above. The EC-28 should be properly adjusted according to instructions in the RC-4 Instruction Book. Once this unit has been adjusted, and the tone levels set as outlined above, the MIKE level control in the EC-28 should not be changed.

Timing

- 1. Adjust R1202 for approximately 1 second. This is the tone "ON" time for the first tone.
- 2. Adjust R1211 for approximately 1-1/2 seconds. This is the tone "ON" time for the second tone.

OPERATION

The dispatcher has two vertical rows of pushbuttons on the front panel. One button in each row must be used for each call, as each function is composed of two sequential tones. To signal the unit he is calling, the operator selects the proper combination of buttons indicated by the assigned tone frequencies.

After selecting the proper combination, the operator presses the SEND switch which automatically transmits the selected tones. Once the SEND switch has been depressed, the timing circuit takes over the transmission and the duration of holding down the SEND switch has no effect on the timing of the tone transmission.

CIRCUIT DESCRIPTION

Tone Generator

The tone generator (PL-19B200236) consists of a transistorized oscillator circuit utilizing a vibrating-reed tone governing device that provides the frequency selective component of the oscillator circuit, and also provides feedback for proper oscillator operation.

Energy is coupled from the collector of Ql to terminals 1 and 2 of the tone governing device, where transformer action between the two coils takes place, returning the energy to the base of Ql. The vibrating reed responds only to the specific frequency to which it is resonant; therefore, only the desired frequency appears at the output jack Pl. R7 provides an adjustment of the output level.

Twenty tone generators, each resonant to a specific audio frequency, are operated continuously when power is applied to the dispatcher. Selector switches S1204 and S1205 are interlocked so that only one tone generator may be selected in each bank at one time.

Tone Amplifier

The selected tones are fed from the selector switches, through the timing relays, to the input of the tone amplifier, Q1201. The output of Q1201 is coupled through a filter consisting of C1205-C1210, L1201 and L1202. This filter suppresses harmonics. The tone signals are fed from the filter, through master level control R1210, to the transmitter jack J1221.

Timing Circuit

Once the tone transmission is initiated by closing the momentary contacts of SEND switch S1202, a timing circuit controls the duration of the transmission regardless of how long S1202 is held down.

Timing capacitor C1211 is normally charged through contacts 11 and 12 of K1203, through the normally closed contacts of S1202, and through R1208 to the regulated 11 volts positive from the power supply. When the SEND switch, S1202, is operated, C1211 discharges through R1202 into the base of Q1202. Q1202 conducts. K1201 is then operated by Q1202. K1201 remains operated until C1211 is discharged. R1202 provides adjustment of the time constant of this circuit.

When K1201 operates, the following events take place:

- a) The regulated positive 11 volts is connected through K1201 contacts 5 and 6 to R1251 and R1250. This voltage is applied to the base of Q1204, causing the transistor to turn on and operate K1203.
- b) The first tone is connected through K1201 contacts 7 and 8 to the tone amplifier.
- c) C1212 is charged through K1201 contacts 13 and 14, through R1212, to the positive voltage. The return circuit is completed through contacts 1 and 2 of S1202.

When K1201 releases, C1212 is connected through K1201-12 and 13, through R1249, thus charging C1247. In approximately 150 milliseconds, C1247 has sufficient charge to turn on Q1203. This in turn operates K1202.

When K1202 operates, the following events take place:

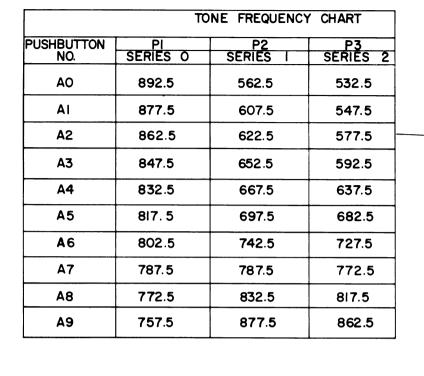
- a) The second tone is connected through Kl202 contacts 7 and 8 to the tone amplifier.
- b) The positive voltage is connected to the base of Q1204 through K1202-5 and 6. The transistor holds K1203 operated.
- c) Charged capacitor C1248 is connected through K1202-13 and 14, through R1211 (the timing adjustment potentiometer) to the base of Q1203. This provides additional ON time for K1202.

