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815 Broad Hollow Rd., Farmingdale, New York 11735

(631) 755-7625 Fax: (631) 755-7046

This word document contains figures representing the Schematics for the Receiver Transmitter RT-1501A. These figures are scanned images from Section VII of the maintenance manual part number 006-15590-0000, Revision 2 dated October 1991. It should be noted that those pages "Intentionally Left Blank" were not scanned and are therefore not included here.



BENDIX/KING  
MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER

SECTION VII DIAGRAMS

1. General

This section contains schematic diagrams and pictorials of the PC boards, PC modules, and assemblies of the RT-1501A Radar Receiver-Transmitter.

2. Summary of Unit Modifications

The "Summary of Unit Modifications" page summarizes the unit modifications by unit modification number, the PC modules and boards affected, the subassembly modification number, the reason for the change, the serial number of the unit when the modification became effective, and, if available, the service bulletin number. The "Summary of Changes To" page for each assembly provides additional modification information.

3. Schematic Diagram, PC Board Component Layout, and Summary of Changes

The main frame assembly schematic diagram illustrates the intercabling between the main frame assembly and the PC modules, PC boards, and assemblies. Each PC module/board is illustrated by a schematic diagram and PC board component layout diagram.

Each diagram is covered by a "Summary of Changes To" page.

All assembly modifications are described in detail. If the modification is too extensive to be verbally described, or numerous changes have already been described verbally, a current version of the schematic is added to the existing schematic.



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MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER

SUMMARY OF UNIT MODIFICATIONS  
P/N 4001973-0751

UNIT MOD NO.	BOARD(S) AFFECTED	SUBASSY MOD NO.	REASON	EFF. UNIT S/N	SERVICE BULLETIN NO.*
5	--	--	Equipment released at Unit Mod 5.	--	--
6	Afc Module	4 & 5	To eliminate noise spikes on 12V line.	1103	1500-030
8	Processor Module	1	To correct afc sample tuning.	1116	1500-050
9	--	--	Addition of conformal coating to PCB assemblies to correct PCB moisture contamination.	1139	1500-058
10	S/L Pulse Modulator	1	To eliminate high-voltage arcing above 20,000 feet.	1139	1500-060
	Mid-Pulse	1			
	Main frame	3			
11	Preamplifier Assembly	1	To improve limiter reliability.	1139	1500-066
	Bias Module	1			

\* SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL.



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**SUMMARY OF CHANGES TO**

**MAIN FRAME  
INTERCONNECT MODULE P/N 3606475-0501 AND -0502**

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N

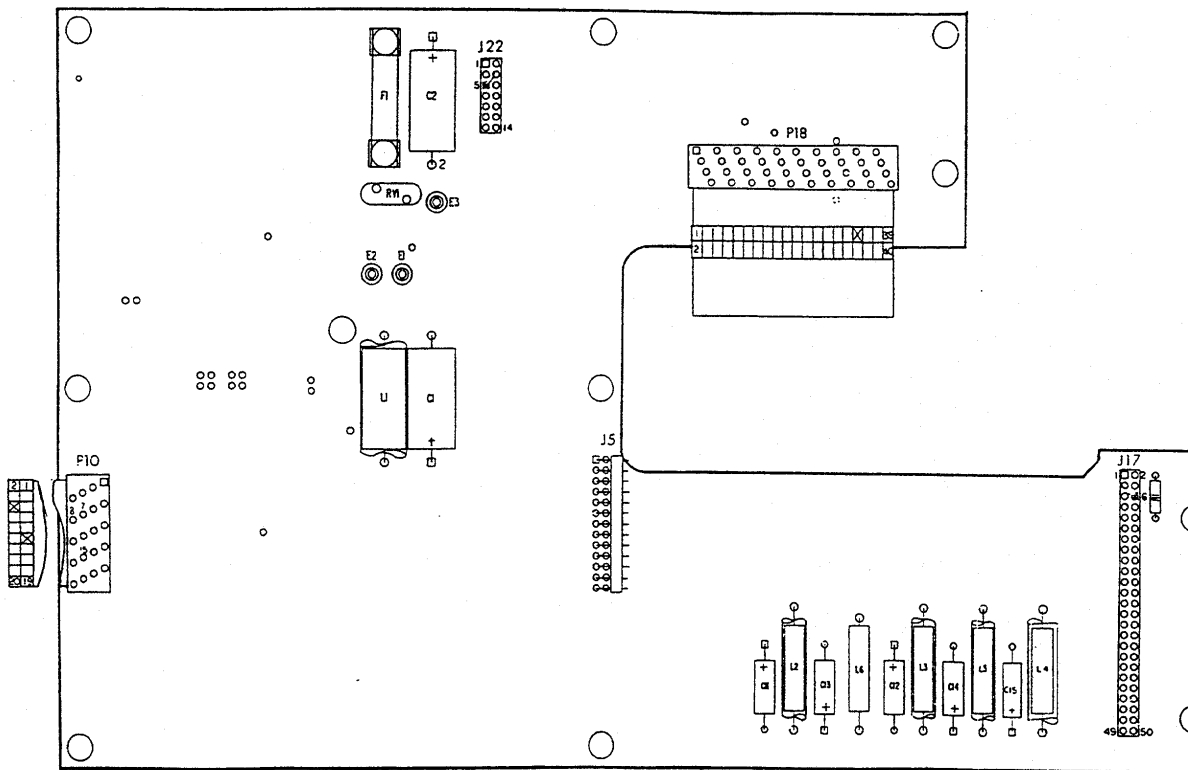
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

