

# MAINTENANCE MANUAL

## 406-420 & 450-512 MHz POWER AMPLIFIER BOARD

### 19D423445G1, G2, G4

#### TABLE OF CONTENTS

DESCRIPTION .....	page 1
CIRCUIT ANALYSIS .....	page 1
OUTLINE DIAGRAM .....	page 4
SCHEMATIC DIAGRAM .....	page 5
PARTS LIST AND PRODUCTION CHANGES .....	page 6

## DESCRIPTION

The PA assembly for MASTR Executive II uses four RF power transistors to provide a power output of 40 Watts. The output power is adjustable using power control R213 and is type accepted with the FCC to operate over a range of 10 to 40 Watts (Mobile) or 1 to 40 Watts (Station). A single transistor is used in the power control circuit.

Supply voltage for the PA is connected through power leads from the system-audio-squelch board (SAS) to feed through capacitors C297 and C298 on the side of the PA assembly. C297, C298, and C299 prevent RF from getting on the power leads. Diode CR295 will cause the main fuse assembly to blow if the polarity of the power leads is reversed, providing reverse voltage protection for the radio.

The PA assembly is insulated from vehicle ground to permit operation in positive or negative ground vehicles.

#### NOTE

In positive ground vehicles, A- is "hot" with respect to vehicle ground. Shorting the transmitter PA printed wiring board ground pattern to the radio case may cause one of the in-line fuses to blow.

The hinged PA heatsink assembly pivots 90° to provide access to the power amplifier board, low pass filter and centralized metering jack J205.

Centralized metering jack J205 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 control voltage, driver current, and PA current.

## CIRCUIT ANALYSIS

### RF POWER AMPLIFIERS

The exciter output is coupled through RF cable W216 to PA input jack J201. The 50 ohm RF input is coupled through a matching network comprised of C206, C207, C208 and W202 to the base of power amplifier Q201.

Part of the RF input is rectified by CR201 and metered at J205-4 through resistor R201.

Collector voltage for Q201 is applied direct from the DC power input through collector stabilizing network R205 and L202 and collector feed network L203 and C210.

The output of Q201 is coupled to the base of a second power amplifier Q202 through a matching network consisting of T201, C215 and C216.

Collector voltage to Q202 is controlled by power control circuit, Q215, and is applied through a collector stabilizing network L206 and R206 and collector feed network L205 and C218.

The output of Q202 is coupled to the base of driver Q203 through C219 and a matching network of T202, L222, C252, C224, C225, and L207. The collector voltage to Q203 is coupled through collector stabilizing network L209 and R214 and collector feed network L208 and C228.

Collector current for Q203 is metered across tapped manganin resistor R12. The reading is taken in position F on the 1-Volt scale with the High Sensitivity button pressed, and read as 0-15 amperes full scale.

The output of driver Q203 is coupled through an impedance matching network

(C229, C230, C233 and T203) that matches the output impedance of Q203 to the input impedance of power amplifier Q204 through a 50 ohm micro strip (W204) and input impedance matching network T204, C234, C235 and C236.

Collector current for Q204 is metered across tapped manganin resistor R210. The reading taken in position G on the 1-Volt scale with the High Sensitivity button pressed and read as 0-15 amperes full scale.

Following power amplifier Q204 is a matching network C237, C238, and T205) that matches the output of Q204 to the 50-ohm input of low pass filter, through 50 ohm micro strip W205 and a 50 ohm cable W214. 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 transfer relay K1901.

Capacitors C244, C245, C249, C255, and C256 provide ground isolation for positive or negative ground operation.

