MOBILE RADIO

MAINTENANCE MANUAL
138—174 MHz, 25 WATT POWER AMPLIFIER 19D423927G1

TABLE OF CONTENTS

DESCRIPTION

The PA assembly for Custom MVP uses two RF power transistors to provide a power output of 25 watts. The output power is adjustable from 8 to 25 watts by power adjust potentiometer R8. A single transistor is used in the power adjust circuit.

Supply voltage (A+) for the PA is connected from jack J1 on the back of the unit through FL210-C5 on the side of the radio. C201, C202 and L12 prevent RF from getting on the power leads. Diode CR201 will cause the main fuse in the fuse assembly to blow if the polarity of the power leads is reversed, providing reverse voltage protection for the radio.

Centralized metering jack J5 is provided for use with GE Test Set Model 4EX3A11 or Test Kit 4EX8K12. The Test Set meters power control voltage, Ampl-1 drive (exciter output), and PA voltage and current.

CIRCUIT ANALYSIS

RF AMPLIFIERS

The exciter output is coupled through an RF cable to PA input jack J1. The RF is coupled through a matching network to the base of Class C amplifier Q201. The network matches the 50-ohm input to the base of Q201, and consists of T1, C4 and L2. L1, R3 and C3 comprise a stabilizing network in the base circuit of Q201.

Part of the RF input is rectified by CR1 and applied to voltage divider R1 and R2. This voltage is used to meter the AMPL-1 drive at J5.

Collector voltage to Q201 (Ampl-1) is controlled by power control transistor, Q215 and is applied through a collector stabilizing and feed network consisting of C6, L3, L4 and R4. The collector voltage of Q201 is metered through R7 at J5.

The output of Q201 is coupled to the base of Class C driver Q202 through a matching network consisting of L5, L6, C12, C13, C14 and R5. Collector voltage to Q202 is applied through collector stabilizing and feed network C15, L8, L11 and R6.

Collector current for Q202 is metered across tapped manganin resistor R9 at J5 (PA Current). The reading is taken on the one-Volt scale with the High Sensitivity button pressed, and read as 10 amperes full scale.

Following Q202 is a matching network (L9, L10, C19, C20 and C21) that matches the output of Q202 to the 50-ohm microstrip impedance (W1) in the low pass filter. C22 acts as a DC blocking capacitor.

The PA output is coupled through the low-pass filter to the antenna through antenna relay K1.

WARNING

The RF Power Transistors used in the transmitter contain Beryllium Oxide, a TOXIC substance. If the ceramic, or other encapsulation is opened, crushed, broken or abraded, the dust may be hazardous if inhaled. Use care in replacing transistors of this type.

POWER ADJUST CIRCUIT

The power adjust circuit consists of R8 and Q215. R8 controls the base voltage and conduction of Q215. Q215 is connected in series with the collector feed network for Q201, thereby controlling the drive to Q202 and the output power. R8 is adjusted to provide the desired output power.

GENERAL ELECTRIC COMPANY • MOBILE COMMUNICATIONS DIVISION
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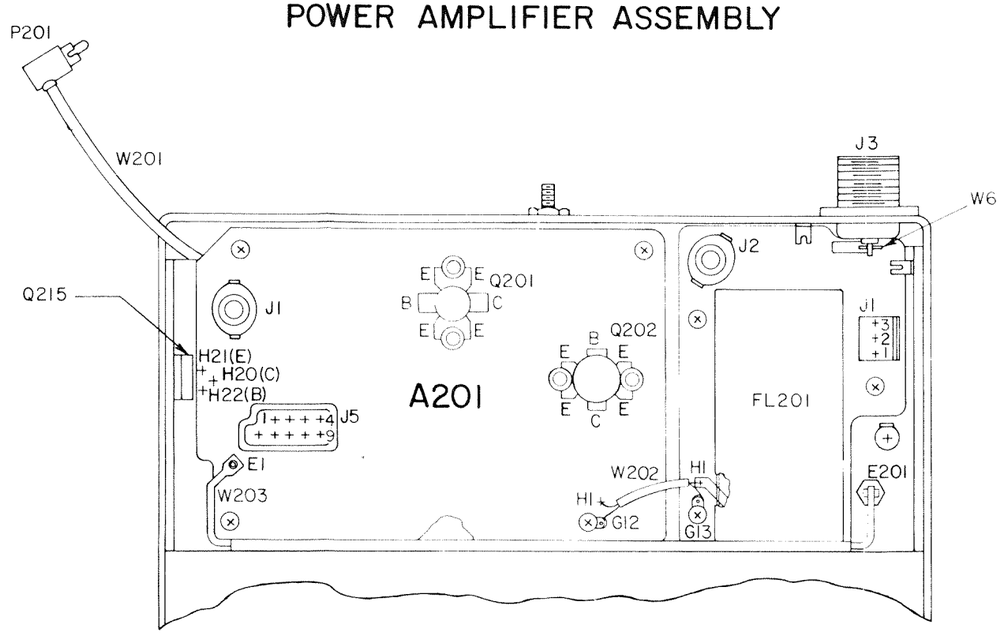
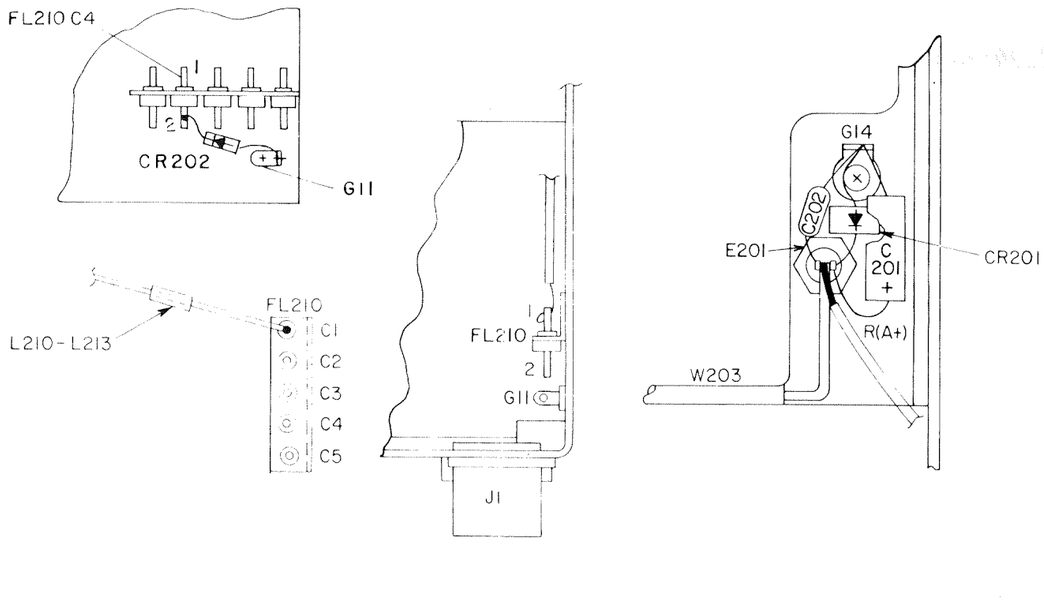
POWER AMPLIFIER ASSEMBLY