7-5/7-6  
Aug 12/91

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**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



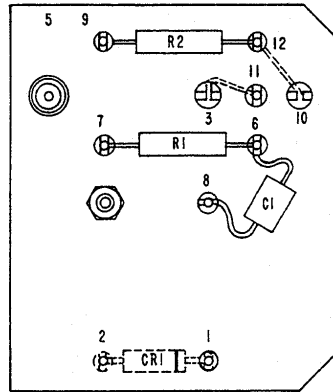
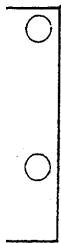
WCB8063462 ABCE

NOTE: ADD 1200 TO ALL REFERENCE DESIGNATIONS.

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Interconnect Board, P/N 3606475-0501 and -0502

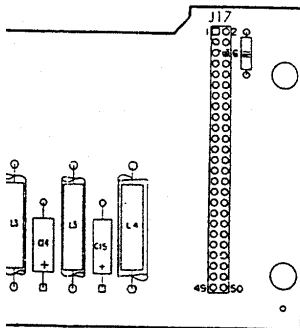
7-7/7-8  
Oct/91



WCA8063545

NOTE: ADD I050 TO ALL REFERENCE DESIGNATIONS.

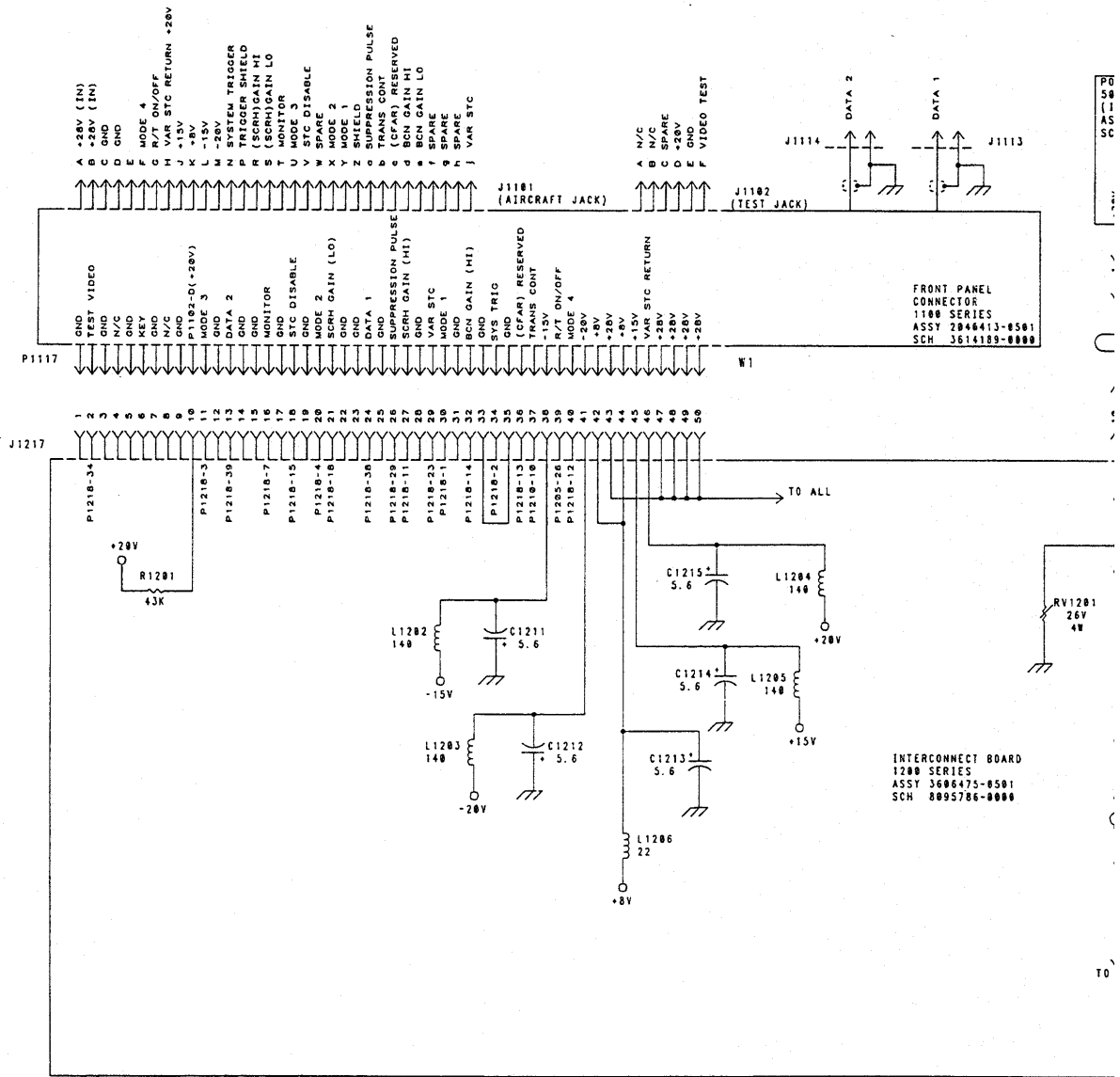
Pulse Transformer Terminal Board



/7-8  
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RT-1501A RECEIVER-TRANSMITTER**