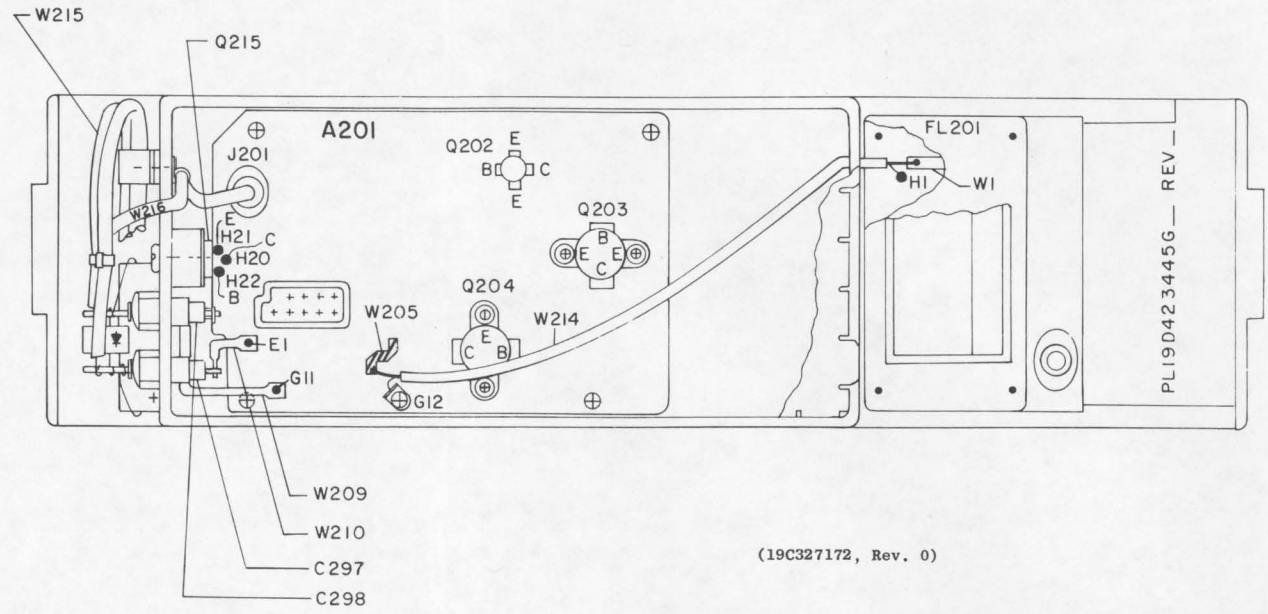
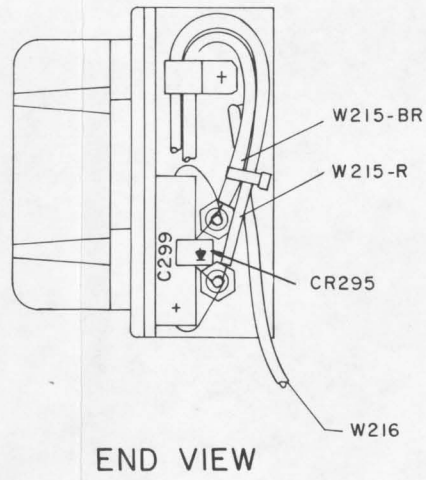
#### WARNING

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.

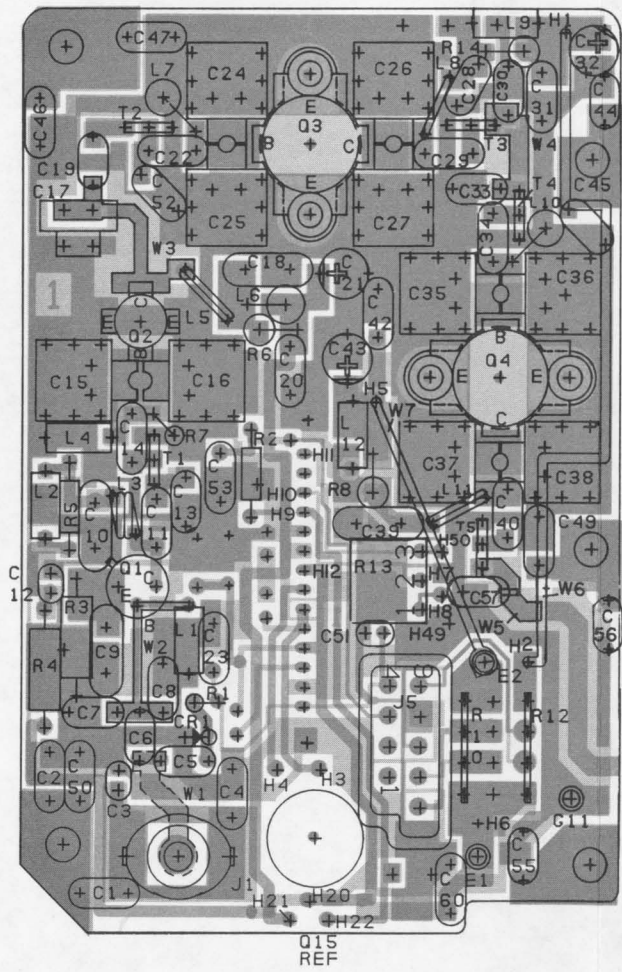
#### POWER CONTROL CIRCUIT

The power control circuit consists of R213 and Q215. R213 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 driver Q203 and the output power. R213 is adjusted to provide the desired output power. The control voltage on Q202 is measured on position C on 1 volt scale and read as 0-15 volts full scale.

