

AN/PRC-74-B Schematic Diagrams

From: TM 11-5280-590-35-1

Scanned by: Al Klase, N3FRQ, 29 NOV 2012

Source: 8.5" x 14" copies that might have come from Fair Radio

Comments: A better-than-nothing .pdf of this TM is downloadable from Google Books. Search on AN/PRC-74, the TM number does not compute. However, it's missing the fold our schematics contained herein.

CHAPTER 6

SCHEMATIC AND BLOCK DIAGRAMS

6-1. General

This chapter contains the foldout schematic and block diagrams for Radio Set AN/PRC-74B. All text pertaining to the function of the radio set is in chapter 1.

6-2. Troubleshooting Data

The following information will aid the repairman in the location of the correct schematic diagrams and parts locations.

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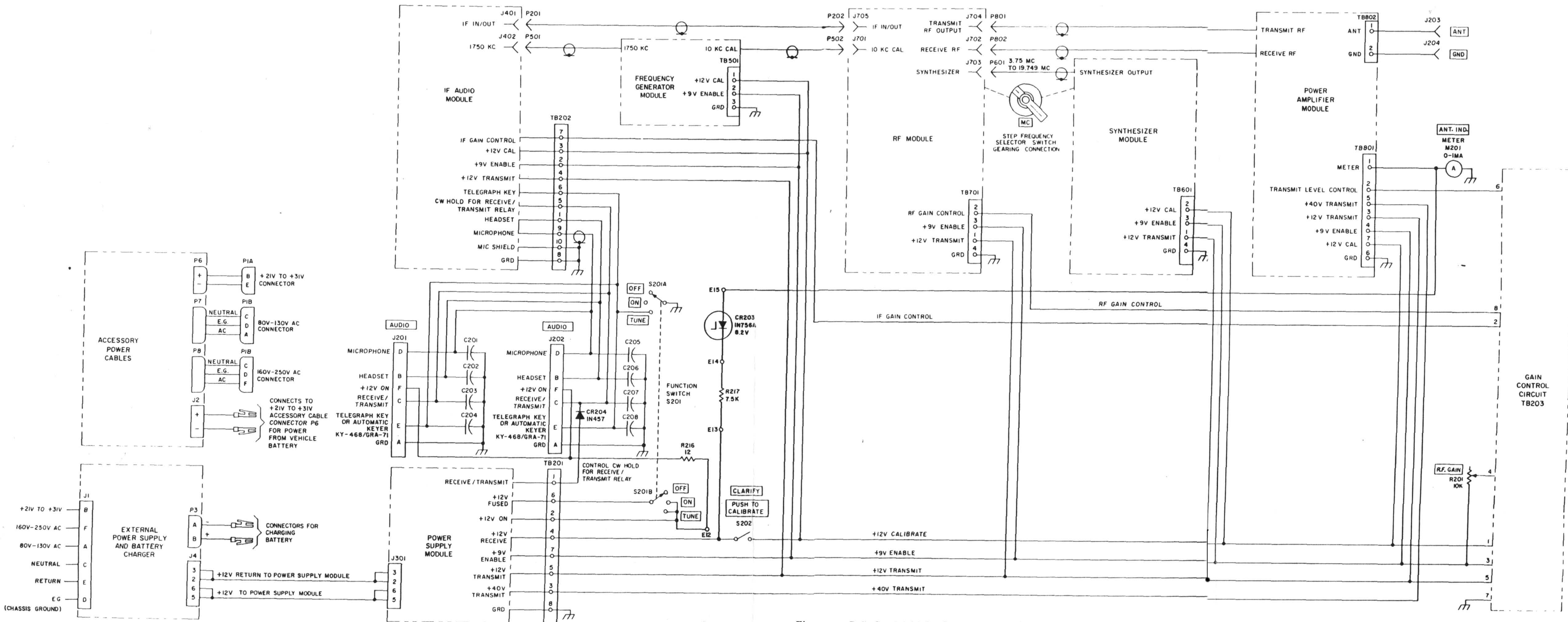


Figure 6-1. Radio Set AN/PRC-74B, system interconnection diagram.

NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS. ALL CAPACITANCE VALUES ARE IN P.F.
2. INDICATES EQUIPMENT MARKING

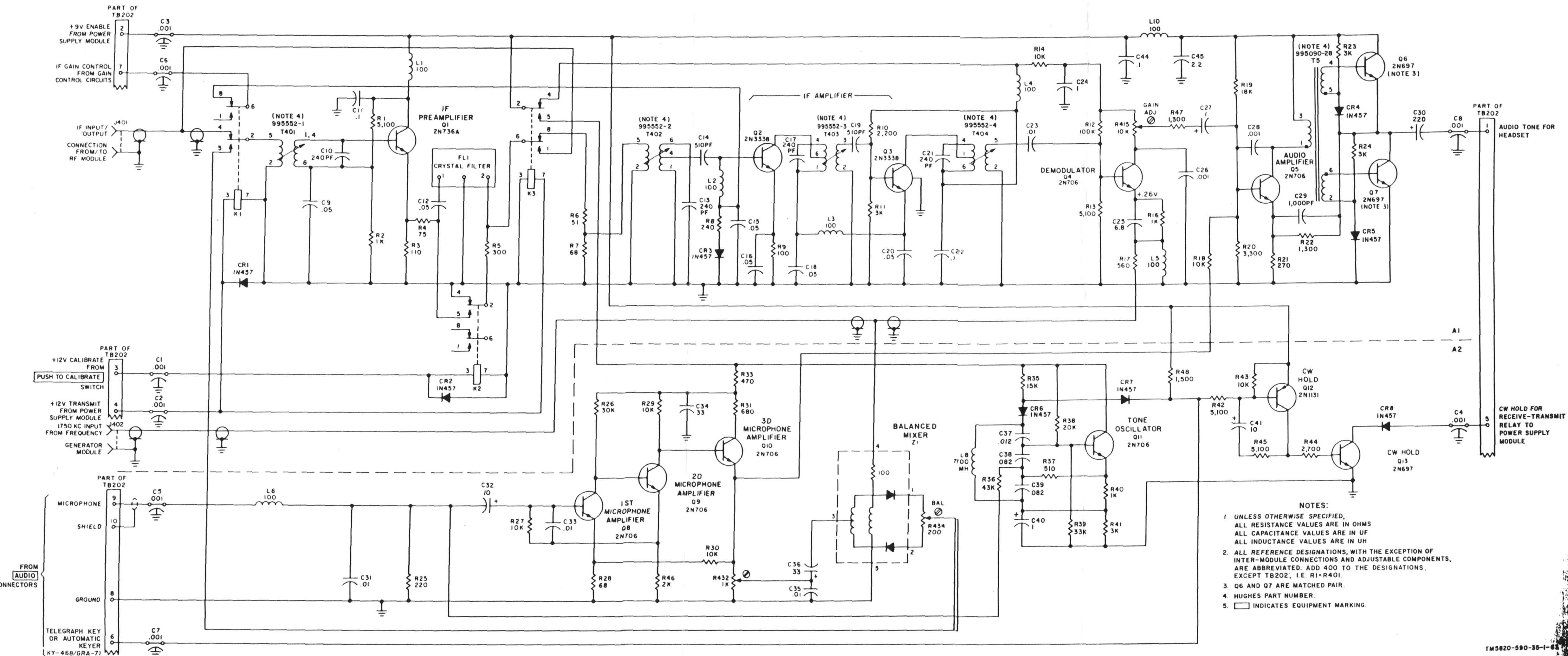


Figure 6-10. IF audio module, schematic diagram.