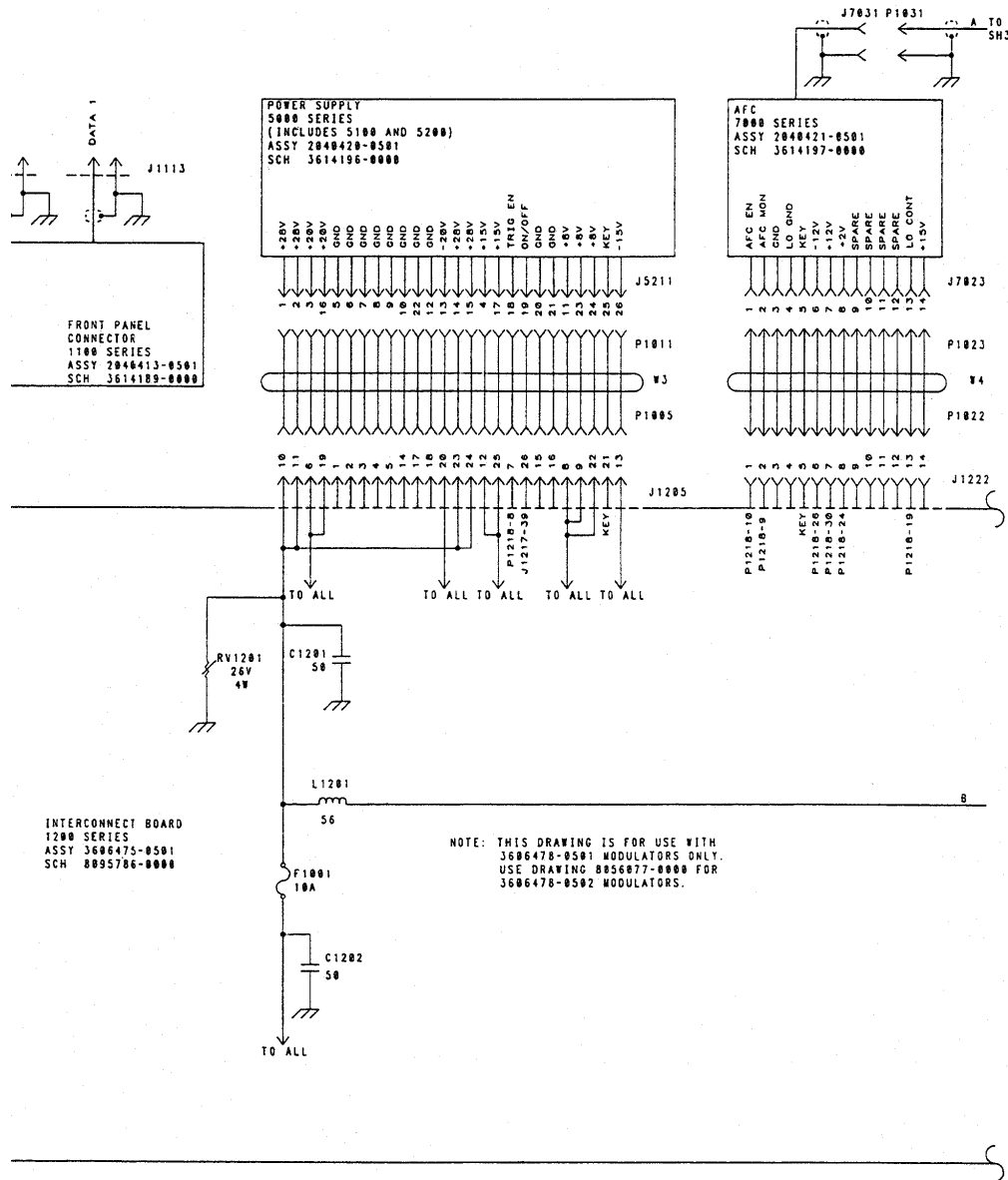


8095786A SH. 1 OF 3

Main Frame/Interconnect, Schematic Diagram (for Units with P/N 3606478-0501 Modulators Only)  
Figure 7-1 (Sheet 1 of 3)