PA BOARD
19D424309G4

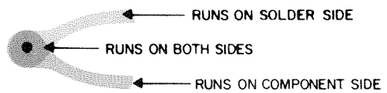


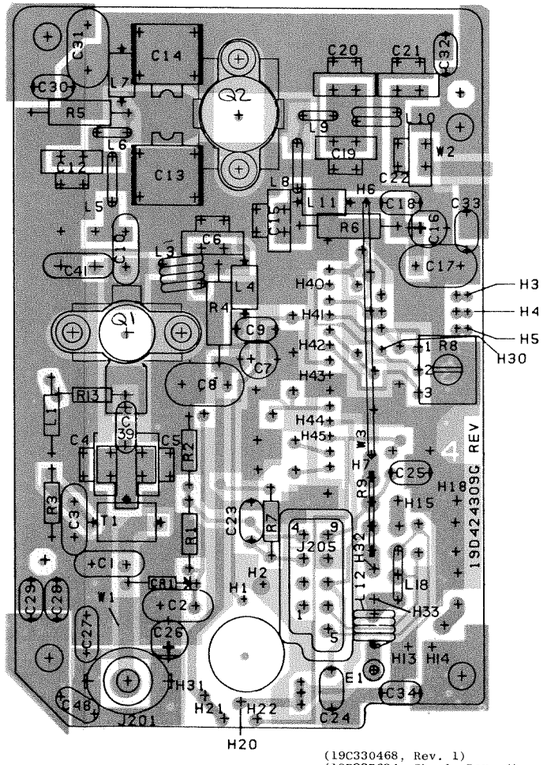
(19C327306, Rev. 1)

PA BOARD
19D423719G1

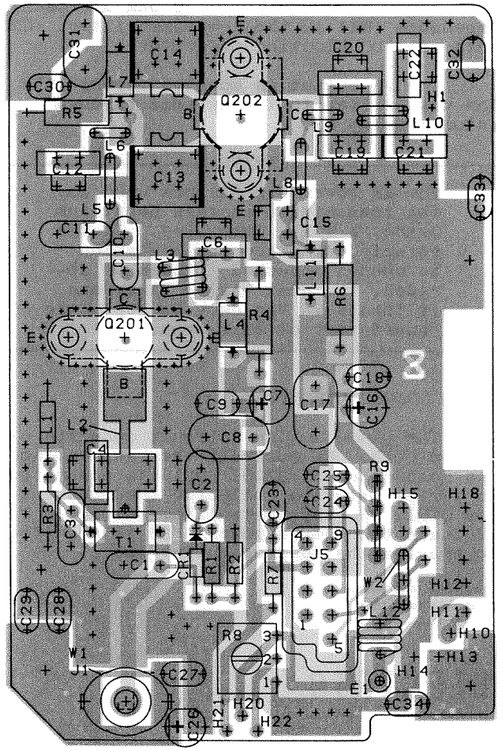
CONNECTION CHART		
FROM	TO	WIRE SIZE
H13	H14	DB

CONNECTIONS CHART			
FROM	TO	WIRE SIZE	REMARKS
H13	H14	DB	
H40	H45	DA	SLEEVE
H41	H43	DA	SLEEVE
H42	H44	DA	SLEEVE
H32	H33	DB	



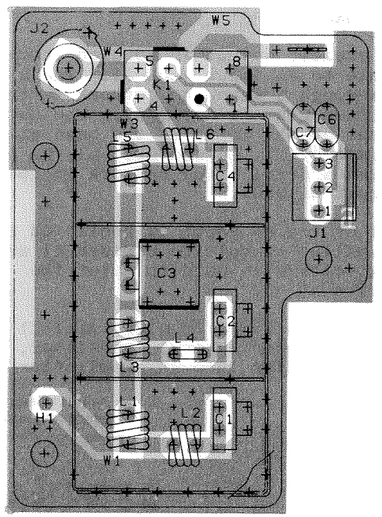


(19C330468, Rev. 1)
(19B227634, Sh. 1, Rev. 4)
(19B227634, Sh. 2, Rev. 3)



(19C327248, Rev. 2)
(19B227232, Sh. 1, Rev. 3)
(19B227232, Sh. 2, Rev. 3)

FILTER BOARD



(19C327186, Rev. 1)
(19B227410, Sh. 2, Rev. 2)
(19B227410, Sh. 3, Rev. 1)

