

**TABLE OF CONTENTS**

DESCRIPTION	Page
DESCRIPTION .....	1
CIRCUIT ANALYSIS .....	1
OUTLINE DIAGRAM .....	2
SCHEMATIC DIAGRAM .....	3
PARTS LIST AND PRODUCTION CHANGES .....	4

## DESCRIPTION

The PA Assembly for Custom MVP uses three RF power transistors to provide a power output of 20 Watts. The output power is adjustable over a range of 10 Watts to rated power output, using power adjust control R13. A single transistor is used in the power adjust circuit.

Supply voltage (A+) for the PA is connected from J1 on the back of the radio through FL210-C5 on the side of the radio. C201, C202 and C203 prevent RF from getting on the power leads. Diode CR201 will cause the main 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 the Ampl-1 drive (exciter output), power adjust voltage and PA voltage and current.

## CIRCUIT ANALYSIS

### RF POWER AMPLIFIERS

The exciter output is coupled through RF cable W201 to PA input jack J1. The 50 ohm RF input is coupled through a matching network comprised of C6, C7, C8 and W2 to the base of amplifier Q1.

Part of the RF input is rectified by CR1 and metered at J5-4 through resistor R1.

Collector voltage for Q1 is applied direct from the DC power input through R4 collector stabilizing network R5 and L2 and collector feed network L3 and C10.

The output of Q1 is coupled to the base of driver Q202 through a matching network consisting of T1, C13, C14, C15 and C16.

Collector voltage to Q202 is controlled by power adjust circuit Q215, and is applied through a collector stabilizing network L6 and R6 and collector feed network L5 and C18.

The output of Q202 is coupled to the base of power amplifier Q203 through C19 and

a matching network consisting of T2, C22, C24, C25 and C52. The collector voltage to Q203 is coupled through collector stabilizing network L9 and R14 and collector feed network L8 and C61.

Collector current for Q203 is metered from tapped manganin resistor R12. The reading is taken in position F with the High sensitivity button pressed, and read as 0-15 amperes full scale.

Collector voltage for Q203 is metered from tapped manganin resistor R10 to ground. The reading is taken in position G on the 15 Volt scale (4EX3A11) and read as 0-15 Volts full scale. The meter polarity must be reversed.

The output of Power Amplifier Q203 is coupled through an impedance matching network (C29, C30 and T3) that matches the output impedance of Q203 to the input impedance of the low pass filter through a 50 ohm micro-strip (W4) and a 50 ohm cable W202. C1 on the low pass filter board provides DC isolation between the transmitter and the antenna.

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

### WARNING

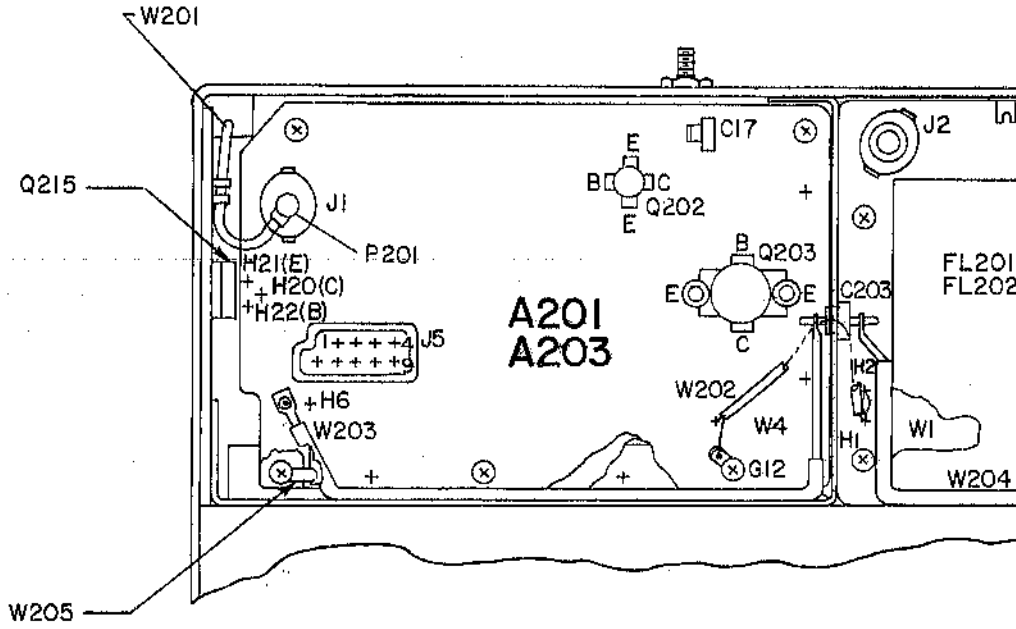
The RF Power Transistors used in the transmitter contain Beryllium Oxide, a TOXIC substance. If the ceramic, or other encapsulation is opened, crushed, broken or abraded, the dust may be hazardous if inhaled. Use care in replacing transistors of this type.

### POWER ADJUST CIRCUIT

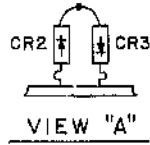
The power adjust circuit consists of R13 and Q215. R13 controls the base voltage, and conduction of Q215. Q215 is connected in series with the collector feed network for Q202, thereby, controlling the drive to Power Amplifier Q203 and the output power. R13 is adjusted to provide the desired output power. The collector voltage for Q202 is measured on position C on the 15 Volt scale and read as 0-15 Volts full scale.

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WORLD HEADQUARTERS • LYNCHBURG, VIRGINIA 24502 U.S.A.

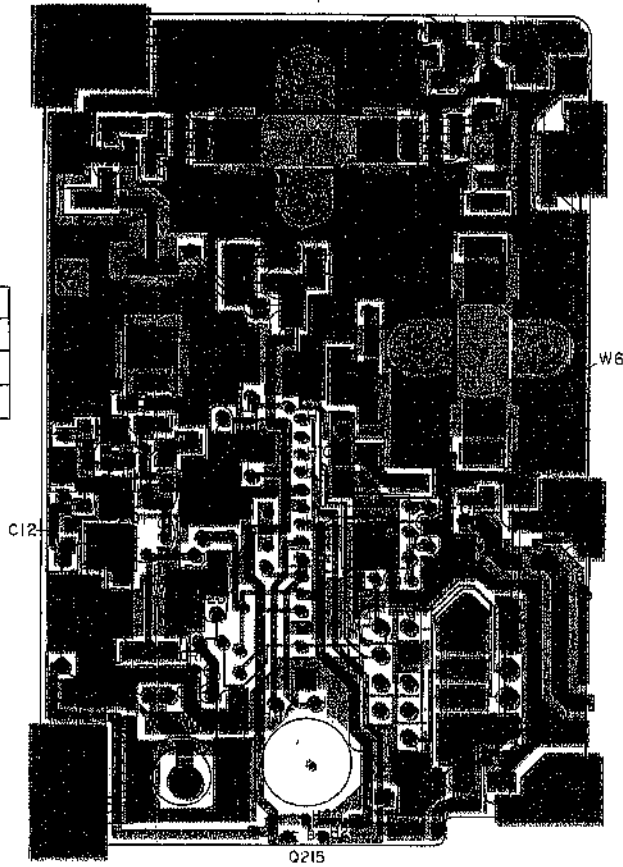
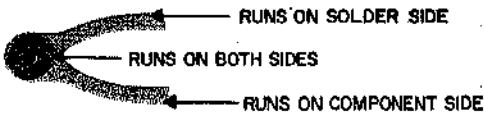
**GENERAL  ELECTRIC\***