I.B. 21500B  
PART 4

7-9/7-10  
Oct/91

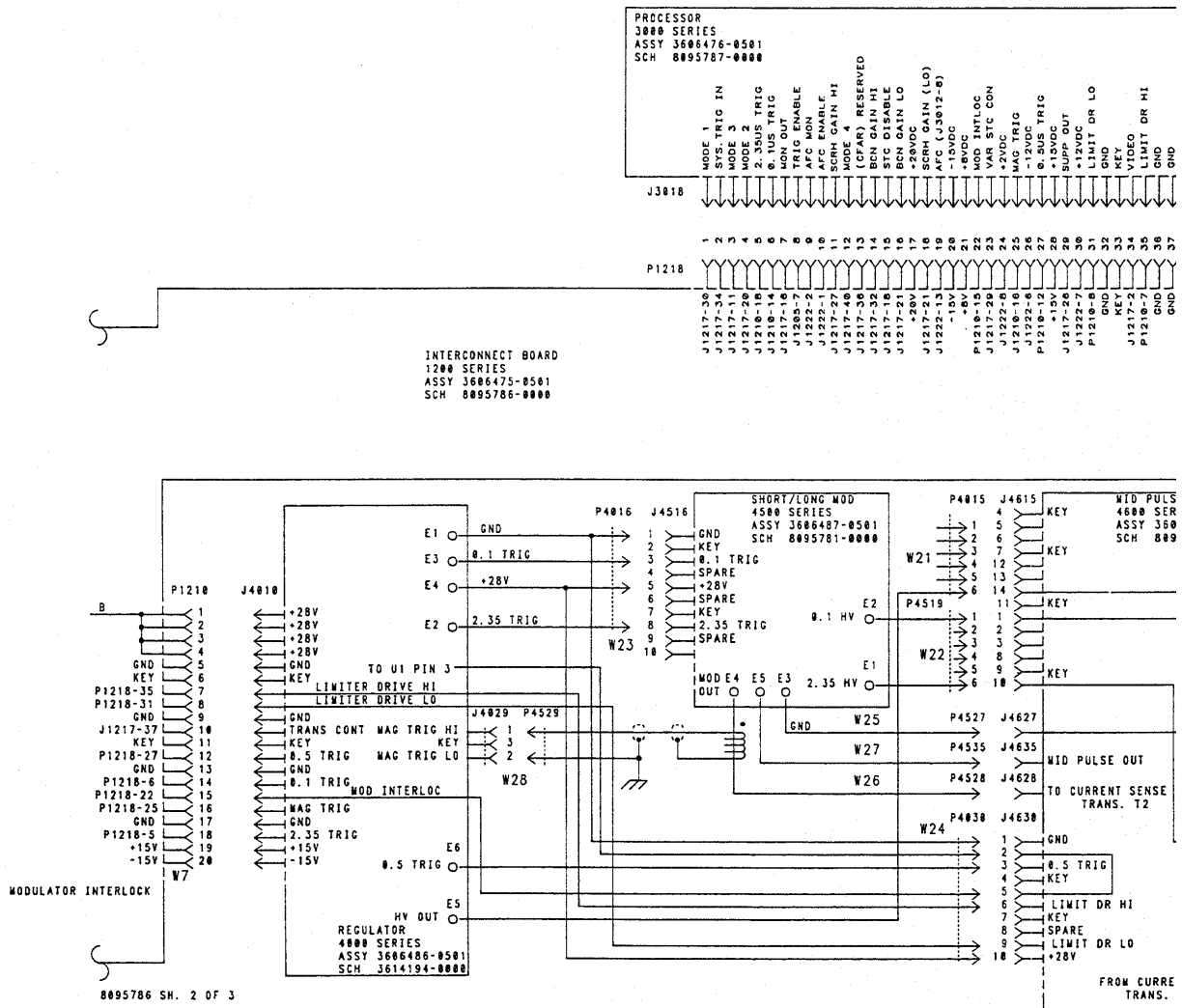


7-10  
:91



**BENDIX/KING**

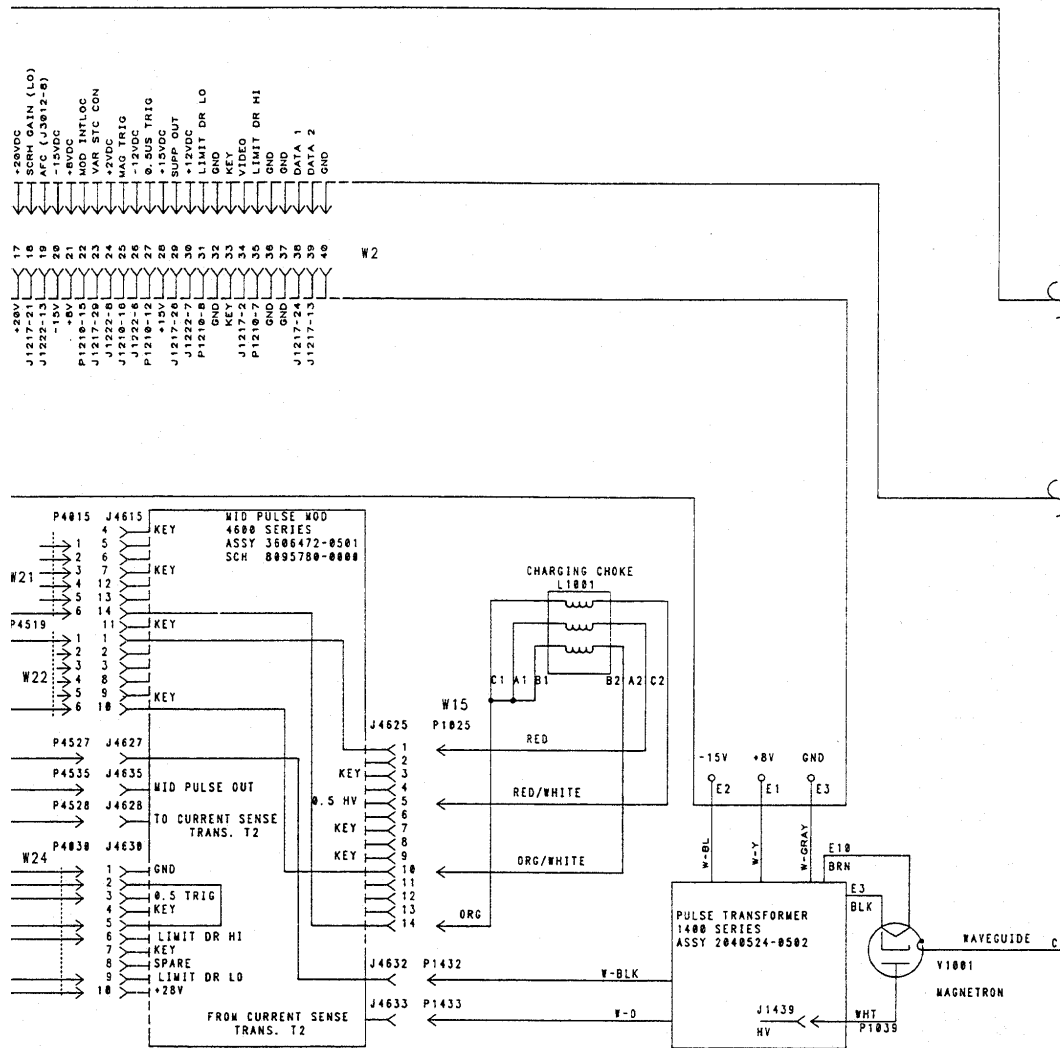
**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