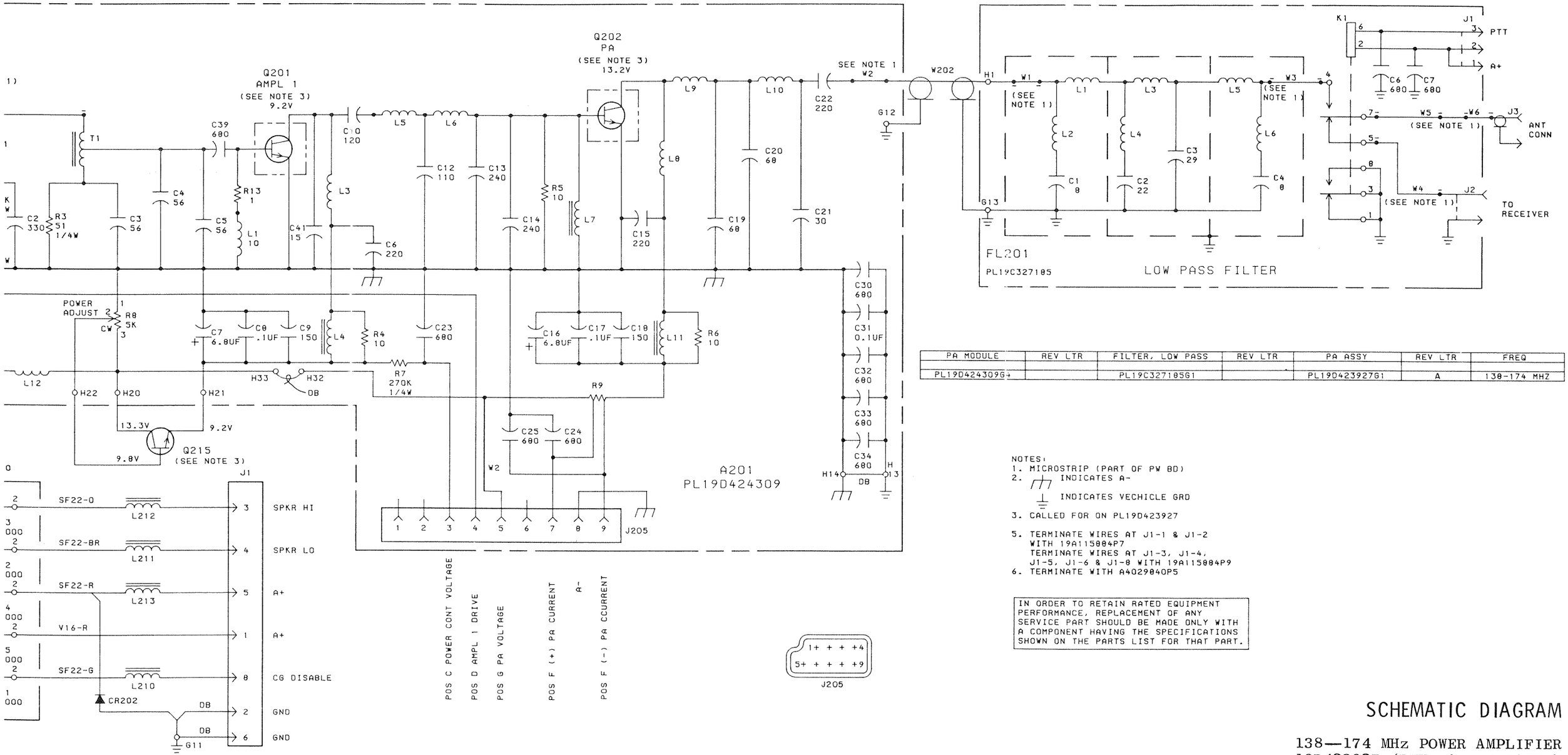
OUTLINE DIAGRAM

138—174 MHz POWER AMPLIFIER

VOLTAGE READINGS

VOLTAGE READINGS ARE TYPICAL READINGS MADE WITH THE TRANSMITTER KEYED, AND MEASURED WITH A 20,000 OHMS-PER-VOLT METER WITH REFERENCE TO A- AND NOT CHASSIS GROUND. AN RF CHOKE (25-50 MICROHENRYS) IS USED IN THE HOT METER LEAD TO AVOID DETUNING RF CIRCUITS. NOTE: READINGS ARE TAKEN WITH TRANSMITTER ADJUSTED TO RATED POWER OUTPUT.

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



(19R622427, Rev. 2)

PA MODULE	REV LTR	FILTER, LOW PASS	REV LTR	PA ASSY	REV LTR	FREQ
PL19D424309G1		PL19C327185G1		PL19D423927G1	A	138-174 MHZ

NOTES:
1. MICROSTRIP (PART OF PW BD)
2. INDICATES A-
   INDICATES VECHICLE GRD
3. CALLED FOR ON PL19D423927
5. TERMINATE WIRES AT J1-1 & J1-2 WITH 19A115884P7
   TERMINATE WIRES AT J1-3, J1-4, J1-5, J1-6 & J1-8 WITH 19A115884P9
6. TERMINATE WITH A4029840P5

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.

