MOBILE RADIO

MASTR™ *Imperial*

MOBILE CONTROL UNIT MODELS 4EC59A103-110

SPECIFICATIONS *

MODEL NUMBERS	4EC59A103 through 4EC59A110
USED WITH	MASTR Imperial Mobile Combinations
CONTROLS	VOLUME Control
	OFF-ON-STBY Switch
	SQUELCH Control
	Optional Controls
	Two-Frequency Selector Switch
	CHANNEL GUARD Monitor Switch
	Dimmer Control for Pilot Lights
INDICATORS	ON light: green
	Transmit light: red

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

EC-59-A

GENERAL ELECTRIC

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ILLUSTRATIONS

WARNING

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

DESCRIPTION

MASTR™ Imperial Control Units are compact, highly functional control units that are designed for either Trunk-Mount or Front-Mount MASTR mobile combinations.

In Trunk-Mount installations, a plate is installed on the back of the Control Unit to hold the connectors. A mounting bracket is provided for mounting the Control Unit within convenient reach of the operator. In Front-Mount installations, the Control Unit is attached to the front of the MASTR Two-Way Radio.

Cable connections are secured to the Control Unit by means of captive locking screws.

CIRCUIT ANALYSIS

The OFF-ON-STBY (standby) switch determines whether or not the transmitter and receiver are operative. With the switch in the OFF position, all power is removed from the Two-Way Radio. Turning the switch to STBY applies power to the receiver only, and the green light does not light.

Turning the switch to the ON position enables the push-to-talk (PTT) circuit, lights the green pilot light, and applies +12 Volts to the receiver and power regulator.

Pushing the PTT button on the microphone lights the red pilot light, energizes the antenna changeover relay, and applies a keyed voltage to the transmitter and power regulator. The keyed voltage also mutes the receiver audio stages.

CONTROLS

All models of the Control Unit have VOLUME and SQUELCH controls, and an OFF-ON-STBY switch. Depending on the model number, some of the Control Units may have one or more of the controls described in the following paragraphs. A chart showing which controls are present on each Control Unit Model is provided on the Control Unit Wiring Diagram.

Instructions for adjusting the controls are in the Operator's Manual for the Two-Way Radio.

Two-Frequency Switch (S704)

S704 connects +10 Volts to the selected receiver oscillator switching diode, and connects the transmitter oscillator switching diode to ground, so that the unit will operate on the frequency determined by each of the crystal-controlled oscillators.

CHANNEL GUARD-OFF Switch (S703)

Placing this switch in the OFF position disables the receiver Channel Guard so that the receiver operates on noise squelch only.

Dimmer Control (R705- Optional)

The dimmer control is a rheostat in series with the green pilot light. Turning the control adjusts the amount of light given off by the green pilot light.

VEHICLE IGNITION SWITCH CONNECTIONS

The Control Unit may be connected for three different modes of operation, depending on the way the three ignition switch cables are connected in the vehicle system. The black ignition switch cable provides the receiver ground connection. The yellow fused lead provides the receiver hot connections, and the red fused lead provides the +13.6 Volts for the power regulator. The three types of operation are:

1. Ignition Switch Standby

For this type of operation, the red fused lead (power regulator voltage) is connected to the ACCESSORY or ON terminal of the ignition switch. The yellow fused lead (receiver hot) is connected to the hot side of the ignition switch, and the black lead connects to vehicle ground.

With the ignition switch OFF, the receiver automatically reverts to STBY, ready to receive messages. Turning the ignition switch to the ON or ACCESSORY position turns on the green pilot light and supplies power regulator voltage. Turning the OFF-ON-STBY switch to OFF removes all power to the Two-Way Radio.

2. Ignition Switch Control

For ignition switch control, the yellow and red fused leads are connected to the ACCESSORY or ON terminal of the ignition switch. The transmitter and receiver will operate only when the ignition switch is in the ACCESSORY or ON position. Turning the ignition switch OFF removes all power to the radio.

3. Ignition Switch Bypass

For ignition switch bypass, the yellow and red fused leads connect to the "hot" side of the ignition switch or the vehicle fuse block assembly. Both the transmitter and receiver operate independently of the ignition switch and can be turned on the off only by the OFF-ON-STBY switch on the MASTR Control Unit.