Because of the presence of C1246 in the base circuit of Q1204, K1203 does not drop out during the 150 millisecond interval between the drop out of K1201 and the operation of K1202.

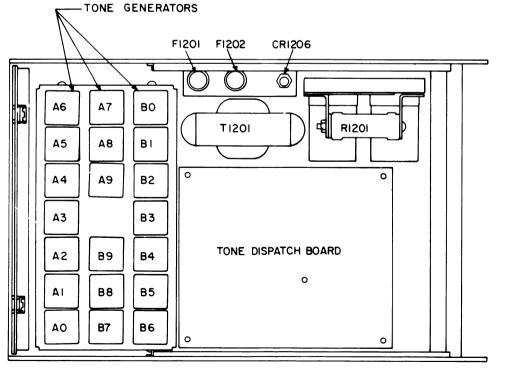
When K1203 is operated, the following events take place:

- a) A ground is provided through K1203 contacts 6 and 7 to key the radio transmitter.
- b) K1203 contacts 9 and 10 switch the panel lights from white to red. This indicates that tone is being transmitted.

- c) The transmitter input is switched from the microphone to the tone output of the dispatcher through contacts 14, 15 and 16.
- d) The timing cycle is "locked-in" and the SEND switch (S1202) is disconnected through contacts 11, 12 and 13, so that the timing of the transmission will not be effected by the manual operation of the SEND switch.



TONE FREQUENCY CHART							
PUSHBUTTON	PI	P2	P3				
NO.	SERIES O	SERIES I	SERIES 2				
во	517.5	712.5	712.5				
ВІ	532.5	757.5	757.5				
B2	547.5	802.5	802.5				
В3	562.5	847.5	847.5				
B4	577.5	892.5	892.5				
B5	592.5	907.5	907.5				
В6	607.5	922.5	922.5				
В7	622.5	937.5	937.5				
B8	637.5	952.5	952.5				
В9	652.5	967.5	967.5				



> TONE SELECTOR SWITCHES

SEND SWITCH

S1202

0

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CODE ASSIGNMENT CHART

CHARTS (ABOVE), CHECK THE TONE GENERATOR FREQUENCIES AS TO THEIR LOCATION ON THE TONE GENERATOR MOUNTING PANEL (AT LEFT).

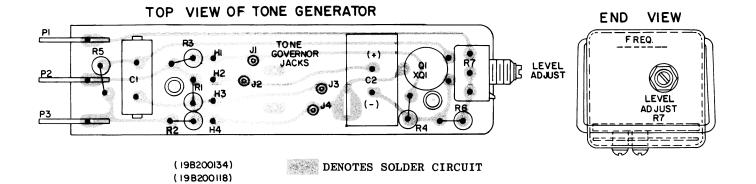
TO DETERMINE FREQUENCY LISTED IN TONE FREQUENCY

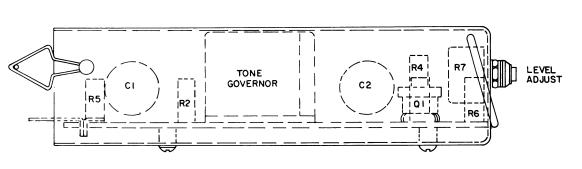
TOP VIEW WITH COVER REMOVED

Application Diagram

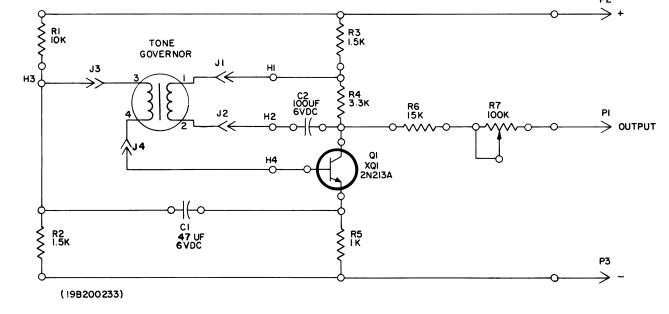
100 CALL DISPATCHER
MODEL 4EC40A1, REV. C