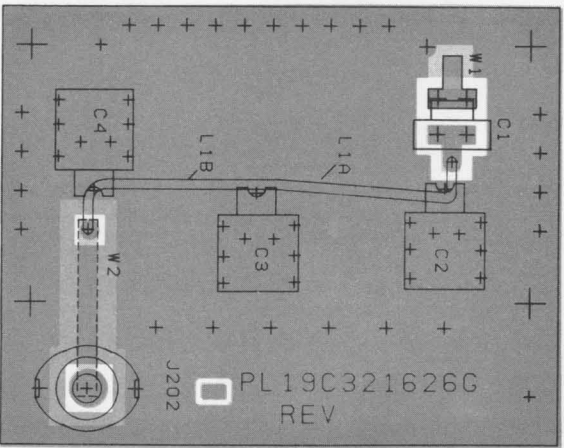
PA ASSEMBLY



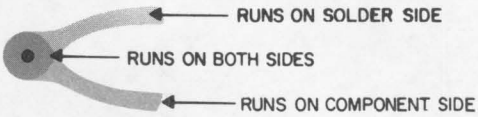
(19C327172, Rev. 0)



(19C327156, Rev. 0)  
(19B226633, Sh. 2, Rev. 0)  
(19B226633, Sh. 3, Rev. 0)

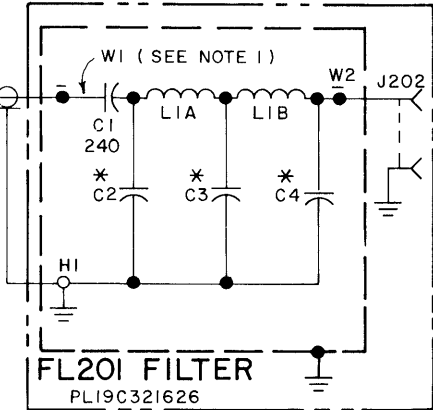
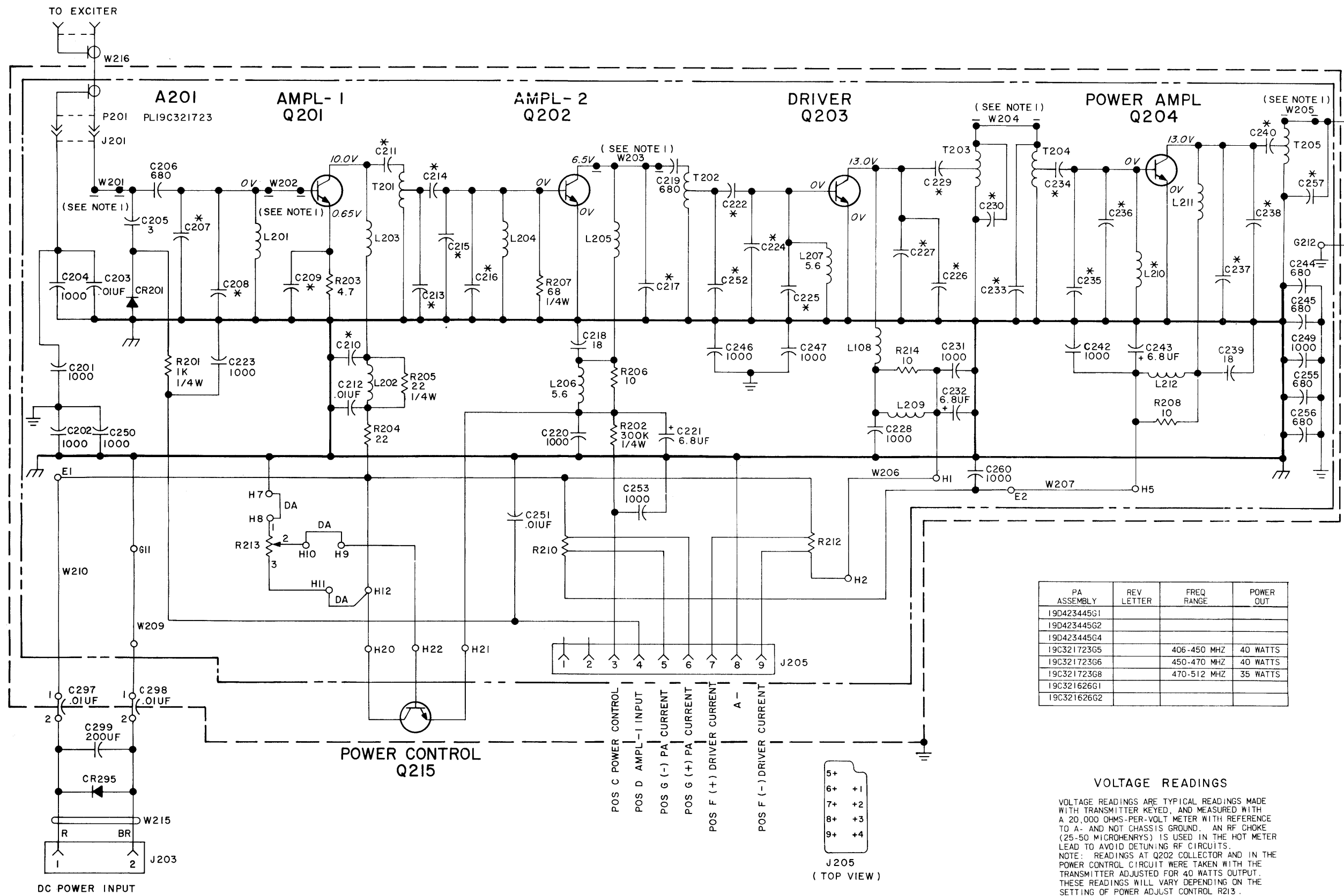