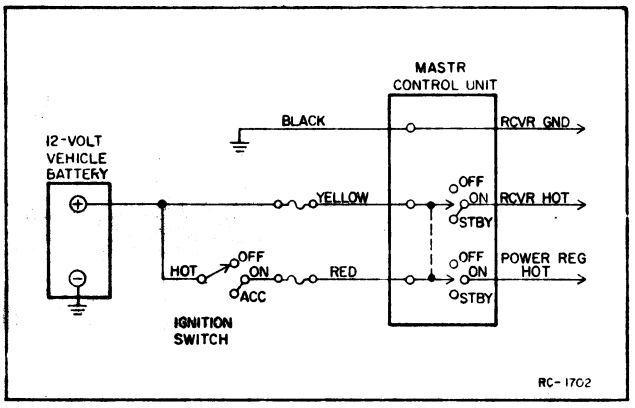


Figure 1 — 12-VDC Connections for Ignition Switch Standby

MAINTENANCE

DISASSEMBLY

In Trunk-Mount installations, access to the inside of the Control Unit is obtained by removing the two Phillips-head screws in the back of the unit and pulling the back panel away from the housing.

In Front-Mount installations, remove the two Phillips-head screws holding the front casting to the frame and move the casting away from the frame. Next, remove the two screws securing the control cable plug to the inside of the front casting. Then remove the two flat-head screws holding the Control Unit to the front casting.

PILOT LIGHT REPLACEMENT

The pilot lights can be easily replaced without disassembling the Control Unit. First, unscrew the colored lens. Then wrap a small piece of masking tape around the bulb, to give the fingers a firm grip, and unscrew the bulb.

REINSTALLATION

The MASTR Imperial mobile combination operates in 12-Volt, negative ground vehicle systems only! If the radio is ever moved to a different vehicle, always check the battery polarity and voltage of the new system before using the radio.

CAUTION

Do not install the MASTR Imperial in a vehicle system using a circuit breaker. The radio must be operated in a system protected by a 15-amp quick blow fuse (similar to GE Fuse Assembly 19B216021G4 and fuse 1R1iP4).

If it becomes necessary to move the Two-Way Radio and Control Unit to another vehicle, the 25-pin control cable plug may need to be disassembled. Refer to Figure 2 for disassembly of the plug.

NOTE

The plus is assembled so that the cable comes out of the top of the plug when connected to the Control Unit. To have the cable come out of the bottom of the plug, remove the remaining two screws and rotate the metal frame 180 degrees.