(RC-697D)





SIDE VIEW OF TONE GENERATOR



ALL RESISTORS ARE 1/2 WATT UNLESS
OTHERWISE SPECIFIED AND RESISTOR
VALUES IN OHMS UNLESS FOLLOWED BY
K=1000 OHMS OR MEG=1,000,000 OHMS OCAPACITOR VALUES IN PICOFARADS (EQUAL
TO MICROMICROFARADS) UNLESS FOLLOWED
BY UF= MICROFARADS, INDUCTANCE VALUES
IN MICROHENRYS UNLESS FOLLOWED BY
MH= MILLIHENRYS OR H=HENRYS.

CPD 310A

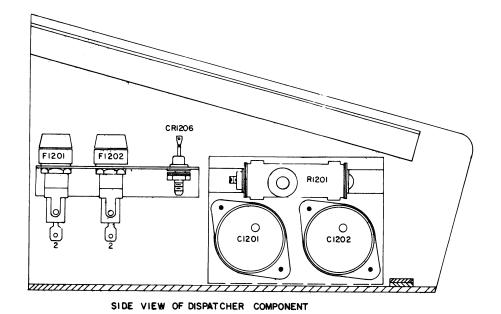
310A

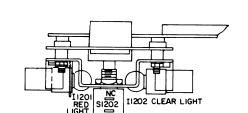
Service Outline

TONE GENERATOR PL-19B200236

(RC-835C)

REAR PANEL OF DISPATCHER





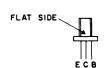
SIDE VIEW OF SEND SWITCH ASSEMBLY

BOTTOM VIEW OF SI203 & 7

16 ,9 ,10 14 ,15 ,8 013 06 07 011 012 05

0000

BOTTOM VIEW OF XKI201-2-3



LEAD FORMING FOR Q1202, Q1203, Q1204



TYP SOCKET FOR XQI202, XQI203, XQI204

R1210

SERVICE OUTLINE

TONE DISPATCHER MODEL 4EC40AI

⊘JI206

H30 R1203 + R1205 + H26 R1206 R1206 R1206

C1205

C1206

C1208

X CI204 H29

⊘JI2I8

H25 RI204 HI9

(RC-698C)

C1207 C1247 H55 H54 Q1204 XQ1204 H51 C1209 _ C1211 C1210 H44 H40 H5 RI207 H8 RI250 H61 R1253 H60 H59 H58 H57 H52 H44 H Q1202 XQ1202 ●H87 H89 Н90 H43 • K 1201 XK 1201

L1202

R1202

HIOO

H37

L 1201

CR 1202

CR 1203

CR 1201

JI209

RI2II

JI2IO
H64
RI248
H6I
H63
QI203
XQI203
JI2II
OJI2I7
JI2I6
JI2I5

J1213

0 JI220 CR 1205

•H69 +

⊙ H88

K1203 XK1203

TONE DISPATCHER BOARD PL-19C303306-GI

HI ... C 1214

C1213

J 1208 🔘

S1202 N.C. O CALL O N.O. F24-R-G F24-G-O F24-BR-O
PI209 PI210 PI211 DISPATCHER BOARD N22-BK- 0 0 C1204 2 2UF N22-R Y P1204 R1201 16 25 W N22-R-BK CI201 + CI202 + CR 2000UF - I206 RI2I4 N22-BK-0 W SEE NOTE 2 N22-BL-0 YPI217 YPI216 YPI215 YPI214 F24-R-0 MIKE LOW TONE GENERATOR PANEL
SEE NOTE I 2 MIKE HI
3 XMTR GND DSI202 WHITE J5 > 01 R1220 \$ > 02 C1220 T RI221 > C1221 T R1219 + R1218 R1217 } >02 C1222 CIZI8 CI217 XMTR GND SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION OF CHANGES UNDER EACH REVISION LETTER