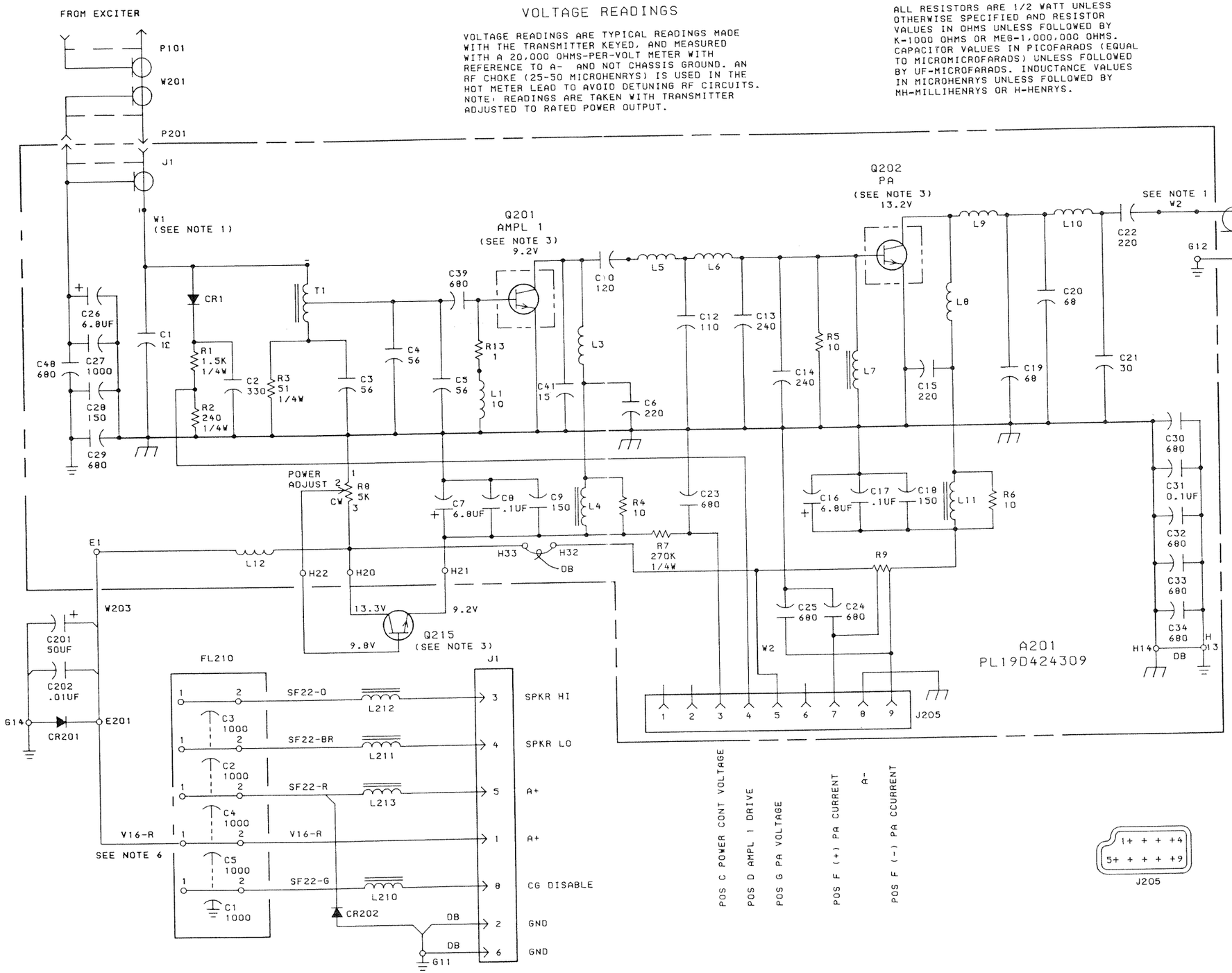
SCHEMATIC DIAGRAM

138—174 MHz POWER AMPLIFIER
19D423927 (REV. A and LATER)

VOLTAGE READINGS

VOLTAGE READINGS ARE TYPICAL READINGS MADE WITH THE TRANSMITTER KEYED, AND MEASURED WITH A 20,000 OHMS-PER-VOLT METER WITH REFERENCE TO A- AND NOT CHASSIS GROUND. AN RF CHOKE (25-50 MICROHENRYS) IS USED IN THE HOT METER LEAD TO AVOID DETUNING RF CIRCUITS. NOTE: READINGS ARE TAKEN WITH TRANSMITTER ADJUSTED TO RATED POWER OUTPUT.

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



PA MODULE	REV LTR	FIL
PL19D424309G+		PL

NOTES:
1. MICROSTRIP (PART
2. INDICATES A
INDICATES VI
3. CALLED FOR ON PL
5. TERMINATE WIRES
WITH 19A115884P7
TERMINATE WIRES
J1-5, J1-6 & J1-
6. TERMINATE WITH A