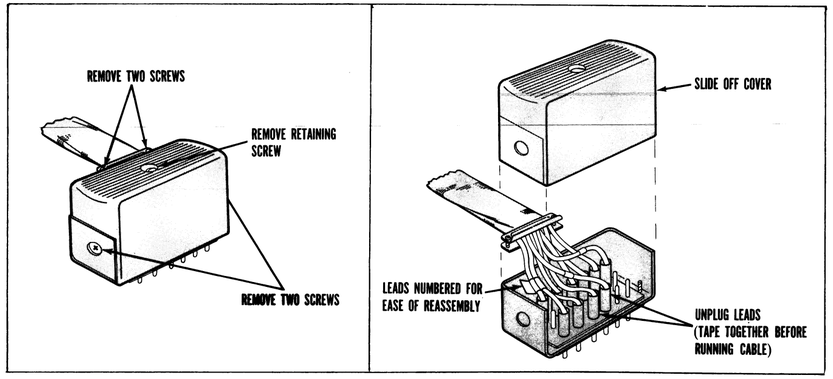
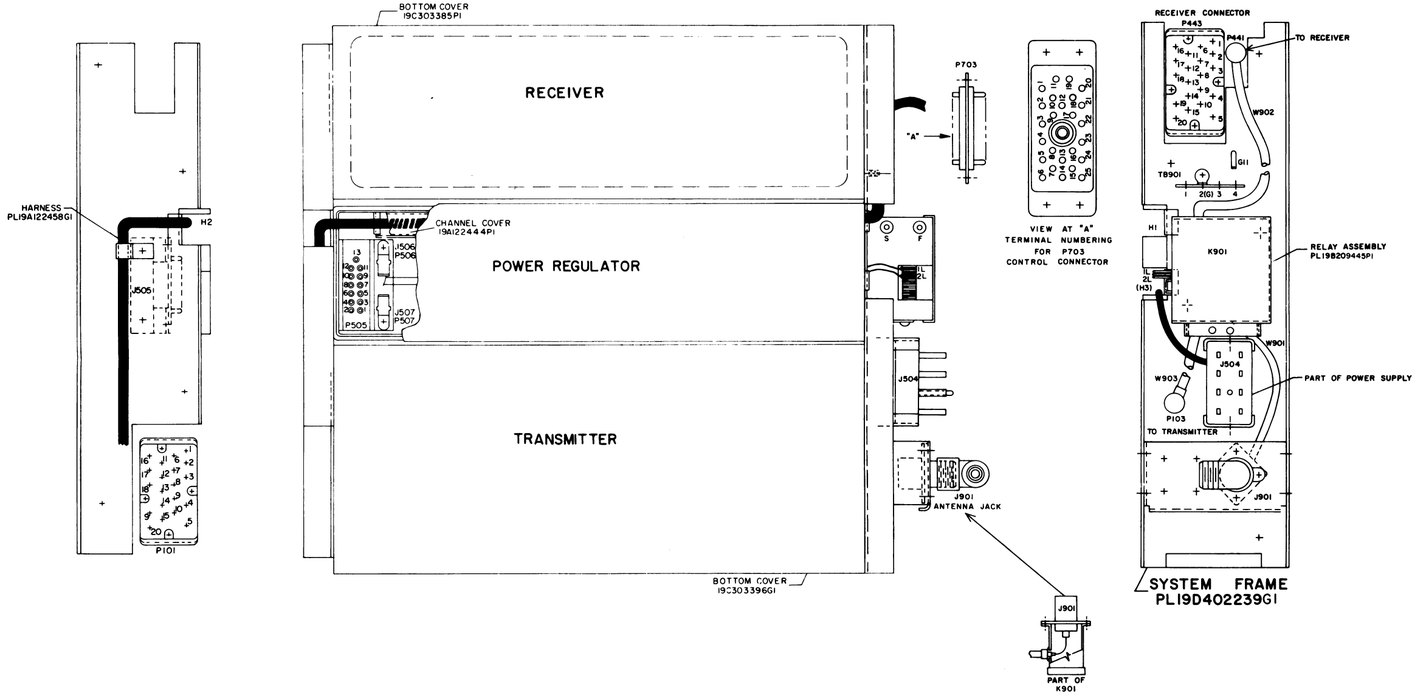


Figure 2 - Disassembly of Control Cable Plug



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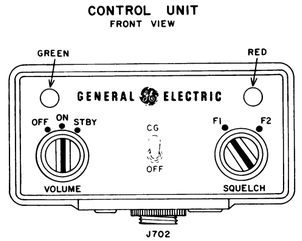
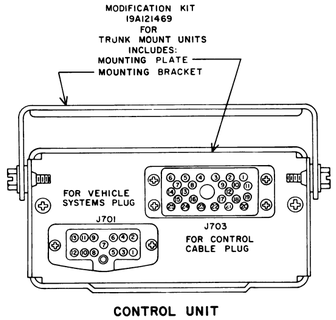
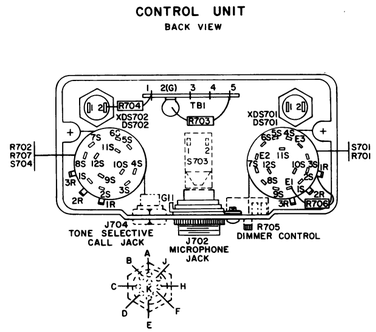






SYMBOL	FUNCTION
R701	VOLUME CONTROL
R702	SQUELCH CONTROL
S701	OFF ON-STBY CONTROL
S703	CHANNEL GUARD-OFF
R707	SQUELCH CONTROL - PART OF S704
S704	FREQUENCY SELECTOR

(19C303800, Rev. 2)