THIS ELEM DIAG APPLIES TO MODEL NO REV LETTER

AFCA AAA N22-BL-0 4 EAR PIECE AUDIO C1233 + 1 J20 > 3 J19 > 3 C1234 T+ C1225 Pi223 >-02 RI234 >-->₂ $\rightarrow \varphi_{i}$ 1. ON TONE GENERATOR PANEL, CI216 THRU CI235 ARE 35 UF/15 VDC CAPACITORS AND RI215 THRU RI234. ARE IK RESISTORS. III 3 CI226 + JI3 > 3 C1228 JI5 > 3 CI230 1 JI6 3 CI231 + CI229 3 CARRY SHIELDS AS CLOSE TO THE FIND OF THE CENTER CONDUCTOR, AS POSSIBLE.
1F MORE TONE OUTPUT IS REQUIRED, RI246 MAY BE REMOVED FROM THE CIRCUIT. C1232 >-->₂ >-0₂ >->₂ >-02 R1232 Wiring Diagram GENERAL ELECTRIC 100 CALL DISPATCHER MODEL 4EC40A1, REV. C (E-5499324, Rev. 2)

PARTS LIST

100 CALL DISPATCHER MODEL 4EC40A1 PL-5499273-G1 REV C

		REV C
SYMBOL	G-E PART NO.	DESCRIPTION
C1201	7476442-P12	Dry electrolytic, twist-prong: 1000 µf +250% -10%, 25 VDCW; sim to PR Mallory WPO59.
C1202	7770994-P11	Dry electrolytic, twist-prong: 2000 µf +250% -10%, 15 VDCW; sim to PR Mallory WP.
C1204 thru C1215		(Included in PL-19C303306-Gl only).
C1246 thru C1248		(Included in PL-19C303306-G1 only).
CR1201 thru CR1205		(Included in PL-19C303306-G1 only).
CR1206	5495912-P1	Silicon, Zener⊕.
CR1207 thru CR1209		(Included in PL-19C303306-Gl only).
DS1201	4036294-G1	Indicator light asm. Includes red incandescent lamp with min. bay. base. G-E Type 53.
DS1202	19C307037-P3	Lamp, incandescent: clear; sim to G-E 53.
F1201	7487942-P5	Slow blowing: $1-1/4 \times 1/4$ (3AG), 1 amp at 250 v sim to Bussmann MDL-1.
F1202	7487942-P2	Slow blowing: $1-1/4 \times 1/4$ (3AG), 3/8 amp at 250 v; sim to Bussmann MDL-3/8.
		JACKS AND RECEPTACLES
J1201 thru J1211		(Included in PL-19C303306-G1 only).
J1213 thru J1220		(Included in PL-19C303306-Gl only).
J1221	7117934-P4	Connector, chassis: 4 male cont; sim to Ampheno 91-PC4M.
J1222	7117934-P2	Connector, chassis: 4 female cont; sim to Amphenol 91-PC4F.
K1201 thru K1203		(Included in PL-19C303306-Gl only).
L1201 and L1202		(Included in PL-19C303306-Gl only).
P1201 P1202	4020040 PI	(Part of W1201).
and P1203	4029840-P1	Terminal: taper pin connector; sim to Amp 41854 or Kent 123946.
P1204 thru P1220	4029840-P2	Terminal: taper pin connector; sim to Amp 42827