PA BOARD



FROM	TO	WIRE	REMARKS
H9	H10	DA	—
H11	H12	DA	SLV

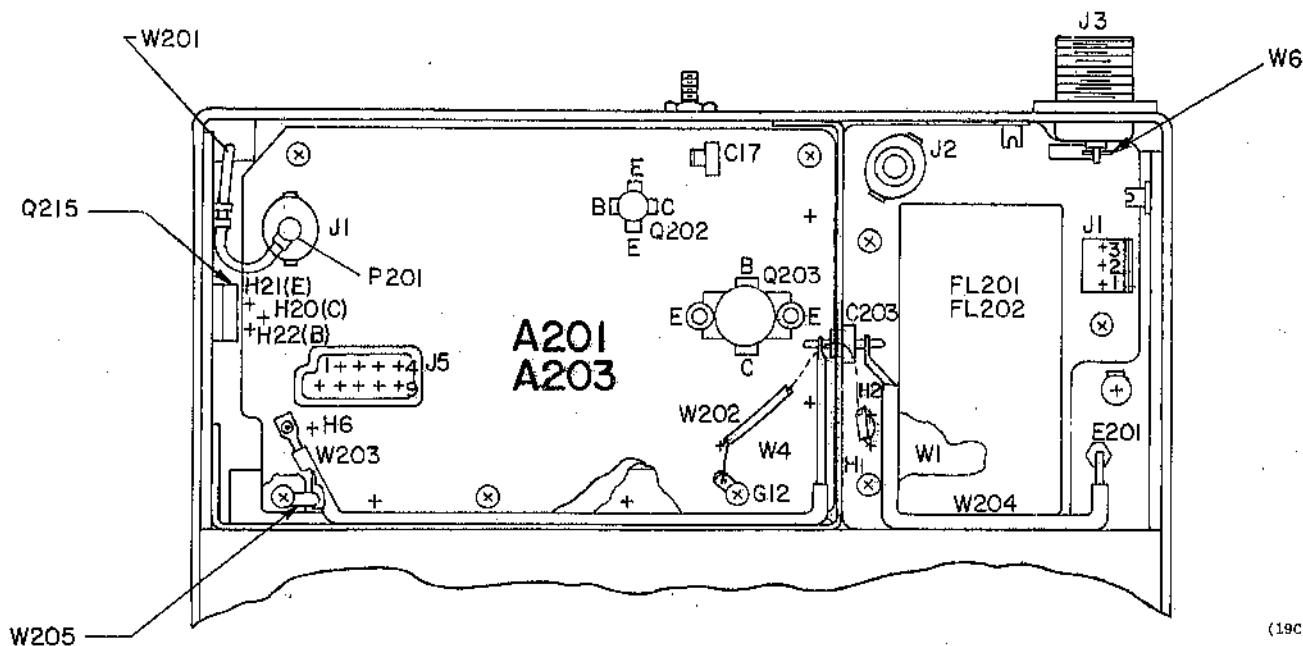


OUTLINE DIAGRAM

406--512 MHz POWER AMPLIFIER

(19C327305, Rev. 5)  
 (19B228433, Sh. 1, Rev. 6)  
 (19B228833, Sh. 2, Rev. 3)

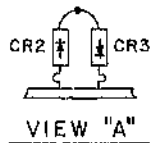
# POWER AMPLIFIER ASSEMBLY



(19C327307, Rev. 2)

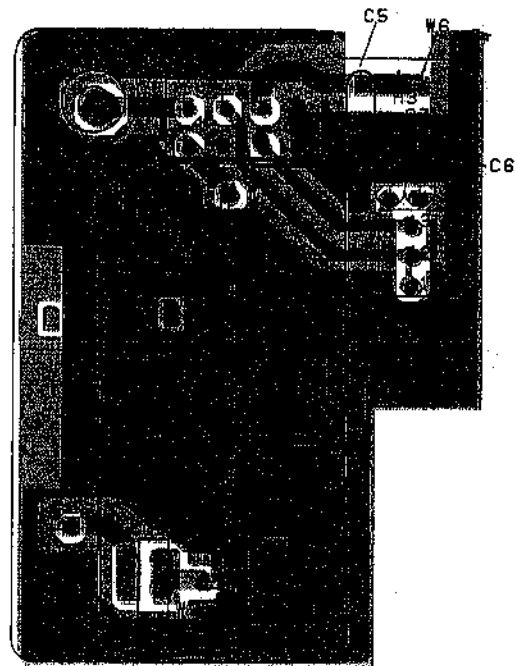
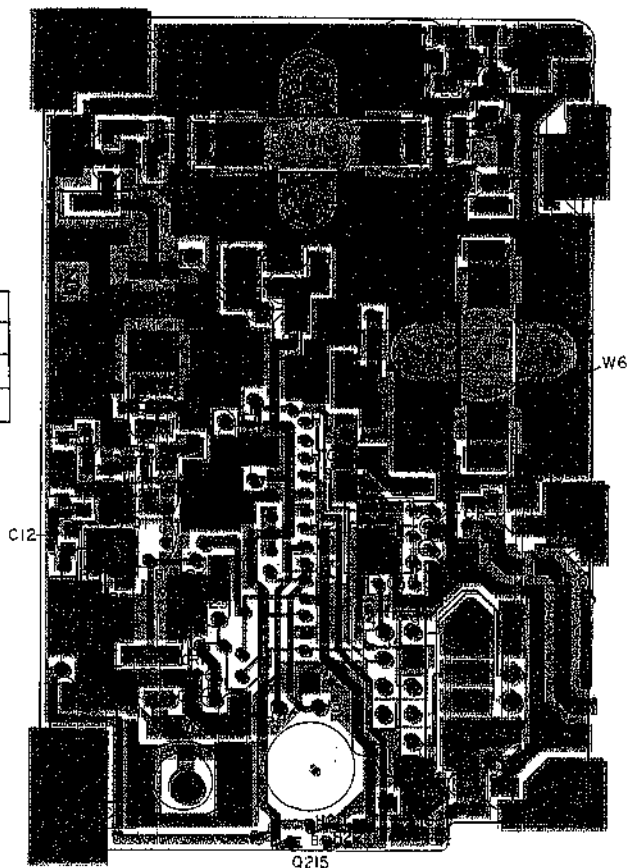
PA BOARD