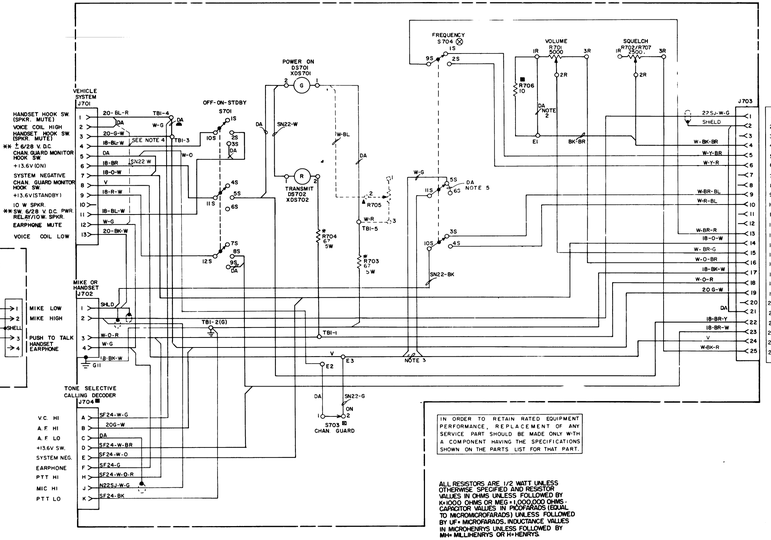
OUTLINE DIAGRAM

MASTR IMPERIAL CONTROL UNIT
MODELS 4EC59A103-110

MODEL NUMBER	REV. LETTER	NO. OF FREQ.	CHANNEL GUARD SELECTOR SECTION	TONE OPTION PACK
4ECS9A10	D	1		
4ECS9A11	D	1		
4ECS9A12	H	1		E
4ECS9A13	M	1		E
4ECS9A14	D	1	X	
4ECS9A15	D	1	X	
4ECS9A16	M	1	X	X
4ECS9A17	M	1	X	X
4ECS9A18	F	2		
4E-03A19	F	2		
4ECS9A20	K	2		X
4ECS9A21	K	2		X
4ECS9A22	F	2	X	
4ECS9A23	K	2	X	X
4ECS9A24	K	2	X	X
4ECS9A25	K	2	X	X
4EC59A103	A	1		
4EC59A104	B	1		X
4EC-B6105	A	1	X	
4EC59A106	B	1	X	X
4EC59A107	A	2		
4EC59A108	B	2		X
4EC59A109	A	2	X	
4EC59A110	B	2	X	X

**H TERMINALS N & 11 ARE USED ON 12 VOLT SYSTEMS FOR CONTROL OF 10-WATT SPEAKER.

CONTROL UNIT



▲ DINNER CONTROL OPTION
ADD DOTTED CONNECTIONS & OMIT WIRE FROM TB1-9 TO 1D2701-1

■ TONE SELECTIVE CALLING
OMIT IN MODELS 4ECS9A10, 11, 19, 15, 18, 19, 20 & 21 & 103, 105, 107

◓ SPEAKER MUTE
OMIT DA WIRE WHEN S702 AND/OR J704 IS USED.

Ⓧ MULTI-FREQUENCY SWITCH
OMIT IN MODELS 4ECS9A10, 11, 12, 13, 14, 15, 16, 417 & 103, 104, 105, & 108

▣ CHANNEL GUARD SWITCH
OMIT IN MODELS 4ECS9A10, 11, 12, 13, 18, 19, 20 & 21 & 103, 106, 107, & 108

NOTES:
1. ALL WIRES N20# UNLESS OTHERWISE SPECIFIED.
2. OMIT DA WIRE WHEN R705, 15 USED.
3. OMIT CONNECTOR WHEN S705 IS USED.
4. ADD W. WIRE WHEN PL19B204970G1 HOOKSWITCH IS USED.
5. FOR CHANNEL GUARD ON F1 ONLY REMOVE DA WIRE.