SYMBOL	G-E PART NO	DESCRIPTION	SYMBOL	G-E PART NO	DESCRIPTION
		TRANSISTORS			SUBASSEMBLIES(Cont'd)
Q1201 thru		(Included in PL-19C303306-Gl only).			
Q1204					
		RESISTORS	C1211	5496267-P15	Tantalum: 47 μf ±20%, 20 VDCW; sim to Sprague 150D476X0020R2.
R1201	2R14-P113	Wirewound: 16 ohms ±5%, 25 w, with brkt; sim to Ward Leonard K41383-3.	C1212	5496267-P11	Tantalum: 68 µf ±20%, 15 VDCW; sim to Sprague 150D686X0015R2.
R1202 thru		(Included in PL-19C303306-Gl only).	C1213	7491930-P8	Mylar ² , dielectric: .047 μf ±20%, 100 VDCW; sim
R1214 R1246		(Included to Di 100000000 (i) and ii)	and C1214		to G-E 61F.
thru R1254	İ	(Included in PL-19C3O33O6-G1 only).	C1215	5496267-P2	Tantalum: 47 μf ±20%, 6 VDCW; sim to Sprague 150D476X0006B2.
			C1246	7489483-P10	Electrolytic tubular: 35 μf +100% -10%, 15 VDCW; sim to Sprague 30D169Al.
S1201	7145098-P1	Slide: DPDT, 3/4 amp at 125 VAC or 1/2 amp at 125 VDC: sim to Stackpole SS-150.	C1247	5496267-P11	Tantalum: 68 µf ±20%, 15 VDCW; sim to Sprague 150D686X0015R2.
S1202	19B200007-P1	Push button: snap action, 15 amps at 0.125-250	C1248	5496267-P15	Tantalum: 47 µf ±20%, 20 VDCW; sim to Sprague 1500476X0020R2.
S1203		vac; sim to Cherry Elec Series El3-23J. (Included in PL-19C3O33O6-Gl only).			
S1204	19C300108-P3	Push button: 10 button frame, single side, 1 form	CR1201	19A115145-P2	RECTIFIERS
and S1205		C cont, non-shorting; sim to Oak Mfg 80.	thru CR1205		
S1207		(Included in PL-19C303306-Gl only).	CR1207 thru	4037822-P1	Silicon.
		TRANSFORMERS	CR1209		
T1201	5493743-P1	Power, filament, single phase: Pri: 117 v, 50/60 cy,			JACKS AND RECEPTACLES
		Sec 1: 12.6 v ±3%, 2 amps.	J1201 thru J1211		(Included in PL-19C303297-Gl only).
TB1201	4035303-P2	TERMINAL BOARDS Phenolic: 2 term; sim to Curtis Devel. EFT-2.	J1211 J1213	4037265-P1	Jack, tip: stake-in, black molded phen; sim to
TB1201	7775500-P3	Phenolic: 4 term.	J1214		Component Mfg Service A-1128. (Included in PL-19C303297-Gl only).
			thru J1220		(Included in F2-150505257-01 only).
W1201	4036441-P3	Flamenol® cord set. Includes 9' cable with molded	}		
		plastic plug (Pl201); sim to G-E 2073-1.	K1201 and	19C307010-P4	Plug-in, min: 12 VDC, 185 ohms ±10%, 2 form A
XF1201	7115179-P1		K1202		and 1 form C cont; sim to Allied Control T154W-5415.
and XF1202	7115179-21	Holder, fuse: $1/4 \times 1-1/4$ (3AG), 15 amps at 250 v; sim to Bussmann HKP.	K1203	19C300957-P2	Plug-in, min: 12 VDC, 185 ohms ±10%, 4 form C cont; sim to Allied Control T154X-316.
XDS1201 and	4032220-P1	Lamp: min. bay. base, 6" leads; sim to Prake N517.			
XDS1202			L1201 and	PL-19C300501-G 356	Ferrite coil asm. 622 turns.
XK1201 thru XK1203		(Included in PL-19C303306-Gl only).	L1202		
XQ1201		(Included in PL-19C303306-G1 only).	1		
thru XQ1204			Q1201	5492639-P2	Germanium, NPN.
		SUBASSEMBLIES	Q1202 thru Q1204	19A115123-P1	Silicon, NPN.
					resistors
			R1202	7491365-P103	Potentiometer, carbon film: 25,000 ohms ±20%,
		DISPATCHER BOARD PL-19C303306-G1	1		.05 w, mod. log. taper, slotted shaft; sim to CTS UPE-70.
			R1203	3R77-P333J	Fixed composition: 33,000 ohms ±5%, 1/2 w.
C1204	5496267-P13	Tantalum: 2.2 µf ±20%, 20 VDCW; sim to Sprague	R1204 R1205	3R77-P512J 3R77-P472J	Fixed composition: 5100 ohms ±5%, 1/2 w. Fixed composition: 4700 ohms ±5%, 1/2 w.
C1205	7491930-P11	150D225X0020A2. Mylar*, dielectric: 0.33 µf ±20%, 100 VDCW; sim	R1206	3R77-P201J	Fixed composition: 200 ohms ±5%, 1/2 w.
C1206	7491930-P7	to G-E 61F. Mylara, dielectric: .033 µf ±20%, 100 VDCW; sim	R1207	3R77-P102J	Fixed composition: 1000 ohms ±5%, 1/2 w.
		to G-E 61F.	R1208 R1209	3R77-P221J 3R77-P470J	Fixed composition: 220 ohms ±5%, 1/2 w. Fixed composition: 47 ohms ±5%, 1/2 w.
C1207	7491930-P11	Mylar*, dielectric: 0.33 µf ±20%, 100 VDCW; sim to G-E 61F.	R1210	7491365-P103	Potentiometer, carbon film: 25,000 ohms ±20%,
C1208	7491930-P10	Mylar@, dielectric: 0.22 μf $\pm 20\%$, 100 VDCW; sim to G-E 61F.	and R1211		.05 w, mod. log. taper, slotted shaft; sim to CTS UPE-70.
C1209	7491930-P7	Mylar®, dielectric: .033 μf ±20%, 100 VDCW; sim to G-E 61F.	R1212	3R77-P221J	Fixed composition: 220 ohms ±5%, 1/2 w.
C1210	7491930-P11	Mylar⊗, dielectric: 0.33 μf ±20%, 100 VDCW; sim	R1213 R1214	3R78-P470J 3R77-P102J	Fixed composition: 47 ohms ±5%, 1 w. Fixed composition: 1000 ohms ±5%, 1/2 w.
		to G-E 61F.	R1246	3R77-P302J	Fixed composition: 3000 ohms ±5%, 1/2 w.
	1				
	L	L			L