(19B227400, Rev. 0)  
(19B226858, Sh. 2, Rev. 0)  
(19B226858, Sh. 3, Rev. 0)



OUTLINE DIAGRAM

406—420 & 450—512 MHz,  
40 WATT POWER AMPLIFIER



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.

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.

\* VALUES LISTED BELOW

COMP IDENT	LL 406-450 MHZ	L 450-470 MHZ	H 470-512 MHZ
A201 - C207	8	6	6
A201 - C208	8	6	6
A201 - C209	33	22	27
A201 - C210	27	18	18
A201 - C211	33	24	24
A201 - C213	4	--	--
A201 - C214	33	24	24
A201 - C215	47	47	43
A201 - C216	51	43	39
A201 - C217	18	16	13
A201 - C222	33	24	24
A201 - C224	41	35	32
A201 - C225	43	35	32
A201 - C226	47	43	37
A201 - C227	43	37	35
A201 - C229	33	24	24
A201 - C230	8	4	3
A201 - C233	2.2	--	2.2
A201 - C234	33	24	24
A201 - C235	43	37	33
A201 - C236	39	35	33
A201 - C237	47	43	33
A201 - C238	47	43	35
A201 - C240	33	24	24
A201 - C252	4	--	--
A201 - C257	5	--	2.2
A201 - L210	15	5.6	5.6
FL201 - C2	10	9	9
FL201 - C3	20	18	18
FL201 - C4	11	10	10

PA ASSEMBLY	REV LETTER	FREQ RANGE	POWER OUT
19D423445G1			
19D423445G2			
19D423445G4			
19C321723G5		406-450 MHZ	40 WATTS
19C321723G6		450-470 MHZ	40 WATTS
19C321723G8		470-512 MHZ	35 WATTS
19C321626G1			
19C321626G2			

VOLTAGE READINGS

VOLTAGE READINGS ARE TYPICAL READINGS MADE WITH TRANSMITTER KEYS, 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 AT Q202 COLLECTOR AND IN THE POWER CONTROL CIRCUIT WERE TAKEN WITH THE TRANSMITTER ADJUSTED FOR 40 WATTS OUTPUT. THESE READINGS WILL VARY DEPENDING ON THE SETTING OF POWER ADJUST CONTROL R213.