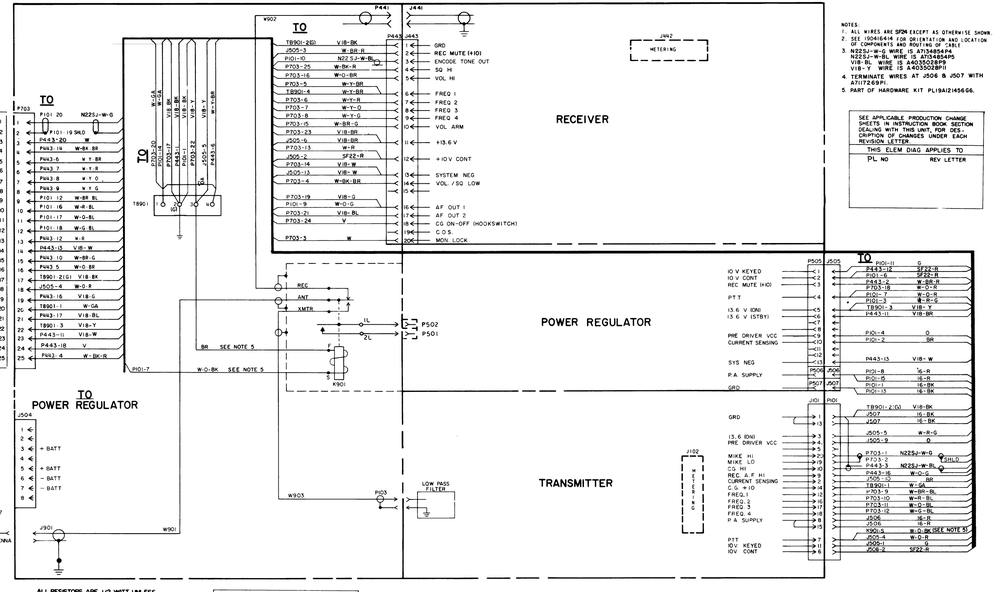
6. IN ENCODE ONLY APPLICATIONS, DA JUMPER FROM TB1-3 TO TB1-4 MUST BE PRESENT.

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.

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. CAPACITOR VALUES IN MICROFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H=HENRYS.

(190402341, Rev. 22)

SYSTEM FRAME AND HARNESS



NOTES:
1. ALL WIRES ARE SP20# EXCEPT AS OTHERWISE SHOWN.
2. SEE 19D416416 FOR ORIENTATION AND LOCATION OF COMPONENTS AND ROUTING OF CABLE.
3. N22SJ-W-G WIRE IS A7A3485AP4
   N22SJ-W-BL WIRE IS A7C3485AP5
   V18-Y WIRE IS A403502BP11
   V18-Y WIRE IS A403502BP11
4. TERMINATE WIRES AT J506 & J507 WITH A7T7268P1.
5. PART OF HARDWARE KIT PL19A124556G6.

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

PL NO	REV LETTER

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. CAPACITOR VALUES IN MICROFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H=HENRYS.

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.

RC-2361A

(19D416412, Rev. 3)