Main Frame/Interconnect, Schematic Diagram (for Units with P/N 3606478-0501 Modulators Only)  
Figure 7-1 (Sheet 2)

I.B. 21500B  
PART 4

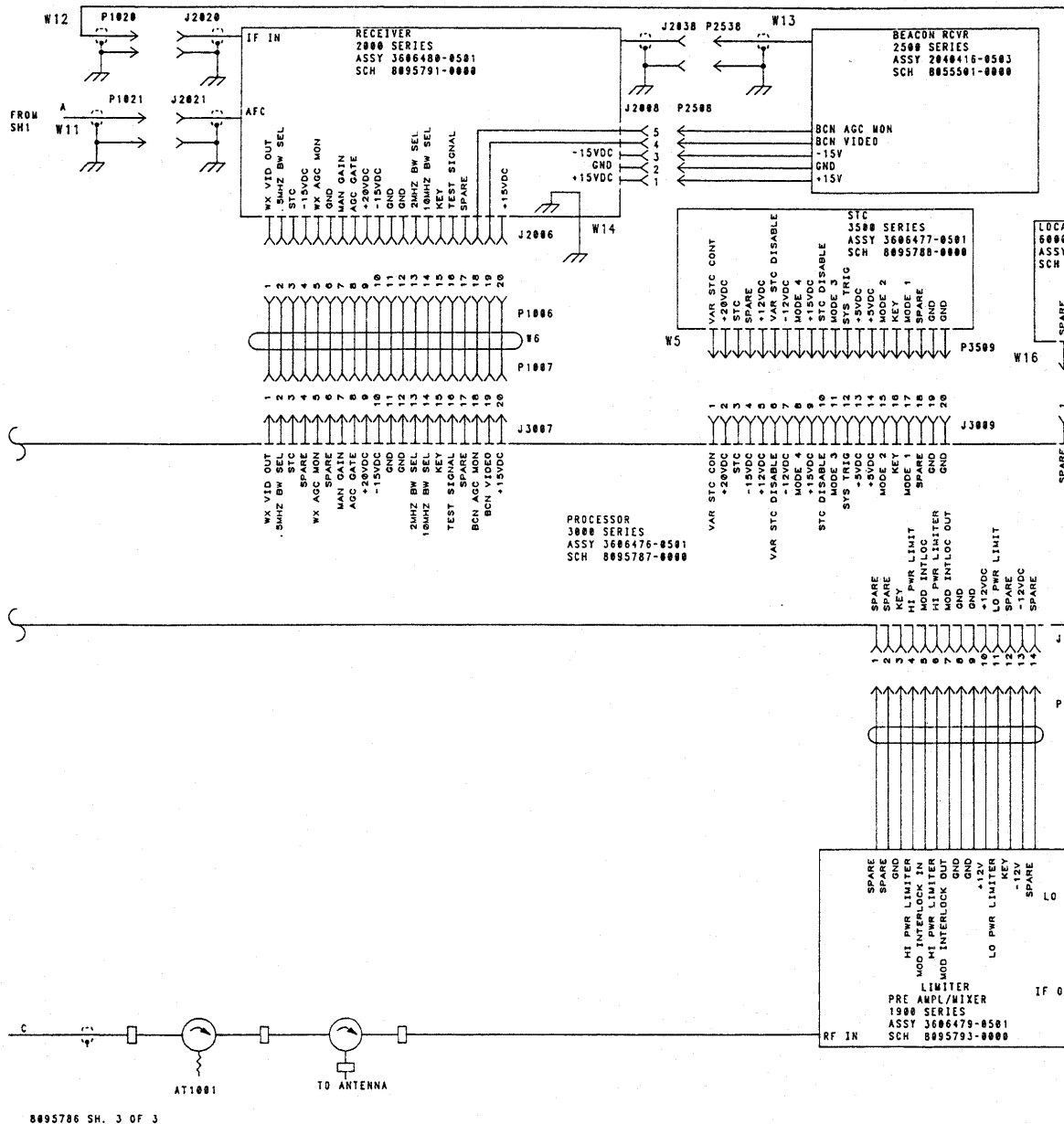
7-11/7-12  
Oct/91



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/91

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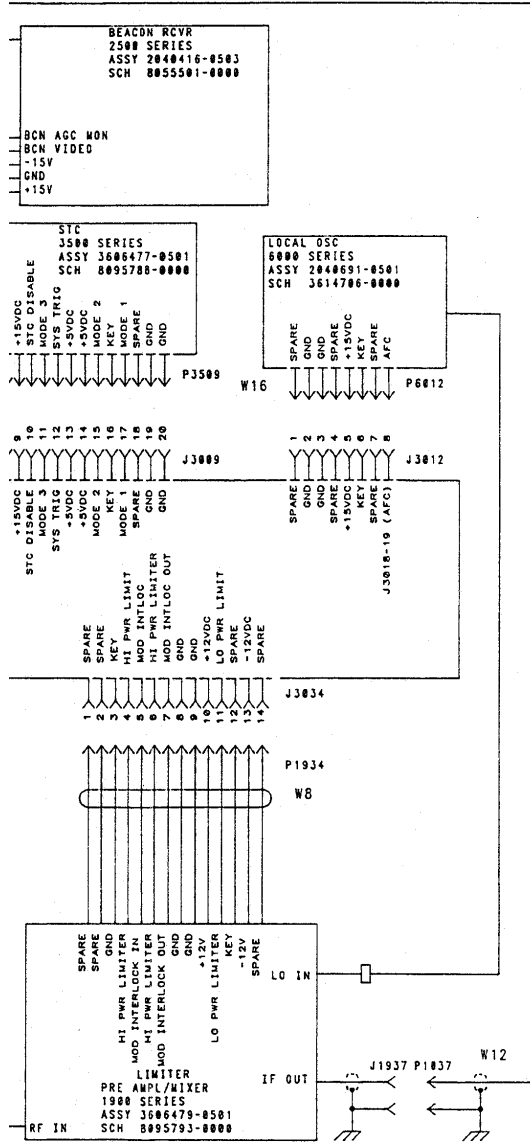
**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**




Main Frame/Interconnect, Schematic Diagram (for Units with P/N 3606478-0501 Modulators Only)  
Figure 7-1 (Sheet 3)