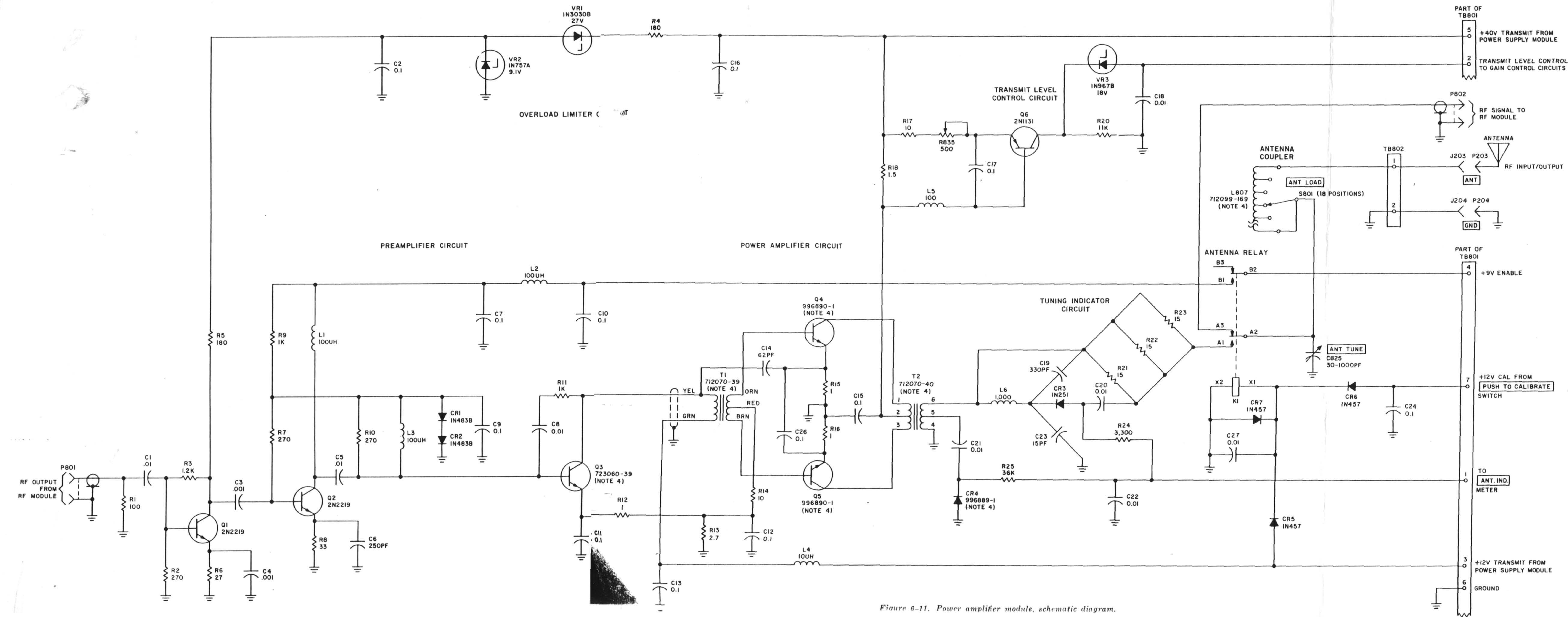


Figure 6-11. Power amplifier module, schematic diagram.

- NOTES:
1. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS, ALL CAPACITANCE VALUES ARE IN UF, ALL INDUCTANCE VALUES ARE IN UH.
 2. ALL REFERENCE DESIGNATIONS ARE ABBREVIATED WITH THE EXCEPTION OF INTER-MODULE CONNECTIONS AND ADJUSTABLE COMPONENTS. ADD 800 TO THE DESIGNATIONS, EXCEPT FOR J203 AND J204; I.E. R1 = R801.
 3. INDICATES EQUIPMENT MARKING
 4. HUGHES PART NUMBER