SCHEMATIC & INTERCONNECTION DIAGRAM

MASTR IMPERIAL CONTROL UNIT, MODELS 4EC59A103-110

Issue 4

PARTS LIST

LBI-4389B

CONTROL UNIT - 19D413004G13-16
MODELS 4EC59A103-110
AND
ASSOCIATED ASSEMBLIES

SYMBOL	GE PART NO.	DESCRIPTION
		CONTROL UNIT 19D413004G13-G16
		- - - - - - - DIODES AND RECTIFIERS - - - - - -
CR1	403782ZP1	Silicon.
		- - - - - - - - INDICATING DEVICES - - - - - - -
DS701 and DS702	19B201123P1	Light, indicator: miniature, 6 v; sim to GE Type 1768.
		- - - - - - - JACKS AND RECEPTACLES - - - - - - -
J701	19C303576P1	Socket, phen: 13 contacts rated at 5 amps max.
J702		Receptacle. Includes:
	19A116061P2	Receptacle: 4 contacts; sim to Amphenol 91-PM4P-1000.
	19A116061P4	Lockwasher, internal tooth.
	19A116061P5	Nut, knurled: No. 13/16-27S-2.
	19A116049P1	Solderless terminal.
J703	19D402408P1	Connector, phen: 25 contacts rated at 5 amps max.
J704	19B201527G1	Jack assembly: 9 female contacts rated at 5 amps at 900 VRMS; sim to Winchester W9S-LNN.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R701		(Part of S701).
R702	19B209124P3	Variable, carbon film: 2500 ohms ±10%, 1/2 w; sim to Mallory LC1250D.
R703 and R704	5493035P19	Wirewound: 67 ohms ±5%, 5 w; sim to Hamilton Hall Type HH.
R706	3R77P100K	Composition: 10 ohms ±10%, 1/2 w.
R707		(Part of S704).
		- - - - - - - - - - SWITCHES - - - - - - - - - -
S701	19C307089P19	Switch/Resistor: includes Switch, rotary, 3 poles, 3 positions, shorting contacts, 250 ma at 500 VRMS; Resistor (R701), variable, 5000 ohms ±20%, 1/2 w max; sim to Mallory LC5K-3132.
S703	5491899P5	Toggle: SPDT, 3 amps at 250 VAC or 250 VDC; sim to Cutler-Hammer 8280K15.
S704	19C307088P22	Switch/Resistor: includes Switch, rotary, 4 poles, 2 positions, momentary shorting contacts, 250 ma at 500 VRMS; Resistor (R707), variable, 25000 ohms ±10%, 1 w max; sim to Mallory LC2500-3142.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB1	777550C99	Phen: 5 terminals.
		- - - - - - - - - - SOCKETS - - - - - - - - - -
XDS701 and XDS702	19B201123P2	Lamp, miniature: sim to Drake Series 121.
		MECHANICAL PARTS CONTROL UNIT MODELS 4EC59A103-A110 (SEE EC-1170)
1	853297BC13	Plug button: approx 21/32 inches dia.
2	853295C13	Plug button: approx 13/32 inches dia.

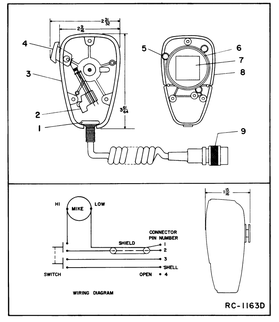
*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

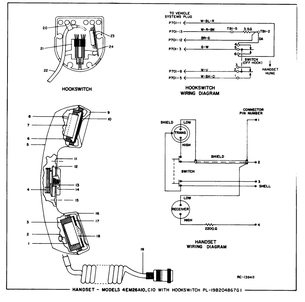
SYMBOL	GE PART NO.	DESCRIPTION
3	19A121521G1	Mounting bracket.
4	19B201122P3	Lens cap: green translucent nylon.
5	RP276161	Nameplate. (Used in Models 4EC59A103 and A104).
6	RP276157	Nameplate. (Used in Models 4EC59A105 and A106).
7	RP276156	Nameplate. (Used in Models 4EC59A107 and A108).
8	RP276155	Nameplate. (Used in Models 4EC59A109 and A110).
9		(Not Used).
10		(Not Used).
11		(Not Used).
12		(Not Used).
13	19B201122P4	Lens cap: red translucent nylon.
14	19B204443G3	Knob: brown.
15	19C303413P1	Knob: VOLUME/SQUELCH.
16	19D413010P9	Housing: brown.
17	19B204522P1	Mounting plate.
18	19A115495P1	Screw, hexhead: No. 1/4-20 x 5/8.
	19A116773P106	Tap screw, Phillips POZIDRIV®: No. 7-19 x 3/8. (Secures backplate to housing).
		ASSOCIATED ASSEMBLIES
	19A121469G1	Control unit modification kit (trunk mount).
	19D402239G1	12 volt vehicle frame.
	19A122444P1	Cover, wire channel (on systems frame).
	19C303453G1	Front casting (Front mount).
	19C303453G2	Front casting (Trunk mount).
	403426009P3	Screw: 10-32 x 1-1/8 (Secures Front casting).
	549168292	Lock: Yale and Towne. (Part of Front casting).
	549168297	Cam. (Used with lock).
		DIMMER CONTROL MODIFICATION KIT 19A121283G1
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R705	19B209114P1	Variable, wirewound: 75 ohms ±20%, 3 w; sim to CTS Series 112.
		POWER CABLE ASSEMBLY 19C303601G1 (12 VOLT FRONT MOUNT) 19C303601G2 (12 VOLT TRUNK MOUNT)
	19B209189P1	Connector, phen: 8 contacts rate at 15 amps at 1100 VRMS; sim to Beauchaine and Rose S-5401-T6.
	19D402438P1	Cap, connector.
	19A121444P2	Connector retaining screw.
	19A115313P1	Cable: 3 conductor, approx 9 feet long. (Used in 19C303601G1).
	19A116884P1	Cable: 3 conductor, approx 20 feet long. (Used in 19C303601G3).
		CONTROL CABLE ASSEMBLY 19C303629G1, G3 (1-FREQ) 19C303629G3, G4 (MULTI-FREQ)
		- - - - - - - - - - PLUGS - - - - - - - - - -
P1	19C303629G5	Plug, male: includes connector 19D402408P3, cap 19C303290P2 and connector retaining screw 19A121444P2.
J1	19C303629G6	Plug, female: includes connector 19D402408P1, cap 19C303290P1 and connector retaining screw 19A121444P1.
		- - - - - - - - - MISCELLANEOUS - - - - - - -
	19D402408P1	Connector, female phen: 25 contacts rated at 5 amps max.