- NOTE:
1. MICROSTRIP (PART OF PW BD)
  2. INDICATES A-
  3. INDICATES VEHICLE GROUND

(19D423466, Rev. 4)

SCHEMATIC DIAGRAM

406—420 & 450—512 MHZ,  
40 WATT POWER AMPLIFIER

PARTS LIST

LBI-30089

406-512 MHz, 40 WATT

POWER AMPLIFIER

19D423445G1 406-450 MHz (LL)

19D423445G2 450-470 MHz (L)

19D423445G4 470-512 MHz (H)

SYMBOL	GE PART NO.	DESCRIPTION
A201		PA BOARD 19C321723G5 406-450 MHz (LL) 19C321723G6 450-470 MHz (L) 19C321723G8 470-512 MHz (H)
----- CAPACITORS -----		
C201 and C202	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C203	19A116192P1	Ceramic: 0.01 pf ±20%, 50 VDCW; sim to Erie 8121-M050-WSR-103M.
C204	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C205	19A116656P3J0	Ceramic disc: 3 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C206	19A116655P18	Ceramic disc: 680 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C207LL	19A116656P8J0	Ceramic disc: 8 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C207L	19A116656P6J0	Ceramic disc: 6 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C207H	19A116656P6J0	Ceramic disc: 6 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C208LL	19A116656P8J0	Ceramic disc: 8 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C208L	19A116656P6J0	Ceramic disc: 6 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C208H	19A116656P6J0	Ceramic disc: 6 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C209LL	7489162P15	Silver mica: 33 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C209L	7489162P11	Silver mica: 22 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C209H	7489162P13	Silver mica: 27 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C210LL	7489162P13	Silver mica: 27 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C210L	7489162P9	Silver mica: 18 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C210H	7489162P9	Silver mica: 18 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C211LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C211L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C211H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C212	19A116192P1	Ceramic: 0.01 pf ±20%, 50 VDCW; sim to Erie 8121-M050-WSR-103M.
C213	19A116656P4J0	Ceramic disc: 4 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C214LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C214L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C214H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C215LL	19A116952P47	Silver mica: 47 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C215L	19A116952P47	Silver mica: 47 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C215H	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.

SYMBOL	GE PART NO.	DESCRIPTION
C216LL	19A116952P51	Silver mica: 51 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C216L	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C216H	19A116952P39	Silver mica: 39 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C217LL	19A116679P18D	Mica: 18 pf ±.5 pf, 250 VDCW.
C217L	19A116679P16D	Mica: 16 pf ±.5 pf, 250 VDCW.
C217H	19A116679P13D	Mica: 13 pf ±.5 pf, 250 VDCW.
C218	7489162P9	Silver mica: 18 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C219	19A116655P18	Ceramic disc: 680 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C220	19A116655P20	Ceramic disc: 1000 pf ±20%, 1000 VDCW; sim to RMC Type JF Discap.
C221	19A134202P15	Tantalum: 6.8 pf ±20%, 35 VDCW.
C222LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C222L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C222H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C223	19A116655P20	Ceramic disc: 1000 pf ±20%, 1000 VDCW; sim to RMC Type JF Discap.
C224LL	19A116952P41	Silver mica: 41 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C224L	19A116952P35	Silver mica: 35 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C224H	19A116952P32	Silver mica: 32 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C225LL	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C225L	19A116952P35	Silver mica: 35 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C225H	19A116952P32	Silver mica: 32 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C226LL	19A116952P47	Silver mica: 47 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C226L	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C226H	19A116952P37	Silver mica: 37 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C227LL	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C227L	19A116952P37	Silver mica: 37 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C227H	19A116952P35	Silver mica: 35 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C228	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C229LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C229L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C229H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C230LL	19A116656P8J0	Ceramic disc: 8 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C230L	19A116656P4J0	Ceramic disc: 4 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C230H	19A116656P3J0	Ceramic disc: 3 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C231	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C232	19A134202P15	Tantalum: 6.8 pf ±20%, 35 VDCW.
C233LL	19A134100P20	Ceramic: 2.2 pf ±0.1 pf, 100 VDCW.
C233H	19A134100P20	Ceramic: 2.2 pf ±0.1 pf, 100 VDCW.
C234LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C234L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.