FILTER BOARD



TO	WIRE	REMARKS
H10	DA	—
H12	DA	SLV

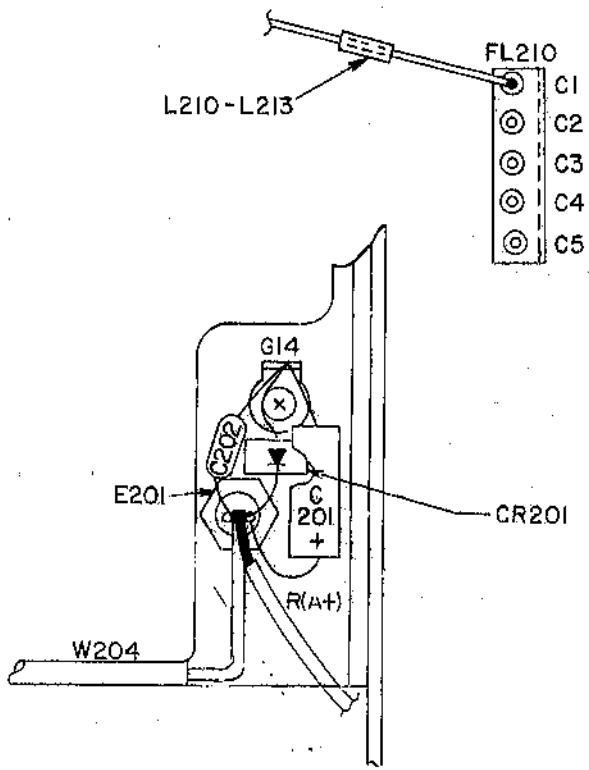
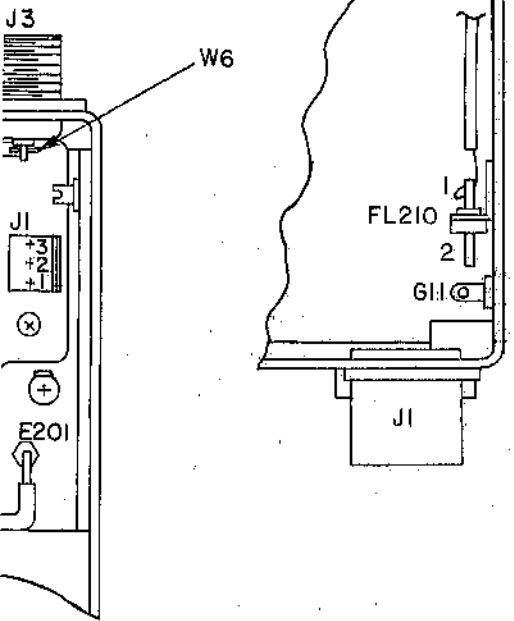
ON SOLDER SIDE  
ES  
ON COMPONENT SIDE



(19C327137, Rev. 2)  
(19B227225, Sh. 2, Rev. 0)  
(19B227226, Sh. 3, Rev. 0)

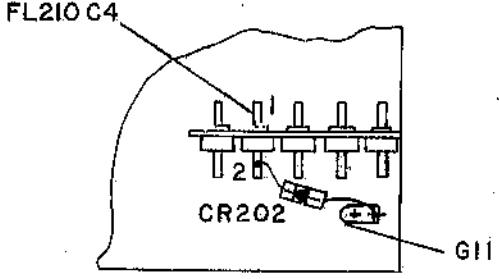
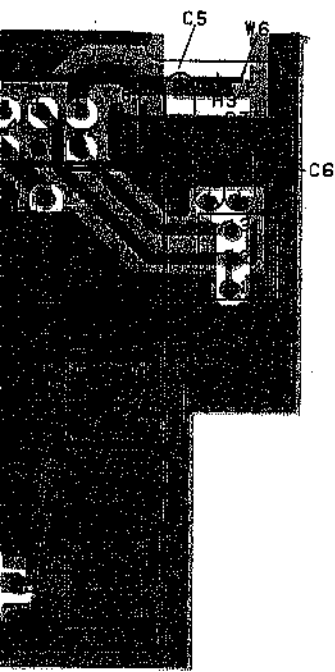
R AMPLIFIER

(19C327305, Rev. 5)  
(19B226833, Sh. 1, Rev. 6)  
(19B226833, Sh. 2, Rev. 3)