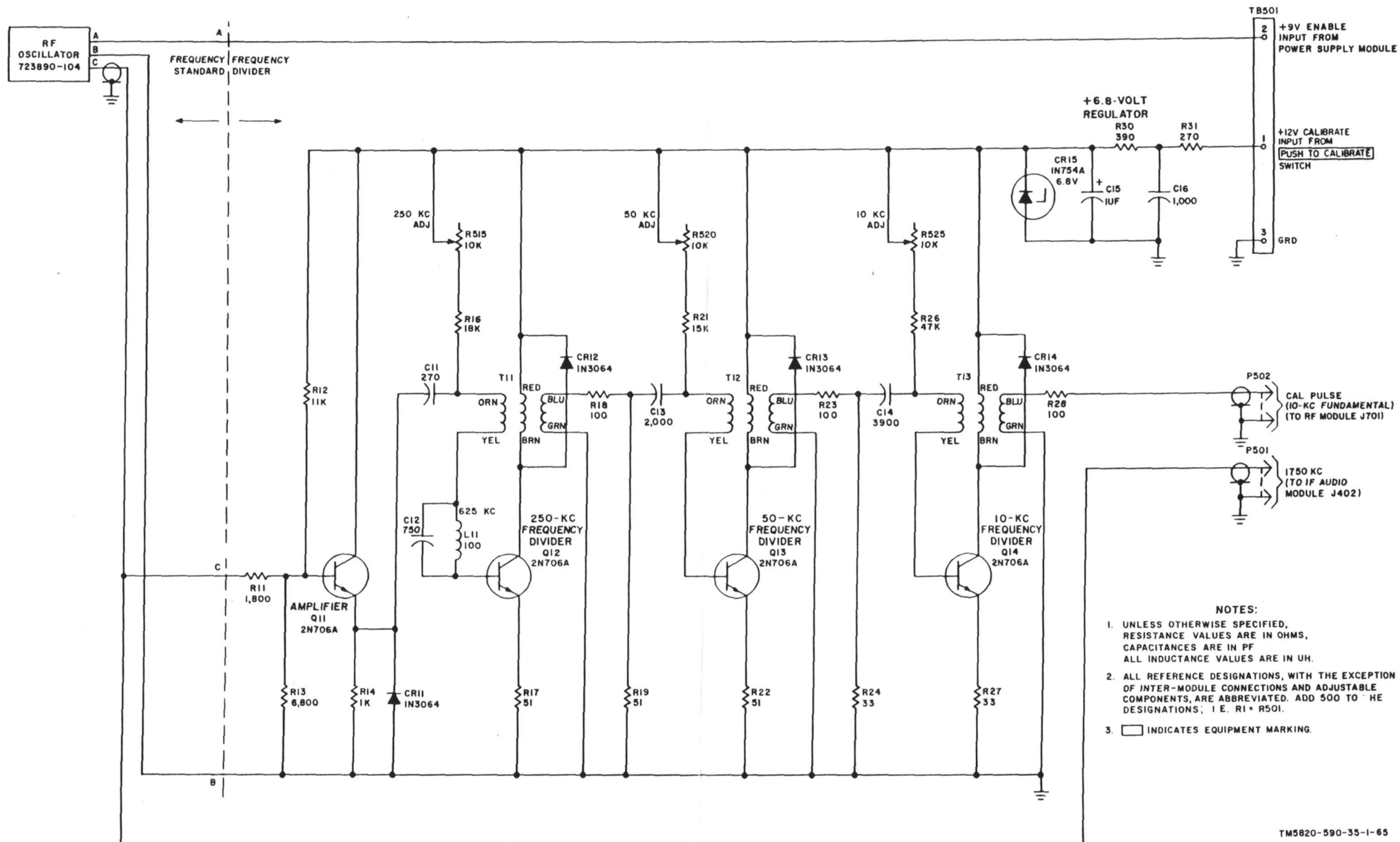
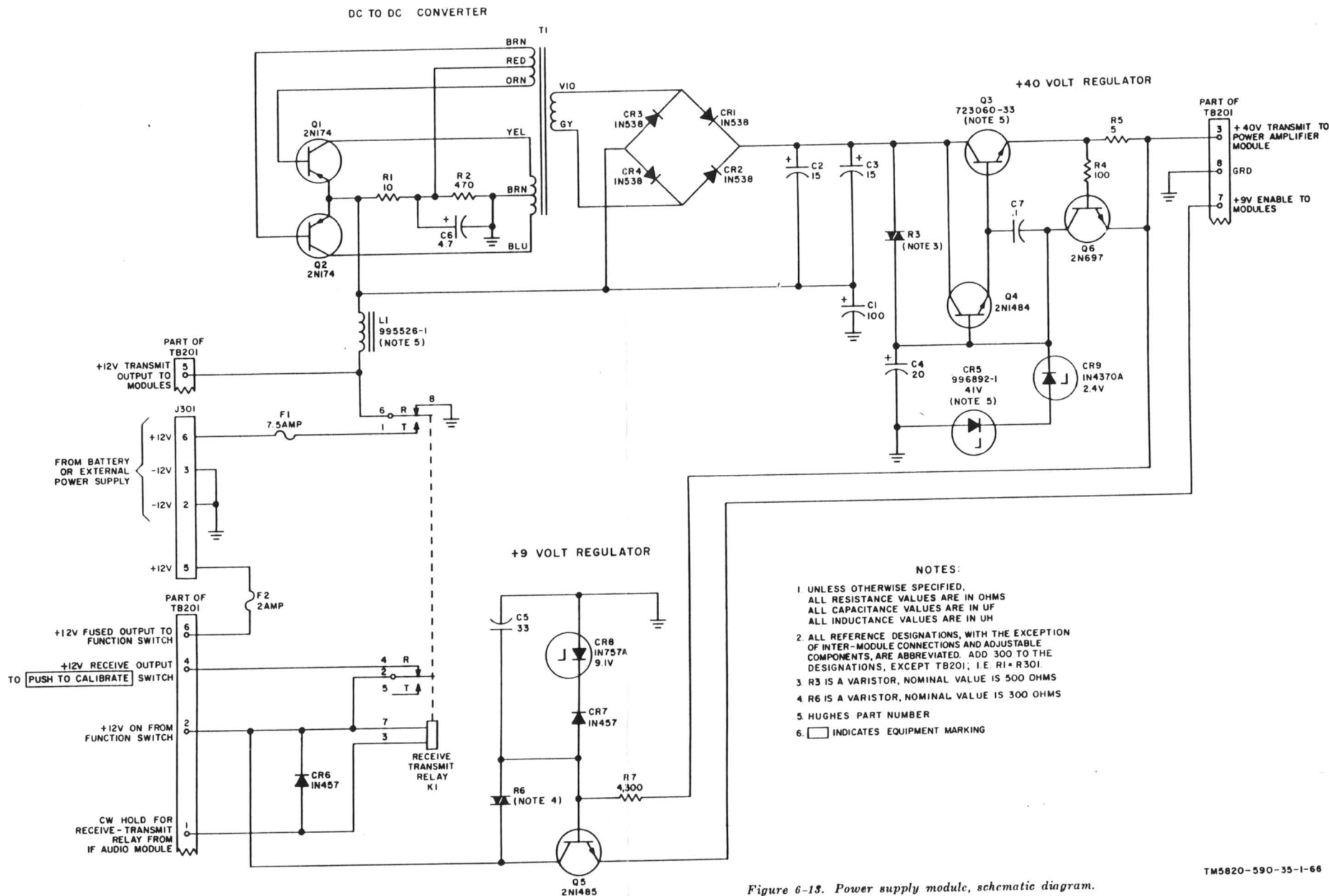


Figure 6-12. Frequency generator module, schematic diagram.



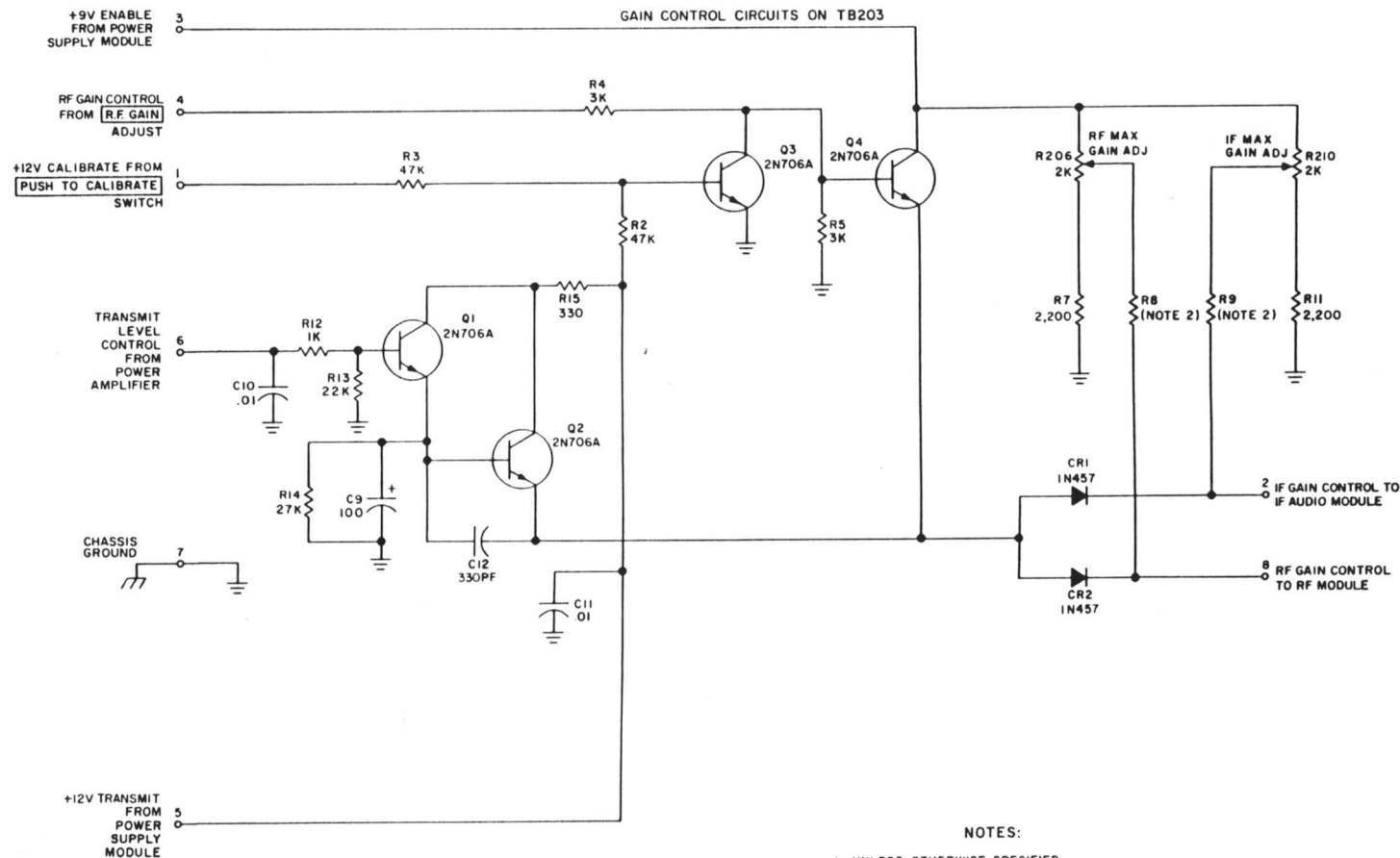


Figure 6-14. Gain control circuits, schematic diagram.