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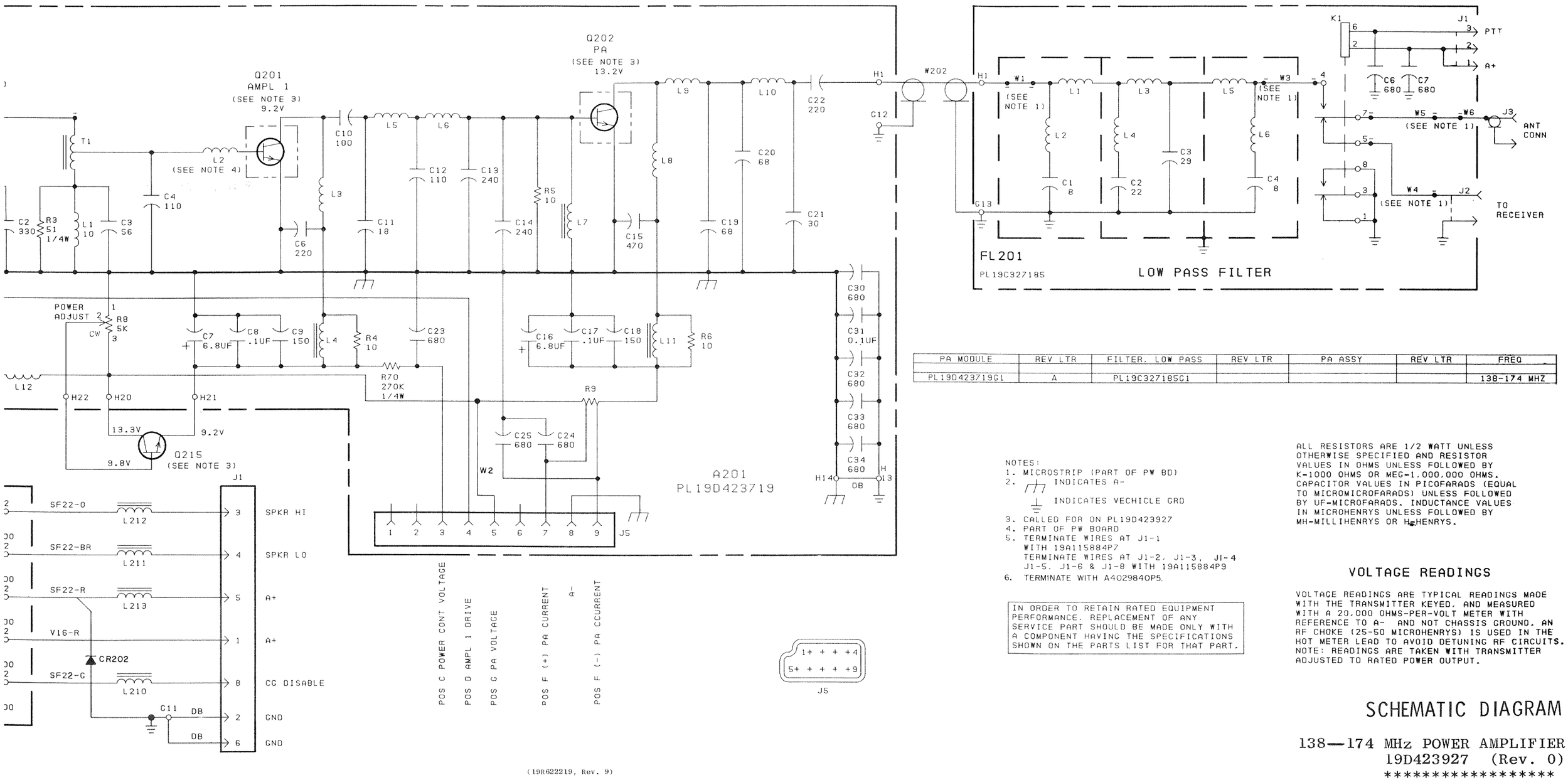

(19R622219, Rev. 9)

PA MODULE	REV LTR	FILTER, LOW PASS	REV LTR	PA ASSY	REV LTR	FREQ
PL19D423719G1	A	PL19C327185G1				138-174 MHZ

NOTES:
1. MICROSTRIP (PART OF PW BD)
2. ⏚ INDICATES A-
   ⏚ INDICATES VECHICLE GRD
3. CALLED FOR ON PL19D423927
4. PART OF PW BOARD
5. TERMINATE WIRES AT J1-1 WITH 19A115884P7
   TERMINATE WIRES AT J1-2, J1-3, J1-4 J1-5, J1-6 & J1-8 WITH 19A115884P9
6. TERMINATE WITH A4029840P5.

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

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SCHEMATIC DIAGRAM

138—174 MHz POWER AMPLIFIER
19D423927 (Rev. 0)
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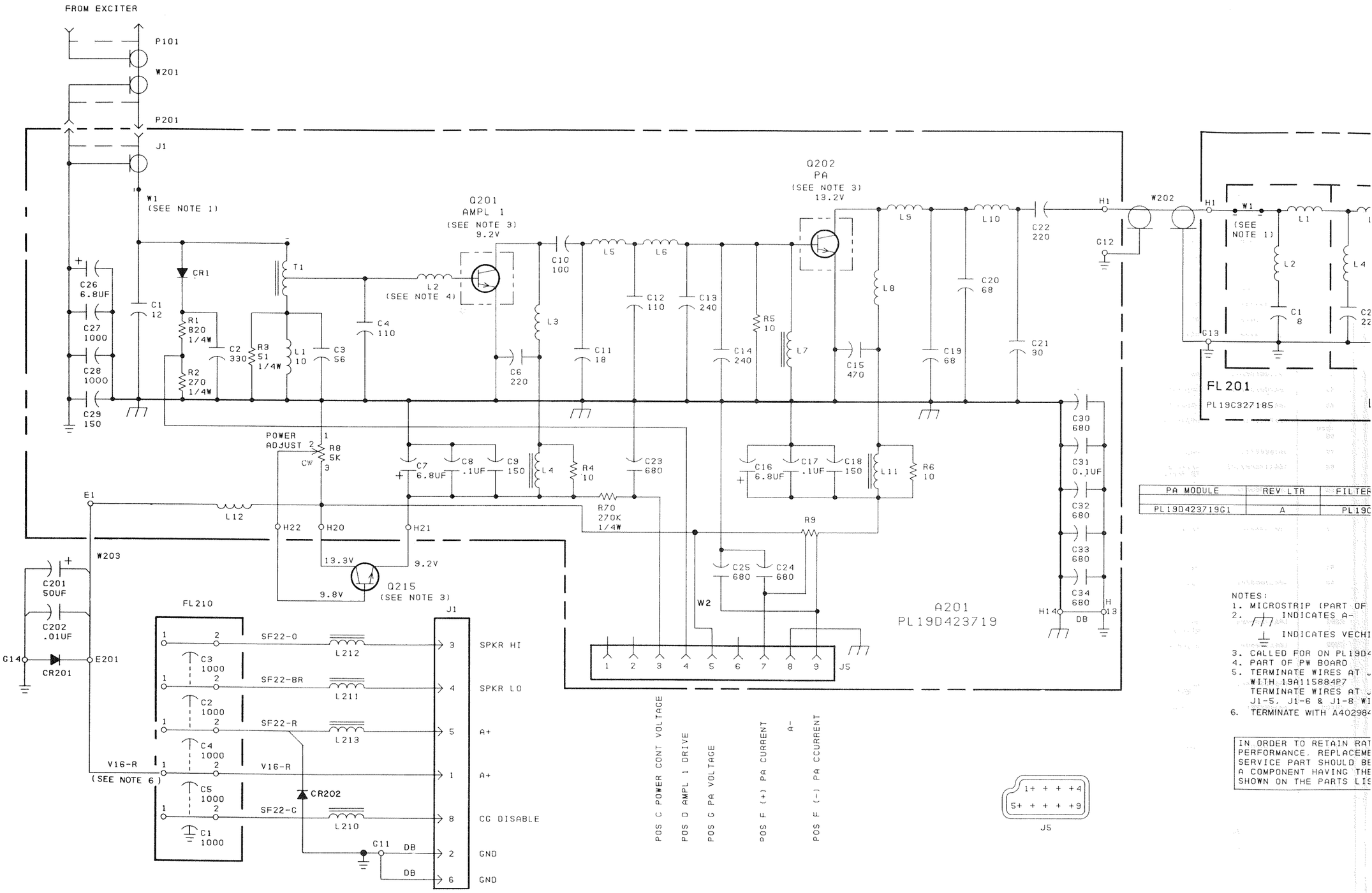