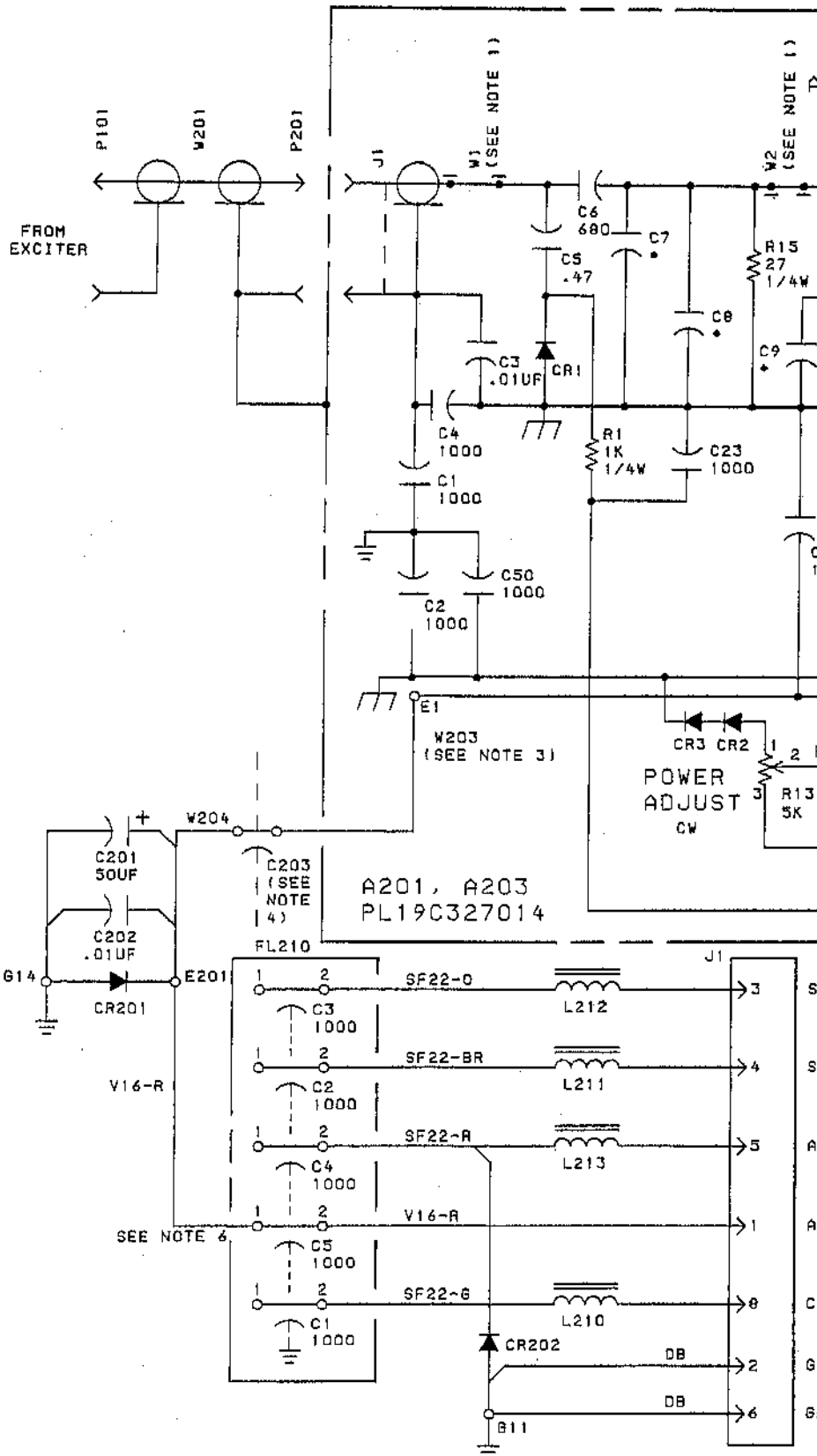


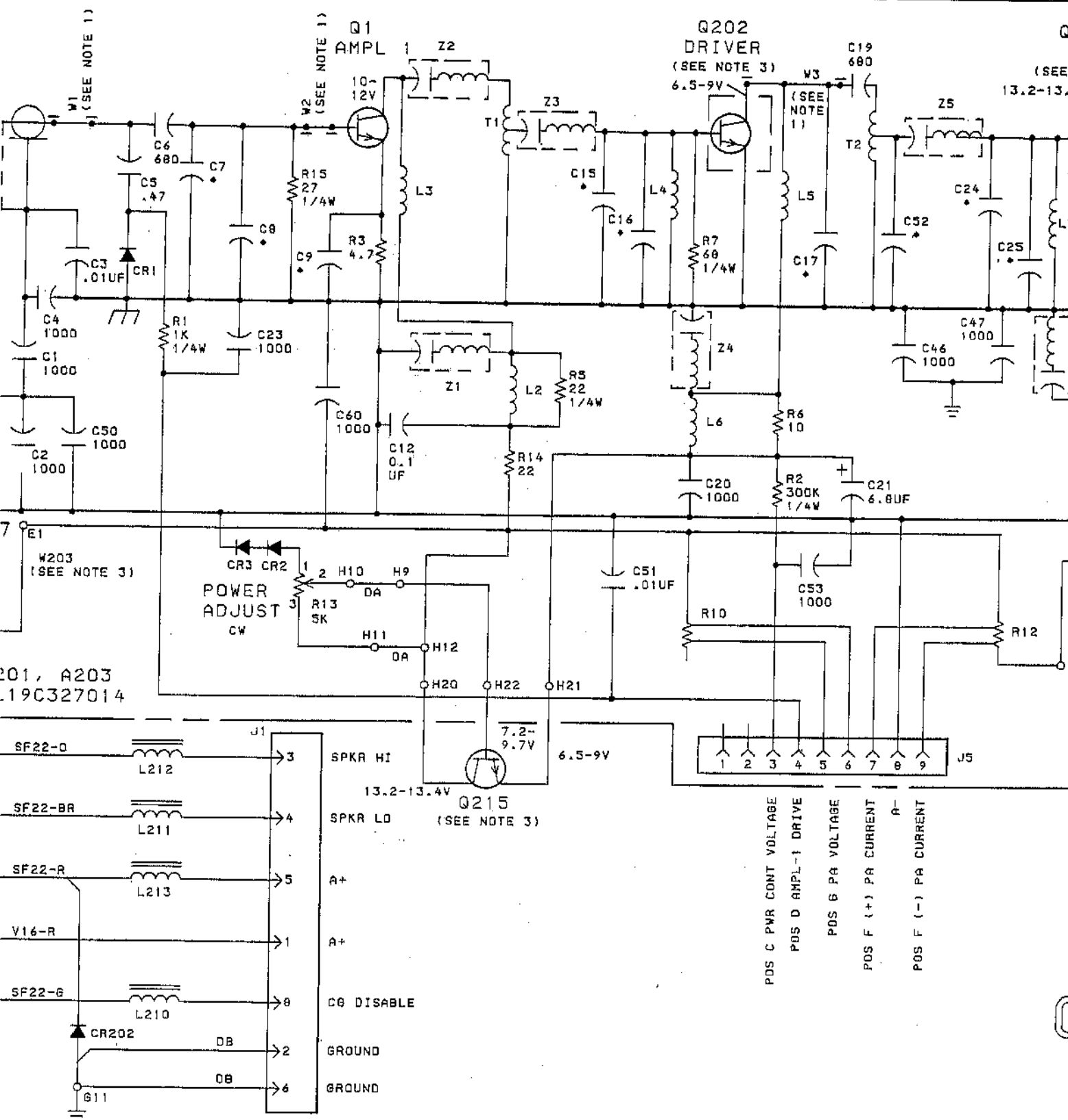
(19C327807, Rev. 2)