NOTES:

1. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS ALL CAPACITANCE VALUES ARE IN UF
2. R8 AND R9 ARE 1,800 OHM SENSITORS
3. ALL REFERENCE DESIGNATIONS, WITH THE EXCEPTION OF INTER-MODULE CONNECTIONS AND ADJUSTABLE COMPONENTS, ARE ABBREVIATED. ADD 200 TO THE DESIGNATIONS; I.E. R11 • R211

4. INDICATES EQUIPMENT MARKING

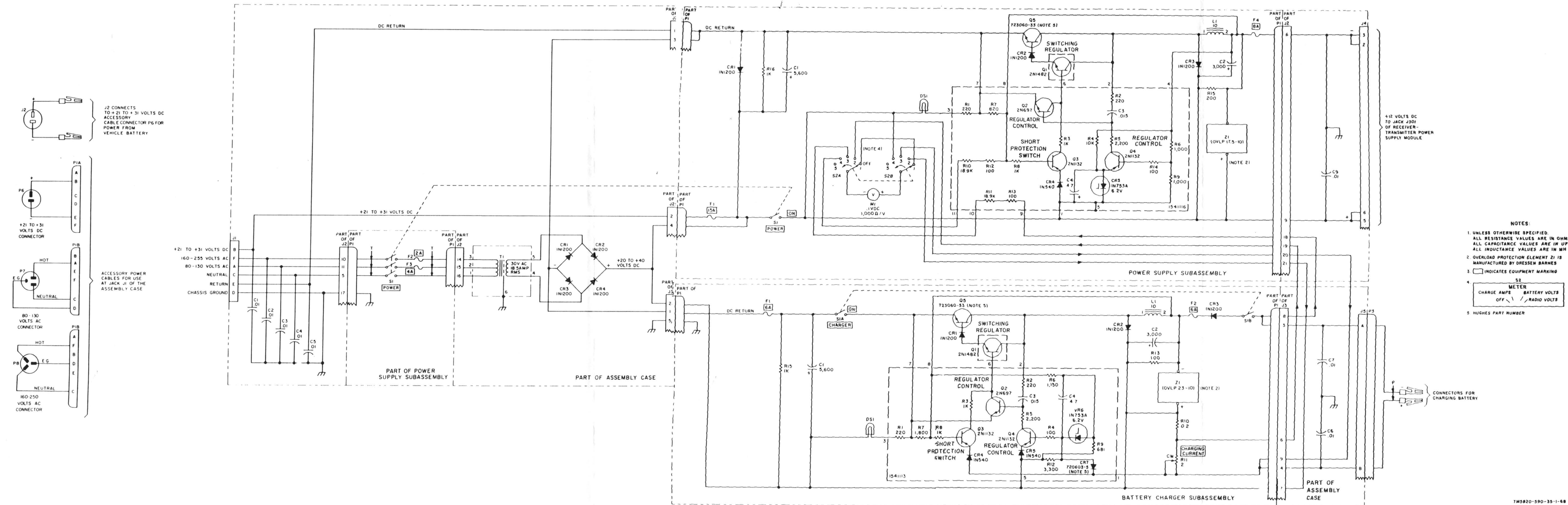
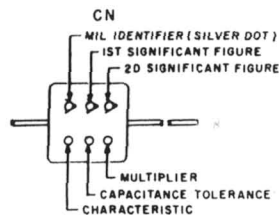


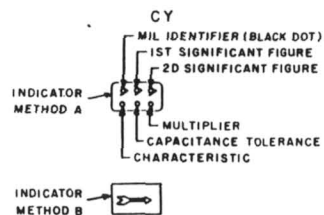
Figure 8-15. Power Supply PP-4514/PRC-74 schematic diagram.

COLOR CODE MARKING FOR MILITARY STANDARD CAPACITORS

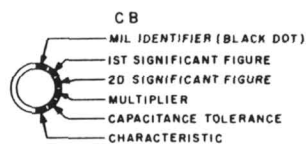
Various Dielectrics, Styles CM, CN, CY, and CB



PAPER-DIELECTRIC

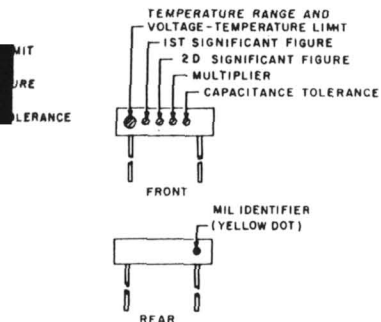


GLASS-DIELECTRIC, GLASS CASE

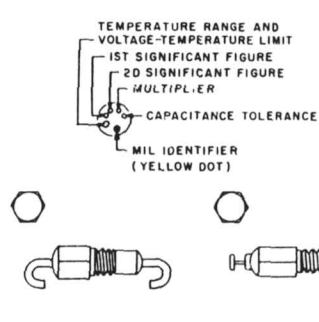


MICA, BUTTON TYPE

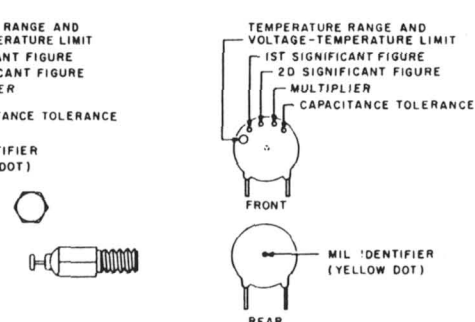
Ceramic-Dielectric (General Purpose) Style CK



RADIAL LEAD

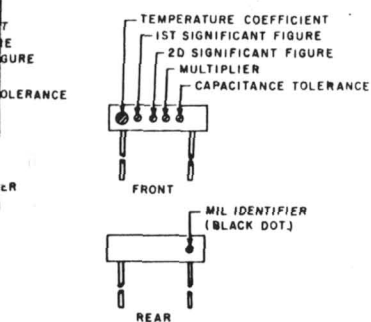


FEED-THROUGH

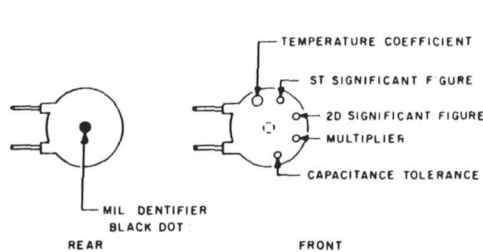


DISK-TYPE

Ceramic-Dielectric (Temperature Compensating) Style CC



RADIAL LEAD



DISK-TYPE

COLOR CODE TABLES

TABLE I - For use with Group I, Styles CM, CN, CY and CB

COLOR	MIL ID	1st SIG FIG	2nd SIG FIG	MULTIPLIER ¹	CAPACITANCE TOLERANCE				CHARACTERISTIC ²				DC WORKING VOLTAGE	OPERATING TEMP. RANGE	VIBRATION GRADE
					CM	CN	CY	CB	CM	CN	CY	CB	CM	CM	CM
BLACK	CM, CY CB	0	0	1			± 20%	± 20%		A				-55° to +70°C	10-55 cps
BROWN		1	1	10					B	E		B			
RED		2	2	100	± 2%		± 2%	± 2%	C		C			-55° to +85°C	
ORANGE		3	3	1,000		± 30%			D			D	300		
YELLOW		4	4	10,000					E					-55° to +125°C	10-2,000 cps
GREEN		5	5		± 5%				F				500		
BLUE		6	6											-55° to +150°C	
PURPLE (VIOLET)		7	7												
GREY		8	8												
WHITE		9	9												
GOLD				0.1			± 5%	± 5%							
SILVER	CN				± 10%	± 10%	± 10%	± 10%							