	SYMBOL	G-E PART NO	DESCRIPTION
			SUBASSEMBLIES(Cont'd)
	R1247	3R77-P163J	Fixed composition: 16,000 ohms ±5%, 1/2 w.
١	R1248	3R77-P474J	Fixed composition: 0.47 megohm ±5%, 1/2 w.
1	R1249	3R77-P622J	Fixed composition: 6200 ohms ±5%, 1/2 w.
ı	R1250	3R77-P362J	Fixed composition: 3600 ohms ±5%, 1/2 w.
	R1251	3R77-P512J	Fixed composition: 5100 ohms ±5%, 1/2 w.
ı		3R77-P3123	
i	R1252		Fixed composition: 15,000 ohms ±5%, 1/2 w.
ı	R1253	3R77-P300J	Fixed composition: 30 ohms ±5%, 1/2 w.
	R1254	3R77-P221J	Fixed composition: 220 ohms ±5%, 1/2 w.
	S1203	7145098-P1	Slide: DPDT, 0.75 amp at 125 VAC or 0.5 amp at
	S1207	7145098-P1	125 VDC; sim to Stackpole SS-150. Slide: DPDT, 0.75 amp at 125 VAC or 0.5 amp at
			125 VDC; sim to Stackpole SS-150.
	XK1201	5491505_DF	Pelay tel: nylon 16-cont for chassis mtg
	thru XK1203	5491595-P5	Relay, tel: nylon, 16-cont, for chassis mtg, with grd spring; sim to Allied Control 30054-2.
	XQ1201 thru XQ1204	5490277-P2	Transistor: 4-cont, low-loss mica-filled pheno- lic; sim to Elco 3305.
			MISCELLANEOUS
			EYELET BOARD PL-19C303297-G1
			JACKS AND RECEPTACLES
	J1201 thru	4033513-P4	Pin, contact: brass, cad. plated; sim to Bead Chain L93-3.
	J1211 J1214 thru	4033513-P4	Pin, contact: brass, cad. plated; sim to Bead Chain 193-3.
	J1220		
	!		