PA MODULE	REV LTR	FILTER
PL19D423719G1	A	PL19C

NOTES:
1. MICROSTRIP (PART OF
2. INDICATES A-
INDICATES VECHI
3. CALLED FOR ON PL19D4
4. PART OF PW BOARD
5. TERMINATE WIRES AT
WITH 19A115884P7
TERMINATE WIRES AT
J1-5, J1-6 & J1-8 WI
6. TERMINATE WITH A402984

IN ORDER TO RETAIN RAT
PERFORMANCE. REPLACEME
SERVICE PART SHOULD BE
A COMPONENT HAVING THE
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(19R622219, Rev. 9)

PARTS LIST

LBI30144D

138-174 MHz, 25 WATT POWER AMPLIFIER
19D423927G1
(REV. 0)

SYMBOL	GE PART NO.	DESCRIPTION
A201		POWER AMPLIFIER MODULE 19D423719G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1*	19A116656P12J0	Ceramic disc: 12 pF ±5%, 500 VDCW; temp coef 0 PPM.
		Earlier than REV A:
	7489162P6	Silver mica: 10 pF ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C2	7489162P39	Silver mica: 330 pF ±5%, 500 VDCW; sim to Sprague Type 118.
C3	19A700105P28	Mica: 56 pF ±5%, 500 VDCW.
C4	19A700015P30	Silver mica: 110 pF ±5%, 250 VDCW.
C6	19A700015P37	Teflon/Mica: 220 pF ±5%, 250 VDCW.
C7	19A134202P15	Tantalum: 6.8 uF ±20%, 35 VDCW.
C8	19A116080P107	Polyester: 0.1 uF ±10%, 50 VDCW.
C9	19A116655P8	Ceramic disc: 150 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C10	19A700105P34	Mica: 100 pF ±5%, 500 VDCW.
C11	19A700105P14	Mica: 18 pF ±5%, 500 VDCW.
C12	19A700015P30	Silver mica: 110 pF ±5%, 250 VDCW.
C13 and C14	19A700014P38	Metallized teflon: 240 pF ±5%, 250 VDCW.
C15	19A116679P470K	Mica: 470 pF ±10%, 250 VDCW.
C16	19A134202P15	Tantalum: 6.8 uF ±20%, 35 VDCW.
C17	19A116080P107	Polyester: 0.1 uF ±10%, 50 VDCW.
C18	19A116655P8	Ceramic disc: 150 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C19 and C20	19A700015P25	Silver mica: 68 pF ±5%, 250 VDCW.
C21	19A700015P16	Teflon/Mica: 30 pF ±5%, 250 VDCW.
C22	19A700015P37	Teflon/Mica: 220 pF ±5%, 250 VDCW.
C23 thru C25	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C26	19A134202P15	Tantalum: 6.8 uF ±20%, 35 VDCW.
C27	19A116655P19	Ceramic disc: 1000 pF ±20%, 1000 VDCW; sim to RMC Type JF Discap.
V28*	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
		Earlier than REV A:
	19A116655P8	Ceramic disc: 150 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C29	19A116655P8	Ceramic disc: 150 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C30	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JR Discap.
C31	19A116080P107	Polyester: 0.1 uF ±10%, 50 VDCW.
C32 thru C34	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - - - -
CR1	19A115250P1	Silicon, fast recovery, 225 mA, 50 PIV.
		- - - - - - - - - - TERMINALS - - - - - - - - - -
E1	19A134263P1	Contact, electrical: sim to Selectro 229-1082-00-0-590.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1	19A130924G1	Connector, receptacle: coaxial, jack type; sim to Cinch 14H11613.
J5	19B219374G1	Connector: 9 contacts.
		- - - - - - - - - - INDUCTORS - - - - - - - - - -
L1	19B209420P25	Coil, RF: 10.0 uH ±5%, 3.10 ohms DC res max; sim to Jeffers 4446-4J.
L2		(Part of printed board 19D423718P1).
L3	19A136530P1	Coil.
L4	19A701091G1	Coil.
L5	19A136532P1	Coil.
L6	19A701420P5	Coil.
L7	19A701091G1	Coil.
L8*	19A136531P2	Coil.
		Earlier than REV A:
	19A136531P1	Coil.
L9	19A701420P5	Coil.
L10	19A136533P1	Coil.
L11	19A701091G1	Coil.
L12	19A701419P3	Coil.
		- - - - - - - - - - RESISTORS - - - - - - - - - -
R1	19A700106P61	Composition: 820 ohms ±5%, 1/4 w.
R2	19A700106P49	Composition: 270 ohms ±5%, 1/4 w
R3	19A700106P32	Composition: 51 ohms ±5%, 1/4 w.
R4 thru R6	19A700113P15	Composition: 10 ohms ±5%, 1/2 w.
T7	3R152P274J	Composition: 270K ohms ±5%, 1/4 w.
R8	19A116559P102	Variable cermet: 5000 ohms ±20%, 1/2 w; sim to CTS Series 360.