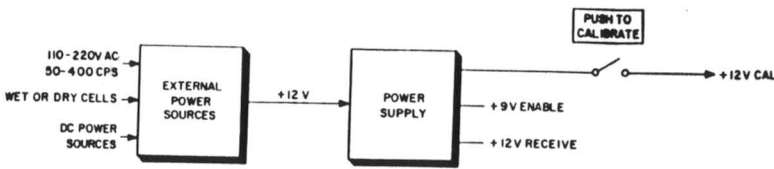
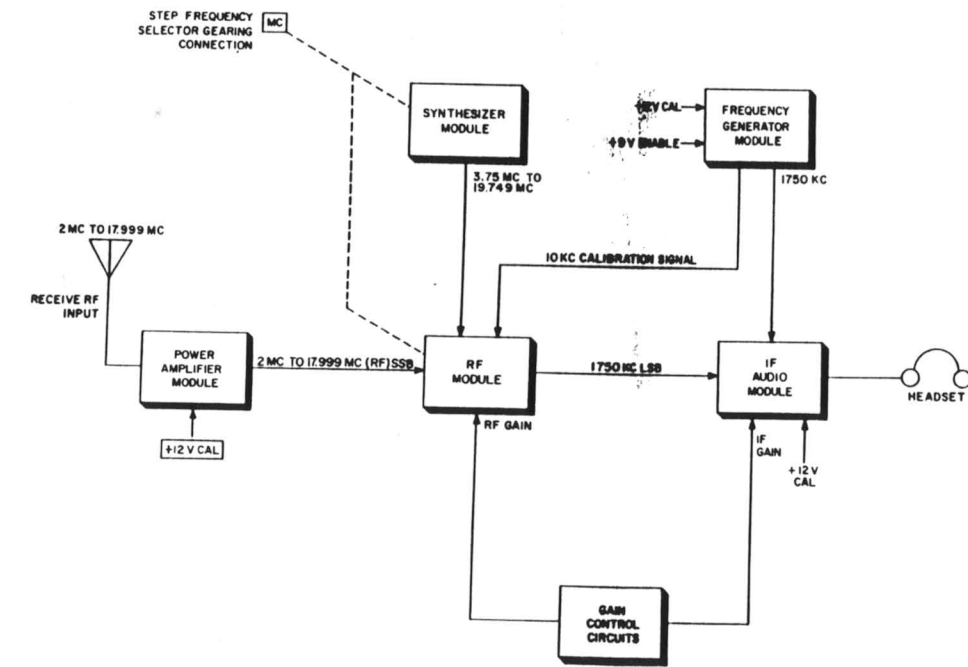
TABLE II - For use with Group II, General Purpose, Style CK

COLOR	TEMP. RANGE AND VOLTAGE - TEMP. LIMITS ³	1st SIG FIG	2nd SIG FIG	MULTIPLIER ¹	CAPACITANCE TOLERANCE	MIL ID
BLACK		0	0	1	± 20%	
BROWN	AW	1	1	10	± 10%	
RED	AX	2	2	100		
ORANGE	BX	3	3	1,000		
YELLOW	AY	4	4	10,000		CK
GREEN	CZ	5	5			
BLUE	BV	6	6			
PURPLE (VIOLET)		7	7			
GREY		8	8			
WHITE		9	9			
GOLD						
SILVER						

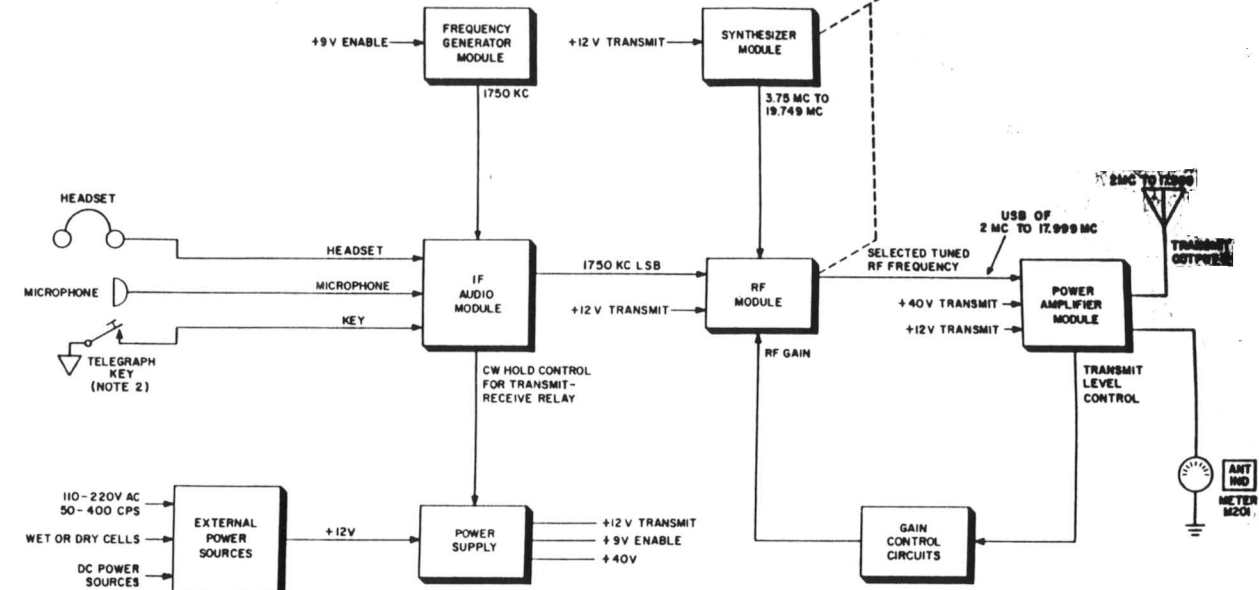
TABLE III - For use with Group III, Temperature Compensating, Style CC

COLOR	TEMPERATURE COEFFICIENT ⁴	1st SIG FIG	2nd SIG FIG	MULTIPLIER ¹	CAPACITANCE TOLERANCE		MIL ID
					Capacitances over 10uuf	Capacitances 10uuf or less	
BLACK	0	0	0	1		± 2.0uuf	CC
BROWN	-30	1	1	10	± 1%		
RED	-80	2	2	100	± 2%	± 0.25uuf	
ORANGE	-150	3	3	1,000			
YELLOW	-220	4	4				
GREEN	-330	5	5		± 5%	± 0.5uuf	
BLUE	-470	6	6				
PURPLE (VIOLET)	-750	7	7				
GREY		8	8	0.01			
WHITE		9	9	0.1	± 10%		
GOLD	+100					± 1.0uuf	
SILVER							

- The multiplier is the number by which the two significant (SIG) figures are multiplied to obtain the capacitance in uuf.
- Letters indicate the Characteristics designated in applicable specifications: MIL-C-5, MIL-C-91, MIL-C-11272 and MIL-C-10950 respectively.
- Letters indicate the temperature range and voltage-temperature limits designated in MIL-C-11015.
- Temperature coefficient in parts per million per degree centigrade.