I.B. 21500B  
PART 4

7-13/7-14  
Oct/91

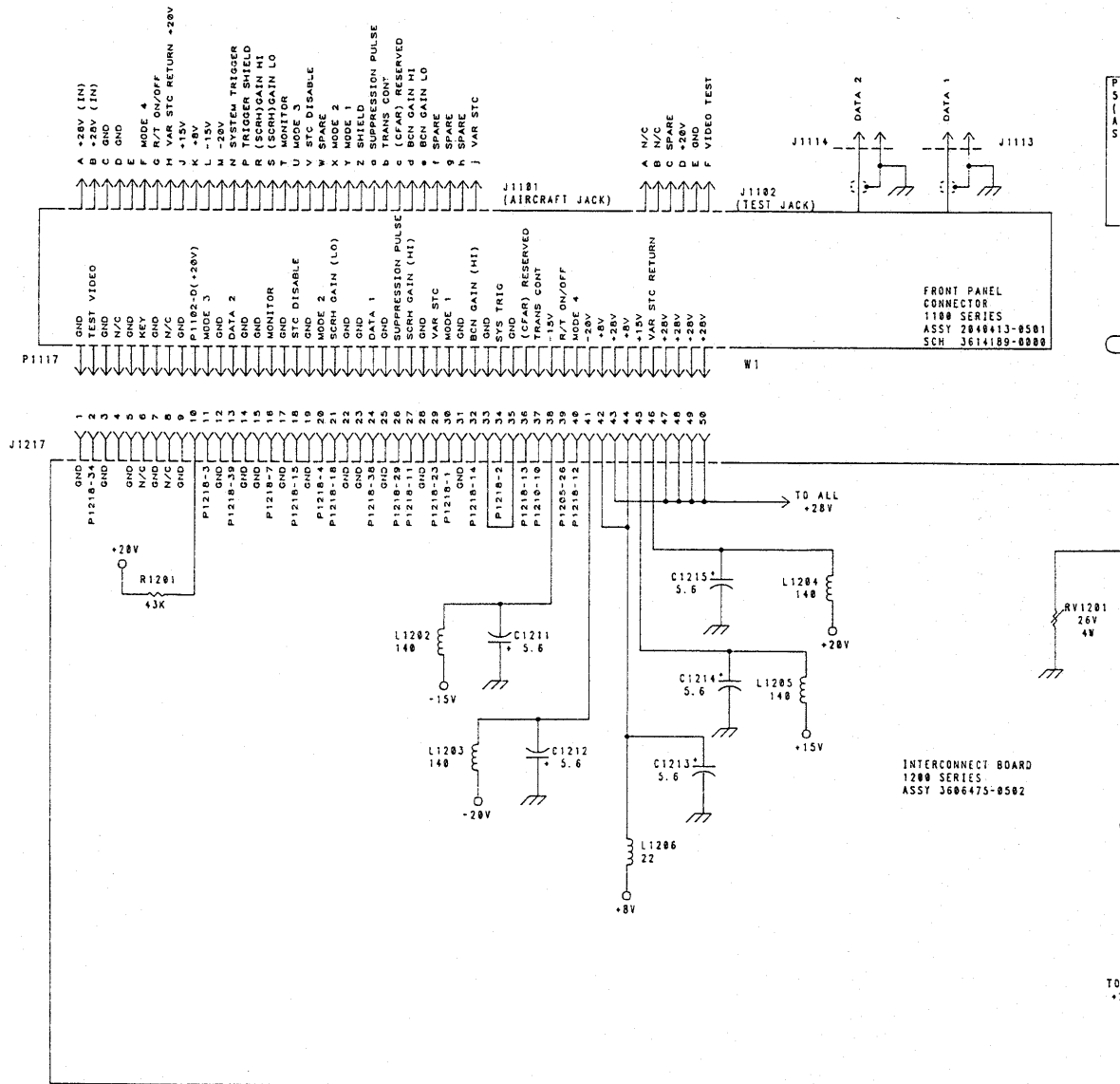


NOTES:

1. ALL RESISTANCE IN OHMS
2. ALL CAPACITANCE IN uF UNLESS OTHERWISE SPECIFIED
3. ALL INDUCTORS IN uH UNLESS OTHERWISE SPECIFIED
4. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED
5. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE; NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
6. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: R2, RV2, C16, L7, E4. (1200 SERIES ONLY)
7. CAUTION: THIS MODULE EITHER CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.