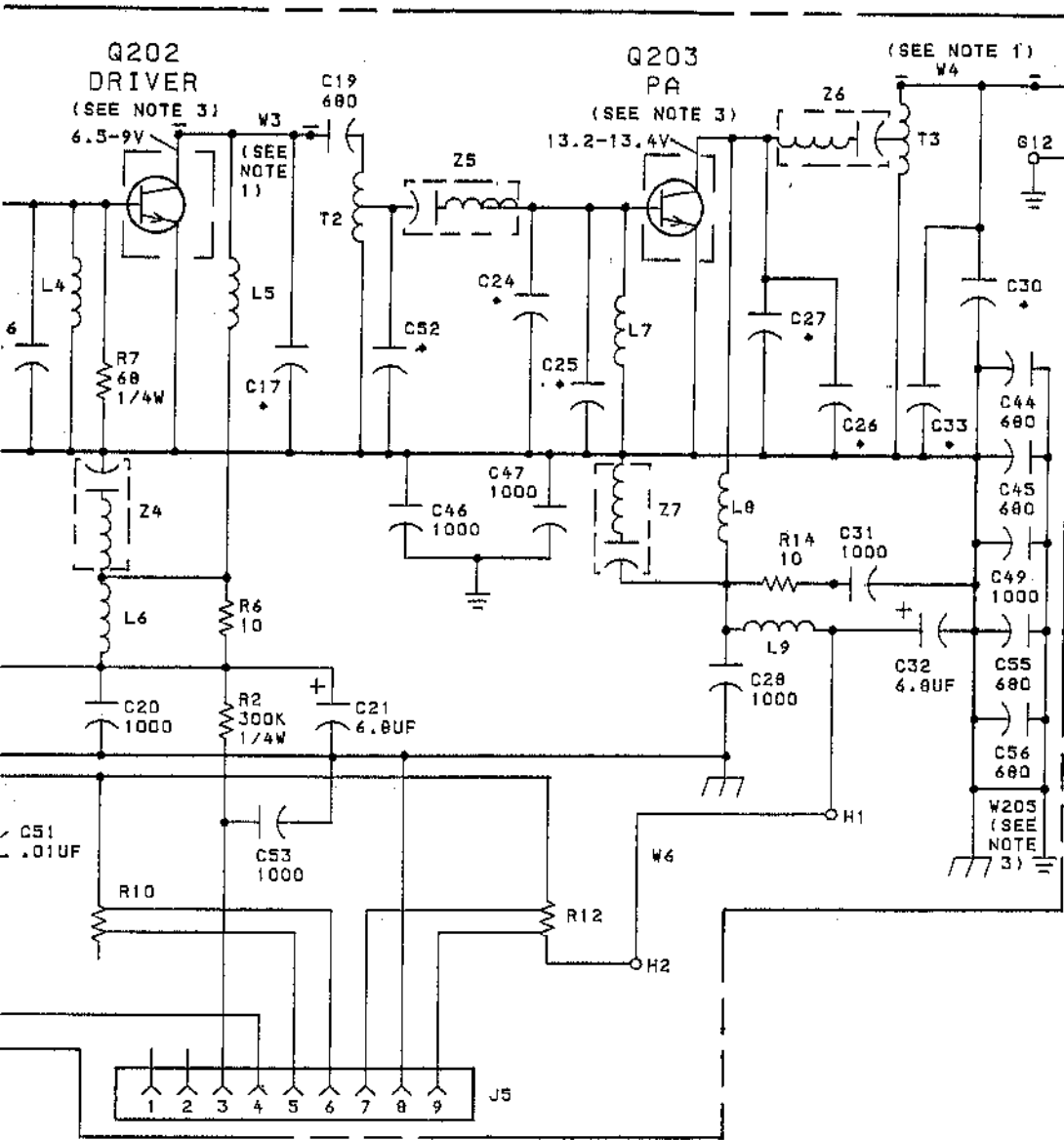
FILTER BOARD



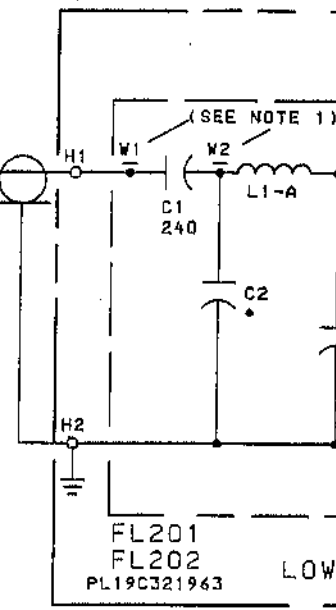
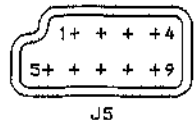
(19C327137, Rev. 2)  
 (19B227225, Sh. 2, Rev. 0)  
 (19B227225, Sh. 3, Rev. 0)







POS C PWR CONT VOLTAGE  
 POS D AMPL-1 DRIVE  
 POS G PA VOLTAGE  
 POS F (+) PA CURRENT  
 POS F (-) PA CURRENT  
 A-



PA MODULE	REV. LTR	FILTER
PL19C32701461	D	PL19C
PL19C32701463	E	PL19C

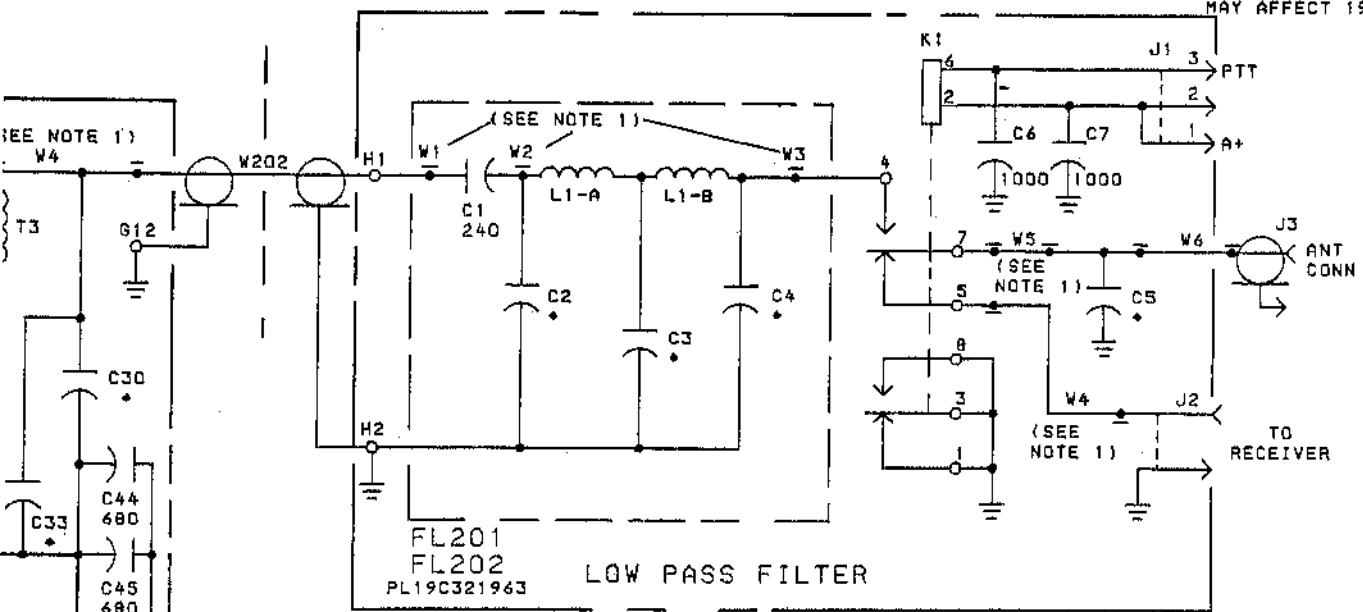
\* COMPONENT VALUE AS FOLLOWS:

COMP IDENT	LL 406-450 MHZ	M 450-512 MHZ
C7	8	6
C8	8	6
C9	33	27
C15	47	43
C16	51	43
C17	18	16
C24	41	35
C25	43	33
C26	47	37
C27	43	35
C30	6	2.2
C33	1	OMIT
C52	8	4
C2	10	9
C3	22	19
C4	13	12
C5	OMIT	2.2
Z1	X	X
Z2	X	X
Z3	X	X
Z5	X	X
Z6	X	X

VOLTAGE READINGS

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

ANY CHANGE TO THIS DRAWING  
MAY AFFECT 19A622349



PA MODULE	REV LTR	FILTER, LOW PASS	REV LTR	PA ASSY	REV LTR	FREQ
PL19C32701461	D	PL19C32196361		PL19D42392861	B	406-450 MHZ
PL19C32701463	E	PL19C32196362		PL19D42392863	A	450-512 MHZ

\* COMPONENT VALUE AS FOLLOWS:

COMP IDENT	LL 406-450 MHZ	M 450-512 MHZ
C7	8	6
C8	8	6
C9	33	27
C15	47	43
C16	51	43
C17	18	16
C24	41	35
C25	43	33
C26	47	37
C27	43	35
C30	4	2.2
C33	1	OMIT
C52	8	4
C2	10	9
C3	22	19
C4	13	12
C5	OMIT	2.2
Z1	X	X
Z2	X	X
Z3	X	X
Z5	X	X
Z6	X	X

- NOTES:
1. MICROSTRIP (PART OF PW BD).
  2.  $\overline{\overline{\quad}}$  INDICATES A-
  3. CALLED FOR ON PL19D423928.
  4. CALLED FOR ON PL19B227353.
  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.

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

VOLTAGE READINGS

VOLTAGE READINGS ARE TYPICAL READINGS MADE WITH THE TRANSMITTER KEYPED, 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.

SCHEMATIC DIAGRAM

406-512 MHz POWER AMPLIFIER



PARTS LIST

LBI30157E  
 406-420, 450-512 MHz POWER AMPLIFIER  
 19D42392BG1 406-450 MHz  
 19D42392BG3 450-512 MHz

SYMBOL	GE PART NO.	DESCRIPTION
A201 and A203		POWER AMPLIFIER MODULE A201 19C327014G1 406-450 MHz - REV B A203 19C327014G3 450-512 MHz - REV B
----- CAPACITORS -----		
C1 and C2	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C3	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C4	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C5*	19A700013P8	Phenolic: 0.47 pF ±5%, 500 VDCW. Earlier than REV A:
	19A116656P3J0	Ceramic disc: 3 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C6	19A116656P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C7LL	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW; temp coef 0 PPM.
C7M	19A116656P6J0	Ceramic disc: 6 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C8LL	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW; temp coef 0 PPM.
C8M*	19A116656P7J0	Ceramic disc: 7 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM. In REV B & earlier:
	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C9LL	19A116656P33J0	Ceramic disc: 33 pF ±5%, 500 VDCW, temp coef 0 PPM.
C9M	19A116656P27J0	Ceramic disc: 27 pF ±5%, 500 VDCW, temp coef 0 PPM.
C12	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C13*	19A116656P4J0	Ceramic disc: 4 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM. Deleted by REV C.
C15LL	19A116652P47	Metallized teflon: 47 pF ±2%, 250 VDCW.
C16M	19A116652P43	Metallized teflon: 43 pF ±2%, 250 VDCW.
C16LL	19A116652P51	Metallized teflon: 51 pF ±2%, 250 VDCW.
C16M	19A116652P43	Metallized teflon: 43 pF ±2%, 250 VDCW.
C17LL	19A116679P18D	Metallized teflon: 18 pF ±0.5 pF, 250 VDCW.
C17M	19A116679P16D	Metallized teflon: 16 pF ±0.5 pF, 250 VDCW.
C19	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C20	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C21	19A134202P15	Tantalum: 6.8 uF ±20%, 35 VDCW.
C23	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C24LL	19A116652P41	Metallized teflon: 41 pF ±2%, 250 VDCW.
C24M	19A116652P38	Metallized teflon: 38 pF ±2%, 250 VDCW.
C25LL	19A116652P43	Metallized teflon: 43 pF ±2%, 250 VDCW.
C25M	19A116652P38	Metallized teflon: 38 pF ±2%, 250 VDCW.
C26LL	19A116652P47	Metallized teflon: 47 pF ±2%, 250 VDCW.
C26M	19A116652P37	Metallized teflon: 37 pF ±2%, 250 VDCW.