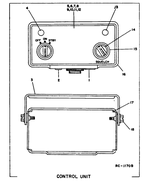
SYMBOL	GE PART NO.	DESCRIPTION
	19D402408P3	Connector, male phen: 25 contacts rated at 5 amps max.
	19C303290P1	Cap, connector.
	19C303290P2	Cap, connector.
	713988CP11	Cable: 23 conductors, (When ordering specify length). (Used in 19C303629G1 and G2).
	713988CP8	Cable: 13 conductors, (When ordering specify length). (Used in 19C303629G3 and G4).
		VEHICLE SYSTEM CABLE KIT 19A121454G1 (12 VOLT VEHICLES)
	19A121429P1	Pin: 1/2 inch long.
	19A121441G1	Plug: 13 contacts.
	19C303574P1	Cover: approx 1-13/16 x 1 x 1/32 inches.
		FUSED LEAD ASSEMBLY 19A121317G1. (19A121454G1)
	1R1698	Fuse, cartridge, quick blowing: 5 amps at 250 v; sim to Littelfuse 312005 or Bussmann MTH-5.
	19A115776P2	Fuseholder, phenolic: sim to Bussmann Type HHJ.
	19A115662P3	Cable: wire size No. 16 AWG, approx 8-3/4 feet long.
		INTERCONNECTION HARNESS ASSEMBLY 19A123245G1
		- - - - - - - JACKS AND RECEPTACLES - - - - - - -
J505	19A122683G1	Plug, male: 13 pin contacts.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P101	19C303506P1	Connector, phen: 20 contacts rated at 5 amps max at 600 VDC.
P443	19C303506P1	Connector, phen: 20 contacts rated at 5 amps max at 600 VDC.
P703	19D402408P2	Connector, phen: 25 contacts rated at 5 amps max.
		- - - - - - - - TERMINAL BOARDS - - - - - - - -
TB801	7775500P10	Phen: 4 terminals.
	19A122444P1	Channel Cover.
		ANTENNA RELAY ASSEMBLY 19B209445P1 Includes J901, E901, P103, P441, W901-W903.
		12 VOLT FUSEHOLDER 19B216031G14 (Fuses must be ordered separately)
		- - - - - - - - - - FUSES - - - - - - - - - -
	1R11P4	Quick blowing: 15 amps, 250 v; sim to Bussmann MDR15, (Trasmitters).
		132-512 MHz ANTENNA 19B209556P1
		Whip assembly, 068110-001.
		Whip nut assembly, 068047-001.
		Base nut assembly, 068048-001.
		"O" Ring (LARGE), 007059-122.
		Stud assembly, 068046-001.
		RG58/U Cable, 15 feet, 068115-001.