R9	19C850605P2	Shunt resistor.
		- - - - - - - - - - TRANSFORMERS - - - - - - - - - -
T1	19A129564G1	Transformer.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1		(Part of printed board 19D423718P1).
W2	19A136532P1	Coil.
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C201	19A115680P4	Electrolytic: 50 uF +150% -10%, 25 VDCW; sim to Mallory Type TTX.
C202	19A116080P101	Polyester: 0.01 uF ±10%, 50 VDCW.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - - - -
CR201	19A116783P1	Rectifier, silicon: 100 VDC blocking, 6 amp; sim to MR751.
CR202	4037822P1	Silicon, 1000 mA, 400 PIV.
		- - - - - - - - - - TERMINALS - - - - - - - - - -
E201	7143206P1	Terminal, standoff.
		- - - - - - - - - - FILTERS - - - - - - - - - -
FL201		COMPONENT BOARD 19C327185G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1	19A116679P8D	Metallized teflon: 8 pF ±0.5 pF, 250 VDCW.
C2	19A700015P12	Teflon/Mica: 22 pF ±5%, 250 VDCW.
C3	19A116795P29J	Teflon: 29 pF ±5%, 250 VDCW.
C4	19A116679P8D	Metallized teflon: 8 pF ±0.5 pF, 250 VDCW.
C6 and C7	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JR Discap.
		- - - - - - - - - - INDUCTORS - - - - - - - - - -
L1	19A701419P3	Coil.
L2	19A701418P1	Coil.
L3	19A701419P3	Coil.
L4	19A701420P5	Coil.
L5	19A701419P3	Coil.
L6	19A701418P1	Coil.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1	19A116659P55	Connector, printed wiring: 3 contacts rated at 5 amps; sim to Molex 09-65-1031.
J2	19A130924G1	Connector, receptacle: coaxial, jack type; sim to Cinch 14H11613.
		- - - - - - - - - - RELAYS - - - - - - - - - -
K1	19A700061P1	Hermetic sealed: 180 to 341 ohms coil res, 8-16.3 VDC; sim to GE 3SAV1760A2, CP Clare HFW-1201558, or Potter-Brumfield HCM6160.
		- - - - - - - - - - CABLES - - - - - - - - - -
W1		(Part of printed board 19C327184P1).
W3 thru W5		(Part of printed board 19C327184P1).
W6	19A136512P1	Antenna strap.
		- - - - - - - - - - FILTERS - - - - - - - - - -
FL210		FILTER ASSEMBLY 19A136680G1
		- - - - - - - - - - CAPACITORS - - - - - - - - - -
C1 thru C5	5493392P7	Ceramic, feed thru: 1000 pF -0+100%, 500 VDCW.
		- - - - - - - - - - TERMINALS - - - - - - - - - -
G11 thru G14	7135118P2	Solderless terminal.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1		Connector. Includes:
	19A115884P12	Shell.
	19A115884P7	Contacts, male: wire size 14-20; sim to AMP 60528-1.
	19A115884P9	Contacts, male: wire size 22-30; sim to AMP 60910-1.
J3	19A700067P1	Receptacle, coax; sim to Amphenol 83-798.
		- - - - - - - - - - INDUCTORS - - - - - - - - - -
L210 thru L213	19A700122P1	Torridal core.
		- - - - - - - - - - PLUGS - - - - - - - - - -
P201		(Part of W201).
		- - - - - - - - - - TRANSISTORS - - - - - - - - - -
Q201	19A134340P1	Silicon, NPN: VHF Amplifier, 4 watts, 12.5 v.
Q202	19A134340P2	Silicon, NPN: NHF Amplifier, 25 watts, 12.5 v.
Q215	19A116742P1	Silicon, NPN.
		- - - - - - - - - - CABLES - - - - - - - - - -
W201	5491689P91	Cable, RF: approx 7-1/2 inches long.
W202	19A136529G2	Cable: approx 2 inches long.
W203	19B227302P1	Jumper.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19C321982P1	Insulator. (Located under A2010.
	N84P13003C6	Screw, flathead: No. 6-32 x 3/16. (Secures FL210).
	4033714P11	Terminal, solderless: size to Zierick 349. (Solders to FL201).
	N44P9006C6	Machine screw: No. 4-40 x 3/8. (Secures Q Q202).
	19A116023P1	Insulator, plate. (Located under Q215).
	19A134016P1	Insulator, bushing. (Used with Q215).
	19B201074P204	Tap screw, phillips POZIDRIV®: No. 4-40 x (Secures J3).
	7878243P11	Hex nut: No. 8-32. (Secures stud that mat with wing nut securing radio to case).
	19A116417P4	Bumper. (Quantity 4).