SYMBOL	GE PART NO.	DESCRIPTION
C27LL	19A116652P43	Metallized teflon: 43 pF ±2%, 250 VDCW.
C27M	19A116652P35	Metallized teflon: 35 pF ±2%, 250 VDCW.
C28	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C30LL*	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM. In REV B & earlier:
	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C30M	19A134100P20	Ceramic disc: 2.2 pF ±0.1 pF, temp coef 0 PPM.
C31	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C32	19A134202P15	Tantalum: 6.8 uF ±20%, 35 VDCW.
C33LL*	19A134100P18	Ceramic disc: 1 pF ±0.1 pF, temp coef ±250 PPM. Added by REV C.
C44 and C45	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C46 and C47	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C48 and C50	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C51	19A116192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erie 8121 Special.
C52LL*	19A116656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM. In REV B and earlier:
	19A116656P4J0	Ceramic disc: 4 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C52M	19A116656P4J0	Ceramic disc: 4 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C53	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C55 and C56	19A116655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C60	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C61	7489192P9	Silver mica: 18 pF ±5%, 500 VDCW; sim to Motive Type DM-15.
----- DIODES AND RECTIFIERS -----		
CR1	19A116052P1	Silicon, hot carrier: Fwd drop .350 V.
CR2* and CR3*	19A115250P1	Silicon, fast recovery, 225 mA, 50 P. Added by REV B.
----- TERMINALS -----		
E1	19A134263P1	Contact, electrical: sim to Selectra 229-1082-00-0-590.
----- JACKS AND RECEPTACLES -----		
J1	19A130924G1	Connector, receptacle: coaxial, Jack to Cinch 14H11813.
J5	19B219374G1	Connector, 8 contacts.
----- INDUCTORS -----		
L2	19A701081G1	Coil.
L3	19A128774P1	Coil.
L4	19A701081G1	Coil.
L5	19B219457P6	Coil.
L6	19A700000P12D	Coil, RF: 5.6 uH ±10%; sim to Jaffer
L7	19A700000P20	Coil, RF: 5.6 uH ±10%; sim to Jaffer
L8LL	19B219457P6	Coil.
L8M	19A130650P1	Coil.
L9	19A701081G1	Coil.

\*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES

SYMBOL	GE PART NO.	DESCRIPTION
C27LL	19A118852P43	Metalized teflon: 43 pF ±2%, 250 VDCW.
C27M	19A118852P35	Metalized teflon: 35 pF ±2%, 250 VDCW.
C28	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C30LL*	19A118656P6J0	Ceramic disc: 6 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM. In REV B & earlier;
	19A118656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW; temp coef 0 PPM.
C30M	19A134100P20	Ceramic disc: 2.2 pF ±0.1 pF, temp coef 0 ±12 0 PPM.
C31	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C32	19A134202P15	Tantalum: 8.8 uF ±20%; 35 VDCW.
C33LL*	19A134100P19	Ceramic disc: 1 pF ±0.1 pF, temp coef 0 ±350 PPM. Added by REV C.
C44 and C45	19A118655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C46 and C47	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C49 and C50	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C51	19A118192P1	Ceramic: 0.01 uF ±20%, 50 VDCW; sim to Erte 8121 Special.
C52LL*	19A118656P8J0	Ceramic disc: 8 pF ±0.5 pF, 500 VDCW; temp coef 0 PPM. In REV B and earlier;
	19A118656P4J0	Ceramic disc: 4 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C52M	19A118656P4J0	Ceramic disc: 4 pF ±0.5 pF, 500 VDCW, temp coef 0 PPM.
C53	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C55 and C56	19A118655P18	Ceramic disc: 680 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C60	19A118655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C61	7489182P8	Silver mica: 18 pF ±5%, 500 VDCW; sim to Electro Motive Type DW-15.
----- DIODES AND RECTIFIERS -----		
CR1	19A116052P1	Silicon, hot carrier: Fwd drop .350 volts max.
CR2* and CR3*	19A115250P1	Silicon, fast recovery, 225 mA, 50 PIV. Added by REV B.
----- TERMINALS -----		
E1	19A13428RP1	Contact, electrical: sim to Selectro 229-10R2-00-0-590.
----- JACKS AND RECEPTACLES -----		
J1	19A13092401	Connector, receptacle: coaxial, Jack type; sim to Cinch 14H11813.
J5	19B21937401	Connector, 9 contacts.
----- INDUCTORS -----		
L2	19A701091G1	Coil.
L3	19A129774P1	Coil.
L4	19A701091B1	Coil.
L5	19B219457P8	Coil.
L6	19A700000P120	Coil, RF: 5.8 uH ±10%; sim to Jeffers 4422-1K.
L7	19A700000P20	Coil, RF: 5.8 uH ±10%; sim to Jeffers 4421-4K.
L8LL	19B219457P8	Coil.
L8M	19A130650P1	Coil.
L9	19A701091G1	Coil.

SYMBOL	GE PART NO.	DESCRIPTION
----- TRANSISTORS -----		
Q1	19A134237P1	Silicon, NPN.
----- RESISTORS -----		
R1LL and R1M	19A700106P83	Composition: 1K ohms ±5%, 1/4 w.
R2LL and R2M	3R152P304J	Composition: 300K ohms ±5%, 1/4 w.
R3	19A700113P7	Composition: 4.7 ohms ±5%, 1/2 w.
R4	19A700113P23	Composition: 22 ohms ±5%, 1/2 w.
R5	19A700106P23	Composition: 22 ohms ±5%, 1/4 w.
R6	19A700113P15	Composition: 10 ohms ±5%, 1/2 w.
R7	19A700106P35	Composition: 68 ohms ±5%, 1/4 w.
R10	19C850805P1	Shunt resistor.
R12	19C850605P1	Shunt resistor.
R13	19A116559P102	Variable comret: 3000 ohms ±20%, 1/2 w; sim to CTS Series 360.
R14	19A700113P15	Composition: 10 ohms ±5%, 1/2 w.
R15	19A700106P25	Composition: 27 ohms ±5%, 1/4 w.
----- TRANSFORMERS -----		
T1 thru T3	19A130446G1	Coil.
----- CABLES -----		
W1 thru W4		(Part of Printed Board 19D423005P1).
W6	19R228971G1	Jumper.
----- NETWORKS -----		
Z1LL	19A134666P3	Frequency network: selective, 400-500 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:330J:SLAC.
Z1M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z2LL	19A134666P3	Frequency network: selective, 400-500 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:330J:SLAC.
Z2M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z3LL	19A134666P3	Frequency network: selective, 400-500 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:330J:SLAC.
Z3M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z4	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z5LL	19A134666P3	Frequency network: selective, 400-500 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:330J:SLAC.
Z5M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z6LL	19A134666P3	Frequency network: selective, 400-500 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:330J:SLAC.
Z6M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.
Z7LL	19A134666P4	Frequency network: selective, 370-470 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:390J:SLAC.
Z7M	19A134666P1	Frequency network: selective, 470-630 MHz res. freq, 500 VDCW; sim to Dilectron TC501:NPO:240J:SLAC.