SYMBOL	GE PART NO.	DESCRIPTION
		25 - 50 MHz ANTENNA
	749107AP1	Antenna: includes stainless steel rod approx 36-1/2 inches long; ball tip; lockwasher; No. 10-32 base mounting screw; sim to Antenna Specialists ASP43BE.
	7102930P3	Adapter, antenna: approx 2-5/16 inches long. (Used with GE Dwg 749107AP1).
	4EY91A1	Loading coil: 25-33 MHz; sim to Antenna Specialists ASP1417.
	19A121577G1	Antenna hook kit.
	7134724P1	Antenna hook.
	19C307171P1	Antenna Package: Includes base and ball assembly, adapter spring assembly, cable assembly, horseshoe plate, and rubber gasket.
		Base and ball assembly, Newtronics 5495.
		Adapter spring assembly, Newtronics 3327.
		Cable assembly, Newtronics 183-BA0.
		Horseshoe plate, Newtronics 3323-3.
		Rubber gasket, Newtronics 3320.
		HANDSET MODEL 4EM28A10 MODEL 4EM28C10 (SEE EC-1394)
1		Self tap screw, bind head: No. 4 x 5/16. Shure Brothers 30C946C.
2		Cable clamp. Shure Brothers 53A532.
3		Shield. Shure Brothers RP19.
4		Switch. Shure Brothers RP81.
5		Case. Shure Brothers RP49. (Used in 4EM28A10).
		Case. Shure Brothers 21RP089F. (Used in 4EM28C10).
6		Adapter. Shure Brothers 65A230.
7		Magnetic controlled cartridge. Shure Brothers RP81.
8	3R77P222K	Resistor, composition: 2200 ohms ±10%, 1/2 w.
9		Receiver cap. (Part of item 5).
10		Washer. Shure Brothers 34A321.
11		Escutcheon. Shure Brothers 53A539A.
12		Actuator. Shure Brothers 53A556.
13		Spring. Shure Brothers 44A140.
14		Plunger bar. Shure Brothers RP82.
15		Flat head screw, socket cap: No. 4-40 X 1/4. Shure Brothers 30C557E.
16		Transmitter cap. Shure Brothers 65A197A. (Part of item 5).
17		Washer. Shure Brothers 34A309.
18		Magnetic controlled cartridge. Shure Brothers RP13.
19		Cable and plug. Shure Brothers RP48. (Used in 4EM28A10).
		Cable and plug. Shure Brothers 21RP738F. (Used in 4EM28C10).
		HOOKSWITCH ASSEMBLY 19B204867G1 (SEE EC-1394)
20	4029851P4	Cable clamp; sim to HIC Keeser 3/16-4.
21	19A121613P1	Holder and switch: thermoplastic case, contact rating 1 amp at 125 v.
22	19A121583G1	Cable: approx 8-1/2 feet long, includes five 19A121429P2 pins.
23	5493035P10	Resistor, wirewound, ceramic: 3.5 ohms ±5, 5 w; sim to Hamilton Hall Type HH.
24	7775500P55	Terminal board, phen: 5 terminals.

SYMBOL	GE PART NO.	DESCRIPTION
		MILITARY MICROPHONE MODEL 4EM28M10 19B209610P6 (SEE EC-1163)
1		Cable clamp. Shure Brothers 53A532.
2		Switch. Shure Brothers RP26.
3		Case (back) and mounting button: plastic. Shure Brothers RP100.
4		Switch button: red plastic. Shure Brothers RP25.
5		Spring. Shure Brothers RP16.
6		Shield. Shure Brothers RP23.
7		Magnetic controlled cartridge. Shure Brothers RP13.
8		Case (front): plastic. Shure Brothers RP100.
9		Cable and plug: approx 6 feet long. Shure Brothers RP14.
LS2	19A116910P1	5 WATT SPEAKER 4EE20A12 19D402449G19 Speaker, permanent magnet: 5 inch, 3.2 ohms ±15% imp., 5 w max operating; sim to Pioneer 002009.
W3	19A121546G1	Cable assembly: approx 48 inches long, includes (2) 19A121429P1 pins.
		MECHANICAL PARTS
	19D416396P1	Speaker housing.
	19C320016P2	Mounting support.
	19A116985P1	Screw, hex head-slotted: double lead thread, with internal tooth washer, No. 13-16 x 3/4. (Secures housing to mounting bracket).
	19B219699G1	Grille.







PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter", which is stamped after the serial 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 - 4EC59A104, 106, 108 and 110
To add mike hi, PTT, earphone and ground to Tone Option Jack J704.

REV. A - 4EC59A103, 105, 107 and 109

REV. B - 4EC59A104, 106, 108 and 110
Incorporate new housing. Changed housing from 19B218272G1 to 19D413010P2. Changed backplate retaining screw to 19A116773P106.

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.

MOBILE RADIO DEPARTMENT
GENERAL ELECTRIC COMPANY • LYNCHBURG, VIRGINIA 24502

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