PRODUCTION CHANGES

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

REV. A - PA Module 19D423719G1
To improve PA input VSWR. Changed C1, C28 and L8.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1	19A130924G1	Connector, receptacle: coaxial, jack type; sim to Cinch 14H11613.
J5	19B219374G1	Connector: 9 contacts.
		- - - - - - - - - - - INDUCTORS - - - - - - - - - - -
L1	19B209420P25	Coil, RF: 10.0 uH ±5%, 3.10 ohms DC res max; sim to Jeffers 4446-4J.
L2		(Part of printed board 19D423718P1).
L3	19A136530P1	Coil.
L4	19A701091G1	Coil.
L5	19A136532P1	Coil.
L6	19A701420P5	Coil.
L7	19A701091G1	Coil.
L8*	19A136531P2	Coil.
		Earlier than REV A:
	19A136531P1	Coil.
L9	19A701420P5	Coil.
L10	19A136533P1	Coil.
L11	19A701091G1	Coil.
L12	19A701419P3	Coil.
		- - - - - - - - - - - RESISTORS - - - - - - - - - - -
R1	19A700106P61	Composition: 820 ohms ±5%, 1/4 w.
R2	19A700106P49	Composition: 270 ohms ±5%, 1/4 w
R3	19A700106P32	Composition: 51 ohms ±5%, 1/4 w.
R4 thru R6	19A700113P15	Composition: 10 ohms ±5%, 1/2 w.
T7	3R152P274J	Composition: 270K ohms ±5%, 1/4 w.
R8	19A116559P102	Variable cermet: 5000 ohms ±20%, 1/2 w; sim to CTS Series 360.
R9	19C850605P2	Shunt resistor.
		- - - - - - - - - TRANSFORMERS - - - - - - - - -
T1	19A129564G1	Transformer.
		- - - - - - - - - - - CABLES - - - - - - - - - - -
W1		(Part of printed board 19D423718P1).
W2	19A136532P1	Coil.
		- - - - - - - - - - - CAPACITORS - - - - - - - - - - -
C201	19A115680P4	Electrolytic: 50 uF +150% -10%, 25 VDCW; sim to Mallory Type TTX.
C202	19A116080P101	Polyester: 0.01 uF ±10%, 50 VDCW.
		- - - - - - - - DIODES AND RECTIFIERS - - - - - - - -
CR201	19A116783P1	Rectifier, silicon: 100 VDC blocking, 6 amp; sim to MR751.
CR202	4037822P1	Silicon, 1000 mA, 400 PIV.
		- - - - - - - - - - - TERMINALS - - - - - - - - - - -
E201	7143206P1	Terminal, standoff.
		- - - - - - - - - - - FILTERS - - - - - - - - - - -
FL201		COMPONENT BOARD 19C327185G1
		- - - - - - - - - - - CAPACITORS - - - - - - - - - - -
C1	19A116679P8D	Metallized teflon: 8 pF ±0.5 pF, 250 VDCW.
C2	19A700015P12	Teflon/Mica: 22 pF ±5%, 250 VDCW.
C3	19A116795P29J	Teflon: 29 pF ±5%, 250 VDCW.
C4	19A116679P8D	Metallized teflon: 8 pF ±0.5 pF, 250 VDCW.
C6 and C7	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JR Discap.
		- - - - - - - - - - - INDUCTORS - - - - - - - - - - -
L1	19A701419P3	Coil.
L2	19A701418P1	Coil.
L3	19A701419P3	Coil.
L4	19A701420P5	Coil.
L5	19A701419P3	Coil.
L6	19A701418P1	Coil.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1	19A116659P55	Connector, printed wiring: 3 contacts rated at 5 amps; sim to Molex 09-65-1031.
J2	19A130924G1	Connector, receptacle: coaxial, jack type; sim to Cinch 14H11613.
		- - - - - - - - - - - RELAYS - - - - - - - - - - -
K1	19A700061P1	Hermetic sealed: 180 to 341 ohms coil res, 8-16.3 VDC; sim to GE 3SAV1760A2, CP Clare HFW-1201558, or Potter-Brumfield HCM6160.
		- - - - - - - - - - - CABLES - - - - - - - - - - -
W1		(Part of printed board 19C327184P1).
W3 thru W5		(Part of printed board 19C327184P1).
W6	19A136512P1	Antenna strap.
		- - - - - - - - - - - FILTERS - - - - - - - - - - -
FL210		FILTER ASSEMBLY 19A136680G1
		- - - - - - - - - - - CAPACITORS - - - - - - - - - - -
C1 thru C5	5493392P7	Ceramic, feed thru: 1000 pF -0+100%, 500 VDCW.
		- - - - - - - - - - - TERMINALS - - - - - - - - - - -
G11 thru G14	7135118P2	Solderless terminal.
		- - - - - - - - JACKS AND RECEPTACLES - - - - - - - -
J1		Connector. Includes:
	19A115884P12	Shell.
	19A115884P7	Contacts, male: wire size 14-20; sim to AMP 60528-1.
	19A115884P9	Contacts, male: wire size 22-30; sim to AMP 60910-1.
J3	19A700067P1	Receptacle, coax; sim to Amphenol 83-798.
		- - - - - - - - - - - INDUCTORS - - - - - - - - - - -
L210 thru L213	19A700122P1	Torridal core.
		- - - - - - - - - - - PLUGS - - - - - - - - - - -
P201		(Part of W201).
		- - - - - - - - - - - TRANSISTORS - - - - - - - - - - -
Q201	19A134340P1	Silicon, NPN: VHF Amplifier, 4 watts, 12.5 v.
Q202	19A134340P2	Silicon, NPN: NHF Amplifier, 25 watts, 12.5 v.
Q215	19A116742P1	Silicon, NPN.
		- - - - - - - - - - - CABLES - - - - - - - - - - -
W201	5491689P91	Cable, RF: approx 7-1/2 inches long.
W202	19A136529G2	Cable: approx 2 inches long.
W203	19B227302P1	Jumper.
		- - - - - - - - - MISCELLANEOUS - - - - - - - - -
	19C321982P1	Insulator. (Located under A2010.
	N84P13003C6	Screw, flathead: No. 6-32 x 3/16. (Secures FL210).
	4033714P11	Terminal, solderless: size to Zierick 349. (Solders to FL201).
	N44P9006C6	Machine screw: No. 4-40 x 3/8. (Secures Q201 & Q202).
	19A116023P1	Insulator, plate. (Located under Q215).
	19A134016P1	Insulator, bushing. (Used with Q215).
	19B201074P204	Tap screw, phillips POZIDRIV®: No. 4-40 x 1/4. (Secures J3).
	7878243P11	Hex nut: No. 8-32. (Secures stud that mates with wing nut securing radio to case).
	19A116417P4	Bumper. (Quantity 4).

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 - PA Module 19D423719G1
To improve PA input VSWR. Changed C1, C28 and L8.