SYMBOL	GE PART NO.	DESCRIPTION
----- CAPACITORS -----		
C201	19A115880P4	Electrolytic: .50 uF +150% -10%, 25 VDCW; sim to Mallory Type TTX.
C202	19A116080P101	Polyester: 0.01 uF ±10%, 50 VDCW.
C203	19B208488P2	Ceramic: 1000 pF -10+100%, 500 VDCW; sim to Allon Bradley Style PASD.
----- DIODES AND RECTIFIERS -----		
CR201	19A116783P1	Rectifier, silicon: 100 VDC blocking, 6 amp; sim to MR761.
CR202	4037822P1	Silicon, 1000 mA, 400 PIV.
----- TERMINALS -----		
E201	7149206P1	Terminal, standoff.
----- FILTERS -----		
FILTER BOARD		
FL201 and FL202	FL201 19C321983G1	405-450 MHz (LL)
	FL202 19C321983G2	450-512 MHz (R)
----- CAPACITORS -----		
C1	19A700015P38	Teflon/Mica: 240 pF ±5%, 250 VDCW.
C2LL	19A700014P4	Metallized teflon: 10 pF ±5%, 250 VDCW.
C2H	19A116952P9	Metallized toflon: 8 pF ±0.5 pF, 250 VDCW.
C3LL	19A116952P22	Metallized toflon: 22 pF ±0.5 pF, 250 VDCW.
C3H	19A116952P20	Metallized teflon: 20 pF ±0.5 pF, 250 VDCW.
C4LL	19A116952P13	Metallized toflon: 13 pF ±0.5 pF, 250 VDCW.
C4H	19A116952P12	Metallized toflon: 12 pF ±0.5 pF, 250 VDCW.
C5H	19A134100P20	Ceramic disc: 2.2 pF ±0.1 pF, temp coef 0 PPM ±120 PPM.
C6 and C7	19A116655P20	Ceramic disc: 1000 pF ±10%, 1000 VDCW; sim to RMC Type JF Discap.
----- JACKS AND RECEPTACLES -----		
J1	19A116659P55	Connector, printed wiring: 3 contacts rated at 5 amps; sim to Molex 08-65-1031.
J2	19A130824G1	Connector, receptacle: coaxial, jack type; sim to Cinch 14HI1613.
----- RELAYS -----		
K1	19A700061P1	Hermetic sealed: 180 to 341 ohms coil res, 8-16.3 VDC; sim to GE 3SAV1780A2, CPClare HPW-1201558, or Potter-Brumfield HCM6160.
----- INDUCTORS -----		
L1LL	19B227240P1	Jumper.
L1H	19B227240P2	Jumper.
----- CABLES -----		
W1 thru W5		(Part of Printed Board 19C321982P1).
W6	19A136512P1	Antenna strap.
----- FILTERS -----		
FILTER		
FL210	19A136880G1	
----- CAPACITORS -----		
C1 thru C5	5495382P7	Ceramic, feed thru: 1000 pF -0+100%, 500 VDCW.
----- TERMINALS -----		
G11 and G12	7136118P2	Solderless terminal.
G14	7136118P2	Solderless terminal.

SYMBOL	GE PART NO.	DESCRIPTION
----- JACKS AND RECEPTACLES -----		
J1		Connector. Includes:
	19A115884P12	Shell.
	19A116684P7	Contacts, male: wire size 14-20; sim to AMP 60528-1.
	19A116884P0	Contacts, male: wire size 22-30; sim to AMP 60910-1.
J3	19A700087P1	Receptacle, coax; sim to Amphenol 85-798.
----- INDUCTORS -----		
L210 thru L213	19A700122P1	Torriddal core.
----- PLUGS -----		
P201		(Part of W201).
----- TRANSISTORS -----		
Q202	19A134164P2	Silicon, NPN; sim to Type 2N5645.
Q203A	19A134239P3	Silicon, NPN.
Q203B	19A134239P2	Silicon, NPN.
Q215	19A116742P1	Silicon, NPN.
----- CABLES -----		
W201*	19A130908G1	Coil, RF: approx 5 inches long. (Includes P201). Earlier than RBV A:
	5491688P51	Cable, RF: approx 7-1/2 inches long. (Includes P201).
W202	19A136529G1	Cable: approx 4 inches long.
W203	19C327148P1	Jumper.
W204	19C327148P2	Jumper.
W205	7135118P1	Terminal, solder.
----- MISCELLANEOUS -----		
	19C321982P1	Insulator. (Located under A201 & A203).
	19B227353G1	Shield. (Located around A201, A203).
	19B201074P3D4	Tap screw, Phillips POZIDRIVE: No. 8-32 x 1/4. (Secures shield to frame at C17).
	19B201074P3D5	Tap screw, Phillips POZIDRIVE: No. 8-32 x 5/16. (Secures shield to frame at J5).
	6492178P2	Washer, spring tension: sim to Wallace Barnes 375-20. (Used with Q202).
	19A702782P5	Nut, hex, brass: No. 8-32. (Used with Q202).
	19A130465P1	Spacer. (Used with Q202).
	N44P9008C6	Machin screw: No. 4-40 x 3/8. (Secures Q203).
	19A116023P1	Insulator, plate. Dupont No. 300 Kapton II. (Located under Q215).
	19A700068P1	Insulator, bushing. (Used with Q215).
	7878243P11	Hex nut: No. 8-32. (Secures stud that mates with wing nut securing radio to case).
	4033714P11	Terminal, solderless: size to Zierick 348. (Solders to FL201 & FL202).
	N84P13003C6	Screw, flathead: No. 6-32 x 3/16. (Secures FL210).
	19B201074P2D4	Tap screw, Phillips POZIDRIVE: No. 4-40 x 1/4. (Secures J3).
	19A701332P4	Insulator, washer: nylon. (Used with G1).
	19B219554G2	Cap. (FL201, FL202).
	19B219555P1	Cover. (FL201, FL202).
	19A700114P1	Stud terminal. (Used with C2, C3, C4, L1).
	19B22736101	PA Cover.

## 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 - Power Amplifier Module 19C327014G1, 3  
To increase power output at high end. Changed C5.
- REV. B - To increase power output at cold temperatures. Added CR2 & CR3.
- REV. C - Power Amplifier Module 19C327014G1  
To increase power output. Changed C30LL and C32LL. Deleted C13. Added C33LL.
- REV. C - Power Amplifier Module 19C327014G3  
To improve VSWR in 450-470 MHz range. Changed C6M.
- REV. D - Power Amplifier Module 19C327014G1, G3  
Redesignate capacitors as networks.
- REV. A - Power Amplifier Assembly 19D423728G1, G3  
To improve operation of output power amplifier. Changed W201. W201 was 54P168P01.
- REV. B - Power Amplifier Assembly 19D423728G1  
Incorporate new transistor. Changed Q203A. Q203A was 19A134171P4.
- REV. B - Power Amplifier Assembly 19D423728G3  
To improve HF output power over frequency range. Changed C30M. C30M was 19A116556P4J0, Ceramic disc; 4 pf  $\pm 0.5$  pf, 500 VDCW, temp coef 0PPM.