SYMBOL	G-E PART NO	DESCRIPTION	SYMBOL	G-E PART NO	DESCRIP	TION
					TONE GOVE	RNOR(Cont'd)
		TONE GENERATOR PL-19B200236-Gl thru G66			PL-19C300590-G8925 PL-19C300590-G9075 PL-19C300590-G9225 PL-19C300590-G9375 PL-19C300590-G9525 PL-19C300590-G9675 PL-19C300590-G9825	892 907 922 937 952 967 982
		(TONE GENERATOR BOARD PL-19B200134-G1 TONE GOVERNOR PL-19C300590) (Group No. determined by freq)			PL-19C300590-G9975	997
	·	TONE GENERATOR BOARD PL-19B200134-G2				
C1	5496267-P2	Tantalum: 47 µf ±20%, 6 VDCW; sim to Sprague 150D476X0006B2.				
C2	7489483-P9	Electrolytic tubular: 100 µf +100% -10%, 6 VDCW; sim to Sprague 30D135A1.				
		JACKS AND RECEPTACLES				
J1 thru J4	4036040-P1	Pin, contact: silver; sim to American Brass 724.				
Pl thru P3	4036046-P1	Contact, pin: copper.				
Ql	5492639-P2	Germanium, NPN.				
		RESISTORS				
Rl	3R77-P103J	Fixed composition: 10,000 ohms ±5%, 1/2 w.				
R2 and R3	3R77-P152J	Fixed composition: 1500 ohms ±5%, 1/2 w.				
R4	3R77-P332J	Fixed composition: 3300 ohms $\pm 5\%$, $1/2$ w.				
R5	3R77-P102J	Fixed composition: 1000 ohms ±5%, 1/2 w.	11			
R6	3R77-P153J	Fixed composition: 15,000 ohms ±5%, 1/2 w.	!			
R7	19C300124-P2	Potentiometer, carbon film: 100,000 ohms ±20%, 1/16 w, linear taper, slotted shaft; sim to Mallory MLC.				
XQ1	5490277-P2	Transistor: 4-cont, low-loss mica-filled phenolic; sim to Elco 3305.		i.		
		TONE GOVERNOR PL-19C300590				
		Electromechanical resonant subassembly. Group No. determined by multiplying freq marked on can by 10. Example: 517.5 x 10 = Group No. 5175.				
		PL-19C300590-G5175 517.5 PL-19C300590-G5325 532.5 PL-19C300590-G5475 547.5 PL-19C300590-G5625 562.5 PL-19C300590-G5775 577.5 PL-19C300590-G5775 597.5 PL-19C300590-G6075 607.5 PL-19C300590-G6075 622.5 PL-19C300590-G6375 637.5 PL-19C300590-G6525 652.5 PL-19C300590-G6525 652.5 PL-19C300590-G6525 652.5 PL-19C300590-G6525 667.5				
		PL-19C300590-G6825 682.5 PL-19C300590-G6875 697.5 PL-19C300590-G7125 712.5 PL-19C300590-G7725 727.5 PL-19C300590-G7725 742.5 PL-19C300590-G7725 757.5 PL-19C300590-G7725 7772.5 PL-19C300590-G7755 787.5 PL-19C300590-G7875 787.5 PL-19C300590-G8025 802.5 PL-19C300590-G8025 802.5 PL-19C300590-G8175 817.5 PL-19C300590-G825 822.5 PL-19C300590-G875 847.5 PL-19C300590-G875 847.5 PL-19C300590-G875 847.5 PL-19C300590-G875 862.5 PL-19C300590-G8775 877.5				

892.5 907.5 922.5 937.5 952.5 967.5 982.5 997.5

^{*}COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.