SYMBOL	GE PART NO.	DESCRIPTION
C234H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C235LL	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C235L	19A116952P37	Silver mica: 37 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C235H	19A116952P33	Silver mica: 33 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C236LL	19A116952P39	Silver mica: 39 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C236L	19A116952P35	Silver mica: 35 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C236H	19A116952P33	Silver mica: 33 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C237LL	19A116952P47	Silver mica: 47 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C237L	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C237H	19A116952P33	Silver mica: 33 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C238LL	19A116952P47	Silver mica: 47 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C238L	19A116952P43	Silver mica: 43 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C238H	19A116952P35	Silver mica: 35 pf ±2%, 250 VDCW; sim to Underwood Type J1HF.
C239	7489162P9	Silver mica: 18 pf ±5%, 500 VDCW; sim to Electro Motive Type DM-15.
C240LL	19A116656P33J0	Ceramic disc: 33 pf ±5%, 500 VDCW, temp coef 0 PPM.
C240L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C240H	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.
C242	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C243	19A134202P15	Tantalum: 6.8 pf ±20%, 35 VDCW.
C244 and C245	19A116655P18	Ceramic disc: 680 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C246 and C247	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C249 and C250	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C251	19A116192P1	Ceramic: 0.01 pf ±20%, 50 VDCW; sim to Erie 8121-M050-WSR-103M.
C252	19A116656P4J0	Ceramic disc: 4 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C253	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C255 and C256	19A116655P18	Ceramic disc: 680 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
C257LL	19A116656P5J0	Ceramic disc: 5 pf ±0.5 pf, 500 VDCW, temp coef 0 PPM.
C257H	19A134100P20	Ceramic: 2.2 pf ±0.1 pf, 100 VDCW.
C260	19A116655P20	Ceramic disc: 1000 pf ±10%, 1000 VDCW; sim to RMC Type JF Discap.
----- DIODES AND RECTIFIERS -----		
CR201	19A116052P1	Silicon.
----- TERMINALS -----		
E1 and E2	19A134263P1	Contact, electrical: sim to Selectro X-L-070174-1.
G11	19A134263P1	Contact, electrical: sim to Selectro X-L-070174-1.
C234L	19A116656P24J0	Ceramic disc: 24 pf ±5%, 500 VDCW, temp coef 0 PPM.

SYMBOL	GE PART NO.	DESCRIPTION
J201	19A130924G1	Receptacle, coaxial: jack type; sim to Cinch 14H11613.
J205	19B219374G1	Connector: 9 contacts.
L201 and L202	19A129773G1	Coil.
L203	19A129774P1	Coil.
L204	19A129773G1	Coil.
L205	19B219457P6	Coil.
L206	7488079P40	Choke, RF: 5.60 µh ±10%, 0.15 ohms DC res max; sim to Jeffers 4422-1.
L207	7488079P13	Choke, RF: 5.60 µh ±10%, 0.40 ohms DC res max; sim to Jeffers 4421-4.
L208LL	19B219457P6	Coil.
L208L	19A130650P1	Coil.
L208H	19A130650P1	Coil.
L209	19A129773G1	Coil.
L210LL	7488079P18	Choke, RF: 15.0 µh ±10%, 1.20 ohms DC res max; sim to Jeffers 4421-9.
L210L	7488079P13	Choke, RF: 5.60 µh ±10%, 0.40 ohms DC res max; sim to Jeffers 4421-4.
L210H	7488079P13	Choke, RF: 5.60 µh ±10%, 0.40 ohms DC res max; sim to Jeffers 4421-4.
L211	19B219457P6	Coil.
L212	19A129773G1	Coil.
Q201	19A134237P1	Silicon, NPN.
R201	3R152P102J	Composition: 1000 ohms ±5%, 1/4 w.
R202	3R152P304J	Composition: 0.30 megohm ±5%, 1/4 w.
R203	7147161P13	Composition: 4.7 ohms ±5%, 1/2 w.
R204	3R77P220J	Composition: 22 ohms ±5%, 1/2 w.
R205	3R152P220J	Composition: 22 ohms ±5%, 1/4 w.
R206	3R77P100J	Composition: 10 ohms ±5%, 1/2 w.
R207	3R152P680J	Composition: 68 ohms ±5%, 1/4 w.
R208	3R77P100J	Composition: 10 ohms ±5%, 1/2 w.
R210	19C320212P1	Shunt resistor.
R212	19C320212P1	Shunt resistor.
R213	19A116559P102	Variable, cermet: 5000 ohms ±20%, .5 w; sim to CTS Series 360.
R214	3R77P100J	Composition: 10 ohms ±5%, 1/2 w.
----- TRANSFORMERS -----		
T201 thru T205	19A130446P1	Transformer.
----- CABLES -----		
W201 thru W205		(Part of printed board 19D423005P1).
W206	19B226971G1	Jumper.
W207	19A130791G1	Jumper.
C297 and C298	19A116708P1	Ceramic, feed-thru: 0.01 pf ±100-0%, 500 VDCW; sim to Erie Style 327.
C299	19A115680P10	Electrolytic: 200 µf ±150% -10%, 18 VDCW; sim to Mallory Type TTX.