A. RECEIVE MODE



B. TRANSMIT MODE

- NOTES:**
1. INDICATES EQUIPMENT MARKING
 2. KEYING MAY BE EFFECTED BY AUTOMATIC KEYS KY-469/GRA-71

Figure 6-2. Radio Set AN/PRC-74B, operational modes, block diagram.

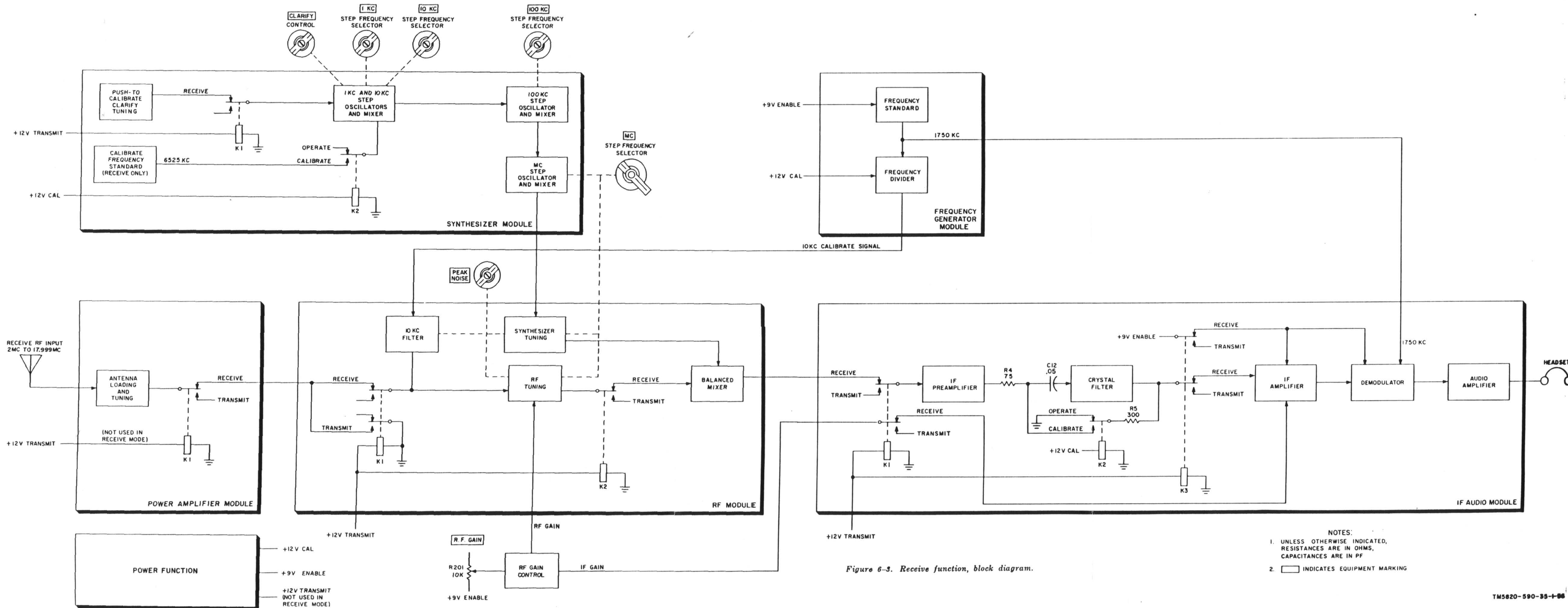
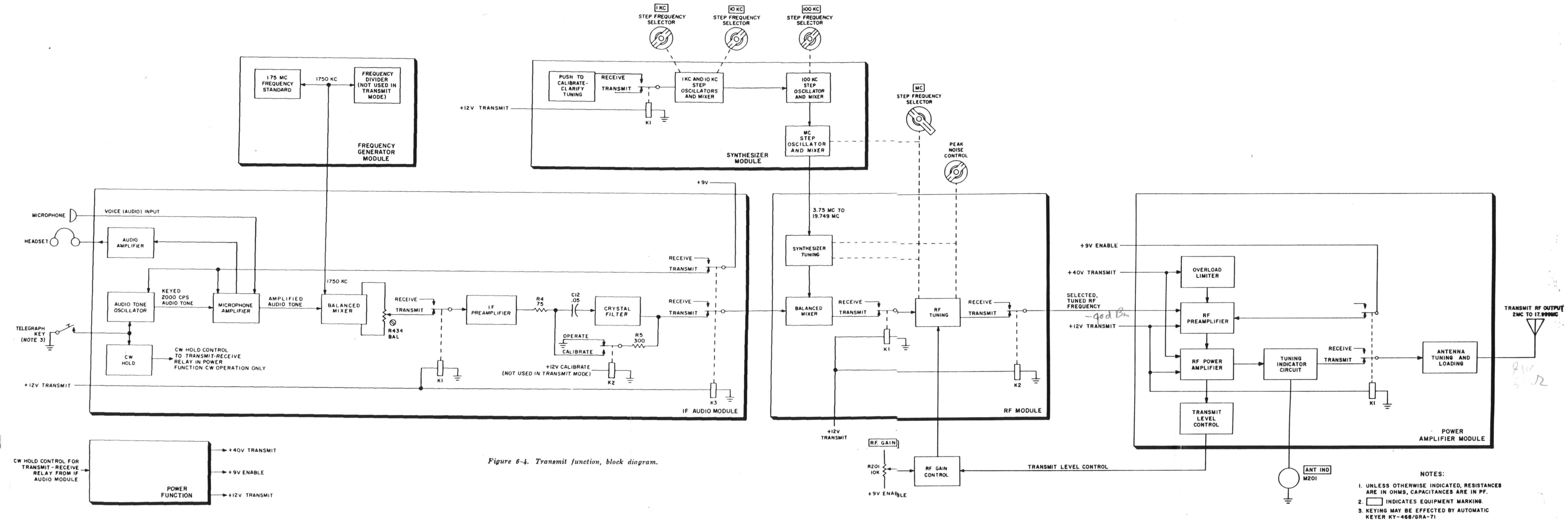


Figure 6-3. Receive function, block diagram.