**BENDIX/KING**  
**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**

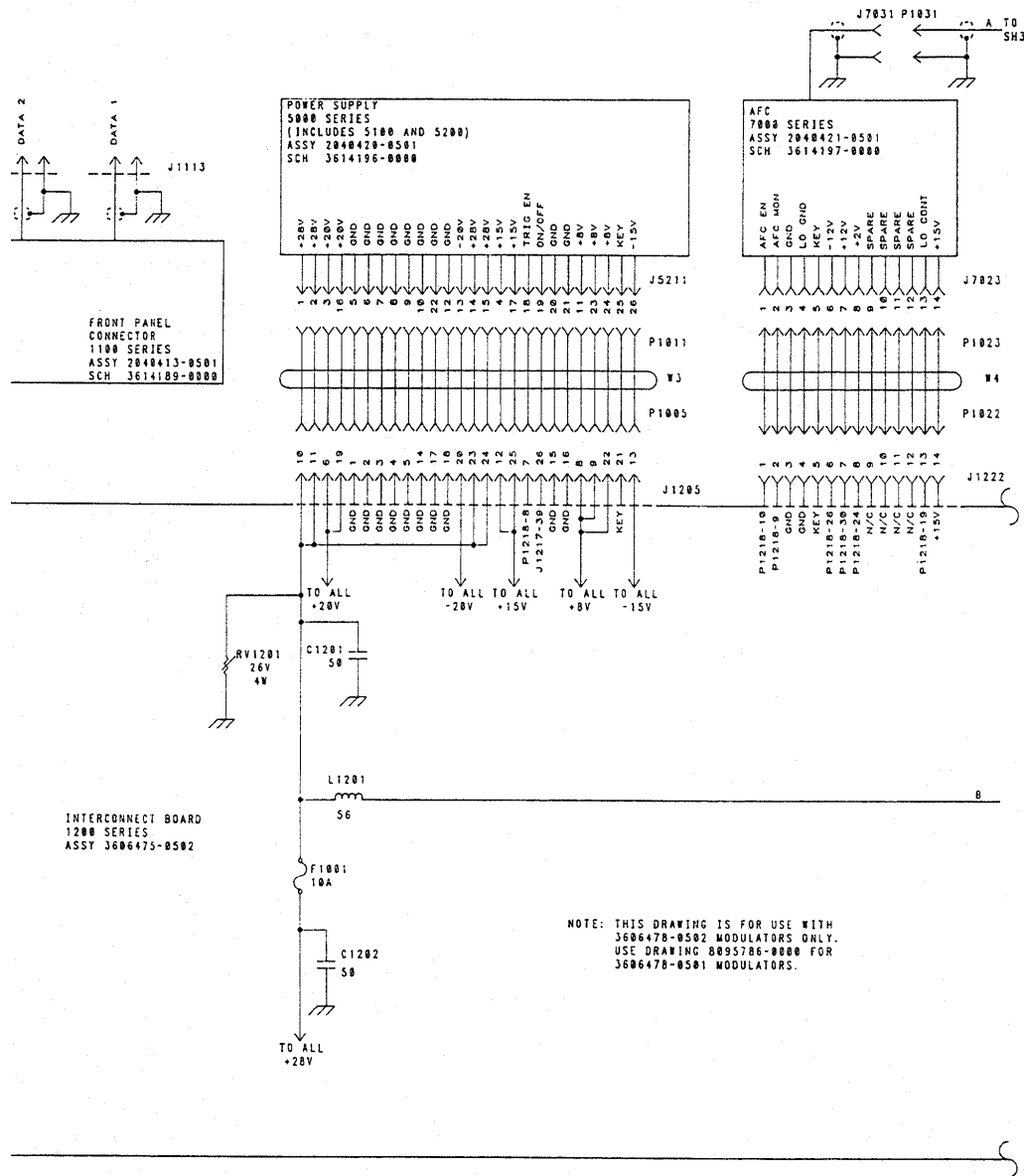


8056877- SH. 1 OF 3

Main Frame/Interconnect, Schematic Diagram (for Units  