SYMBOL	GE PART NO.	DESCRIPTION
CR295	19A116783P1	Silicon.
----- DIODES AND RECTIFIERS -----		
----- FILTERS -----		
FL201		COMPONENT BOARD 406-450 MHz MED POWER 19C321626G1
C11L	19A116679P240	Mica: 240 pf ±5%, 250 VDCW.
C2LL	19A116952P10	Metallized teflon: 10 pf ±0.5 pf, 250 VDCW.
C3LL	19A116952P20	Metallized teflon: 20 pf ±0.5 pf, 250 VDCW.
C4LL	19A116952P11	Metallized teflon: 11 pf ±0.5 pf, 250 VDCW.
----- JACKS AND RECEPTACLES -----		
J202	19A130924G1	Receptacle, coaxial: jack type; sim to Cinch 14H11613.
----- INDUCTORS -----		
L1LL	19B227084P1	Jumper.
FL201		COMPONENT BOARD 450-512 MHz MED POWER 19C321626G2
C1H	19A116679P240	Mica: 240 pf ±5%, 250 VDCW.
C2H	19A116952P9	Metallized teflon: 9 pf ±0.5 pf, 250 VDCW.
C3H	19A116952P18	Metallized teflon: 18 pf ±0.5 pf, 250 VDCW.
C4H	19A116952P10	Metallized teflon: 10 pf ±0.5 pf, 250 VDCW.
----- JACKS AND RECEPTACLES -----		
J202	19A130924G1	Receptacle, coaxial: jack type; sim to Cinch 14H11613.
----- RESISTORS -----		
----- INDUCTORS -----		
L1H	19B227130G1	Jumper.
----- CABLES -----		
W1 and W2		(Part of printed board 19C321625P1).
----- TRANSISTORS -----		
Q202	19A134164P2	Silicon, NPN; sim to Type 2N5945.
Q203LL	19A134171P2	Silicon, NPN.
Q203L	19A134239P1	Silicon, NPN.
Q203H	19A134239P1	Silicon, NPN.
Q204	19A134242P1	Silicon, NPN.
Q215	19A116742P1	Silicon, NPN.
----- CABLES -----		
W209	19B227025G1	Jumper.
W210	19B227024P1	Jumper.
W214	19A130831G1	Cable.
W215	19B227058G1	Cable: approx 11-1/2 inches long.
W216	19A130909G1	Cable, RF: approx 7-1/2 inches long.
----- MISCELLANEOUS -----		
	19C321591G3	Heat sink, casting.
	19B226952G1	P.A. cover.
	19B226906G1	Housing, plate.
	19C321441P1	Insulator. (Located under A201).
	7878455P2	Solderless terminal. (Located on A201 at G12).

SYMBOL	GE PART NO.	DESCRIPTION
	19B201074P305	Tap screw, Phillips POZIDRIV®. No. 6-32 x 5/16. (Secures A201).
	N44P9006C6	Screw, machine: No. 4-40 x 3/8. (Secures Q203, Q204).
	N207P15C6	Nut, hex: No. 8-32. (Secures Q202).
	5492178P2	Washer, spring tension: sim to Wallace Barnes 375-20. (Secures Q202).
	19A130465P1	Spacer. (Used with Q202).
	N80P9010C6	Screw, machine: No. 4-40 x 5/8. (Secures Q215).
	19A130568P1	Plate. (Used with Q215).
	19A116023P1	Insulator, plate. (Used with Q215).
	19A134016P1	Insulator, bushing. (Used with Q215).
	19A129434P1	Washer. (Used with CR295).
	4029851P6	Clip loop. (Secures W215).
	19A115185P5	Retainer strap: sim to Panduit Corp. SST-1. (Used with W215).
	N80P9007C6	Machine screw, Phillips: No. 4-40 x 7/16. (Secures 4029851P6 clip loop).
	19B201074P320	Tap screw, Phillips POZIDRIV®. No. 6-32 x 1-1/4. (Secures housing plate).