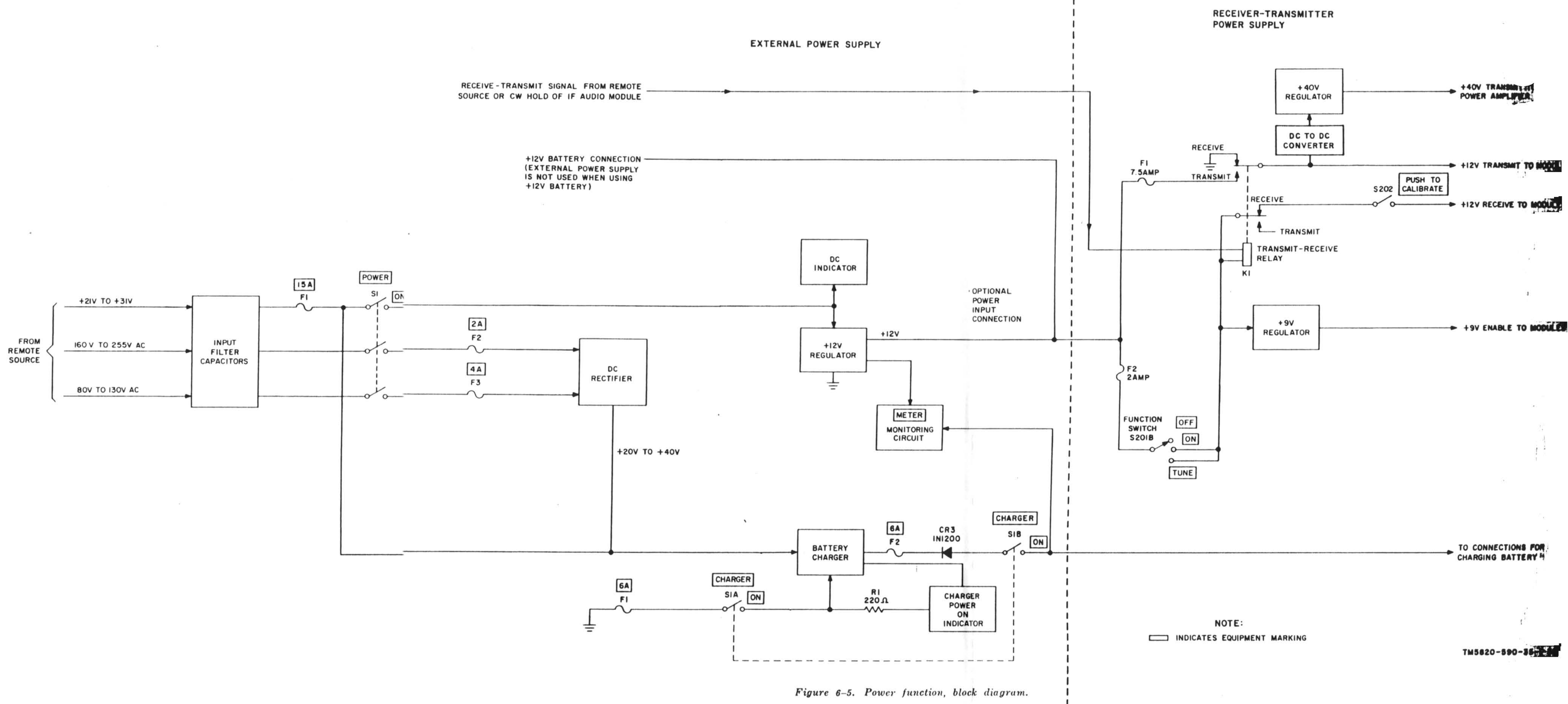


Figure 6-5. Power function, block diagram.



1 KC

STEP FREQUENCY SELECTOR

S1

A1

4.2

SMIT

JATE

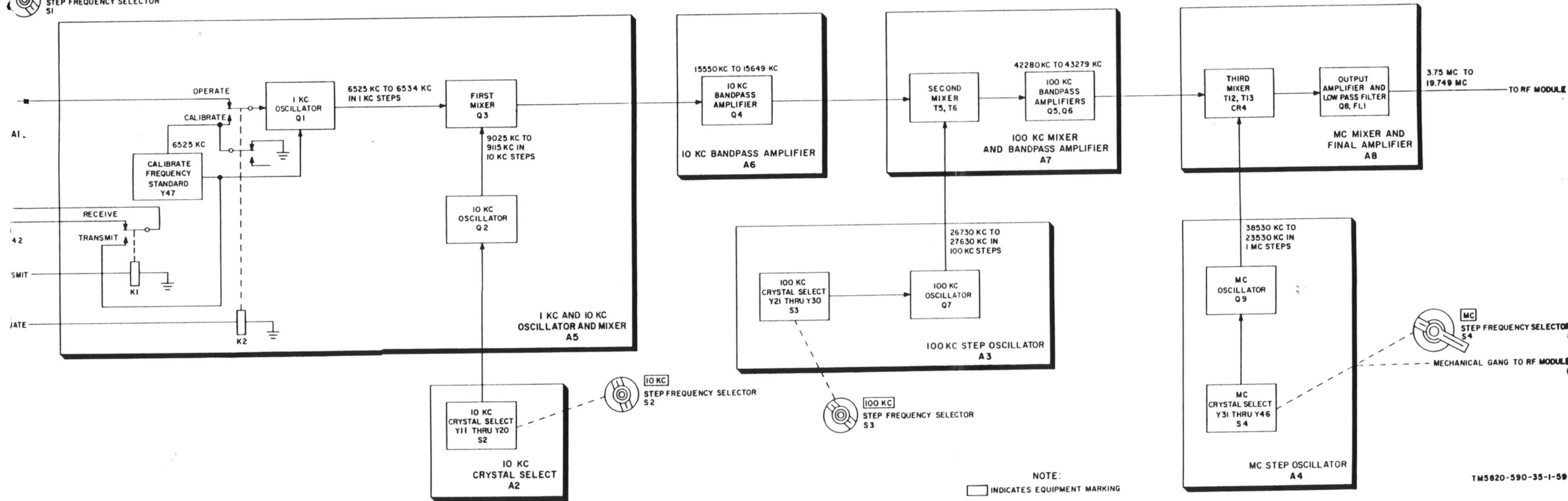


Figure 6-6. Synthesizer module, block diagram.

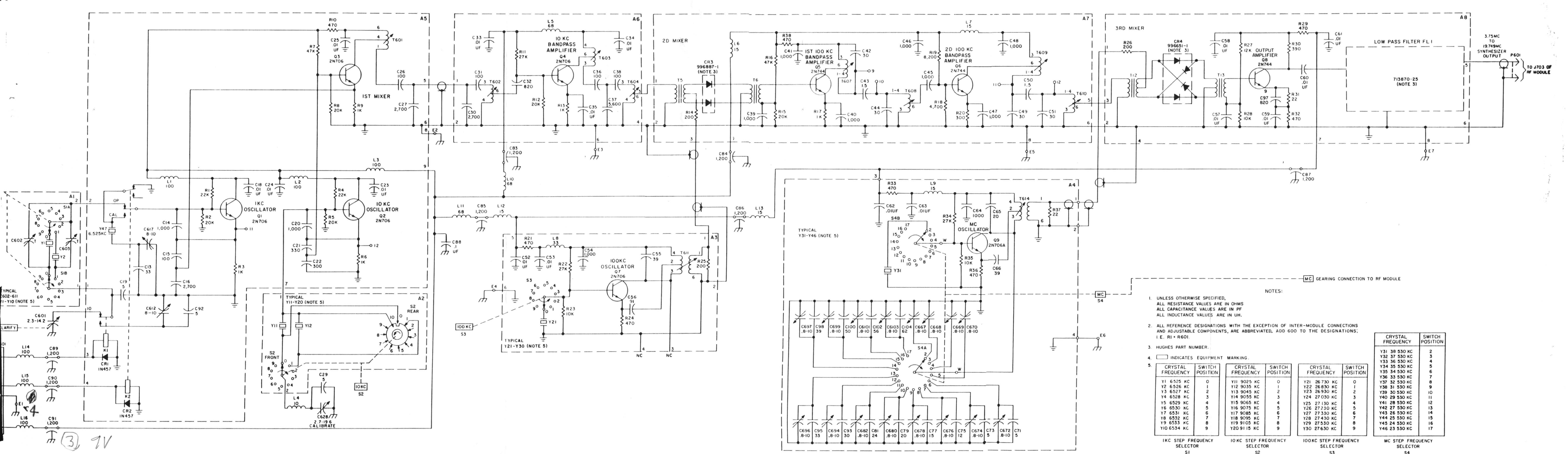


Figure 6-7. Synthesizer module, schematic diagram.

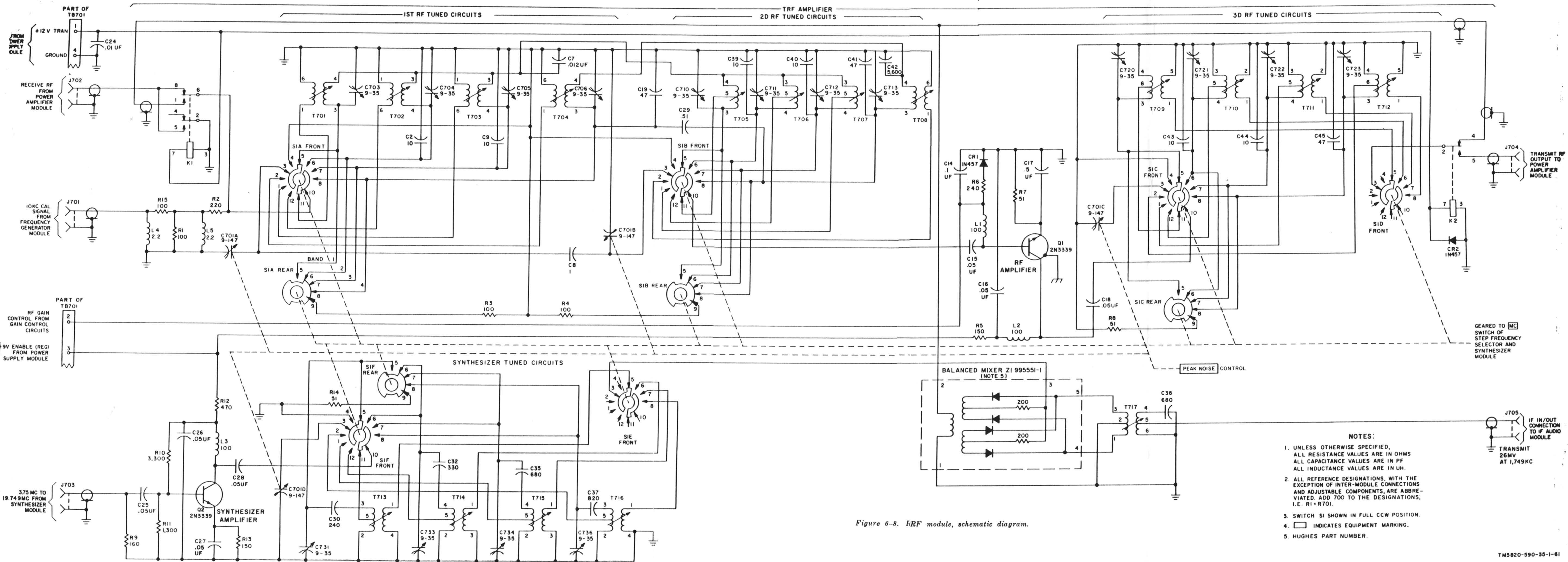


Figure 6-8. RRF module, schematic diagram.

- NOTES:
1. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS ALL CAPACITANCE VALUES ARE IN PF ALL INDUCTANCE VALUES ARE IN UH.
 2. ALL REFERENCE DESIGNATIONS, WITH THE EXCEPTION OF INTER-MODULE CONNECTIONS AND ADJUSTABLE COMPONENTS, ARE ABBREVIATED. ADD 700 TO THE DESIGNATIONS, I.E. R1-R701.
 3. SWITCH S1 SHOWN IN FULL CCW POSITION.
 4. INDICATES EQUIPMENT MARKING.
 5. HUGHES PART NUMBER.

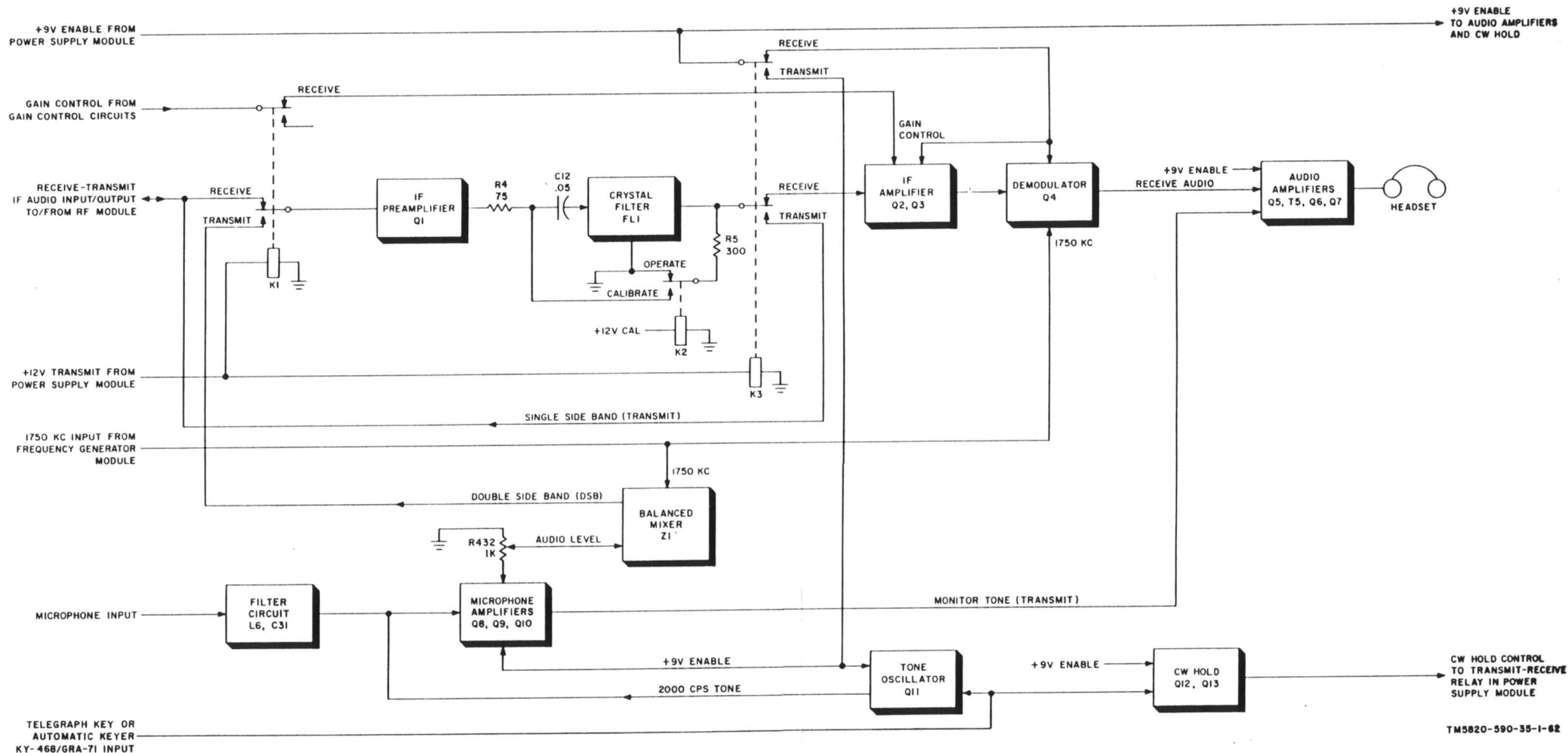


Figure 6-9. IF audio module, block diagram