 with P/N 3606478-0502 Modulators Only)  
 Figure 7-1.1 (Sheet 1 of 3)

I.B. 21500B  
 PART 4

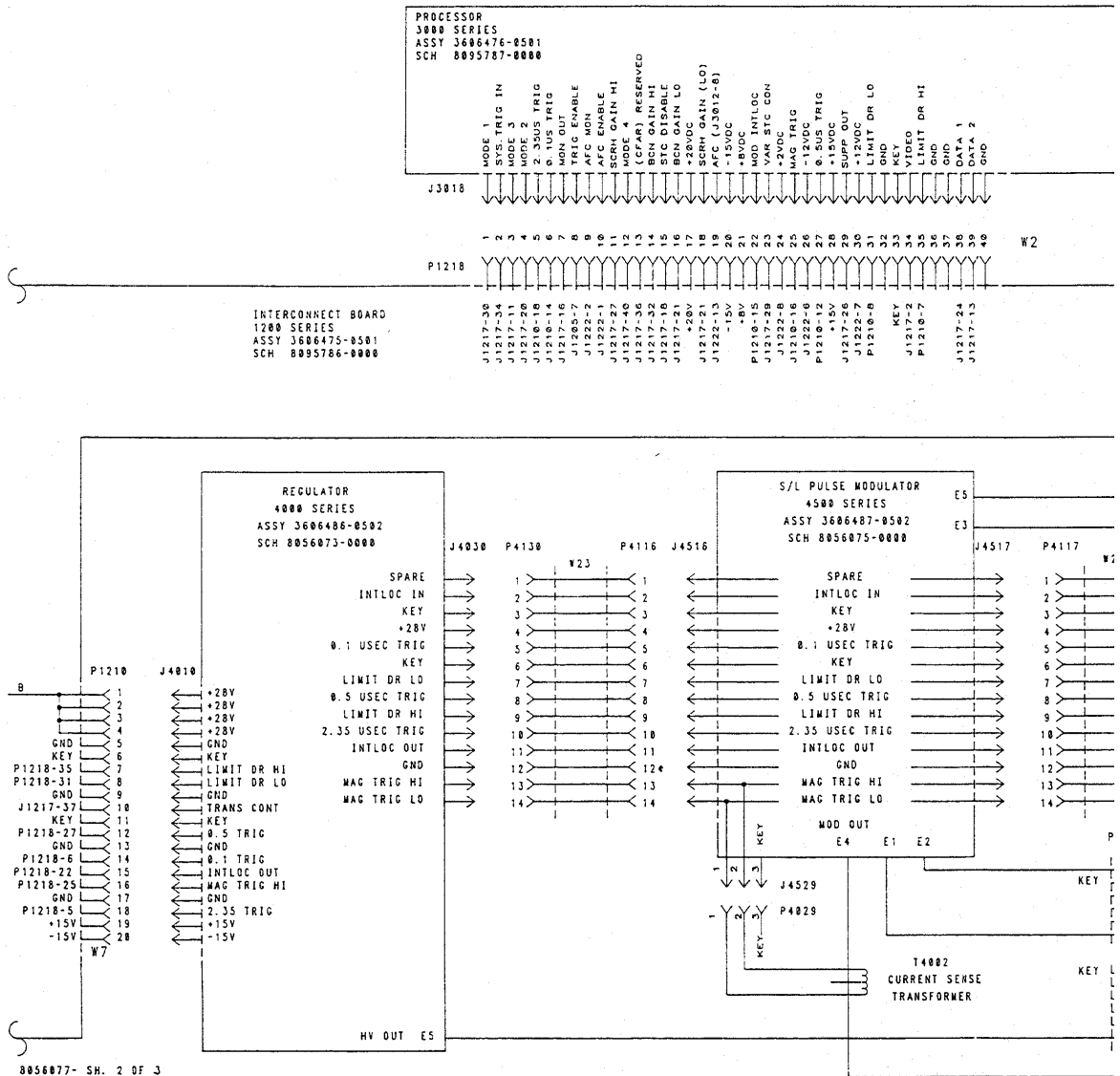
7-14.1/7-14.2  
 Oct/91



-14.2  
ct/91

**BENDIX/KING**

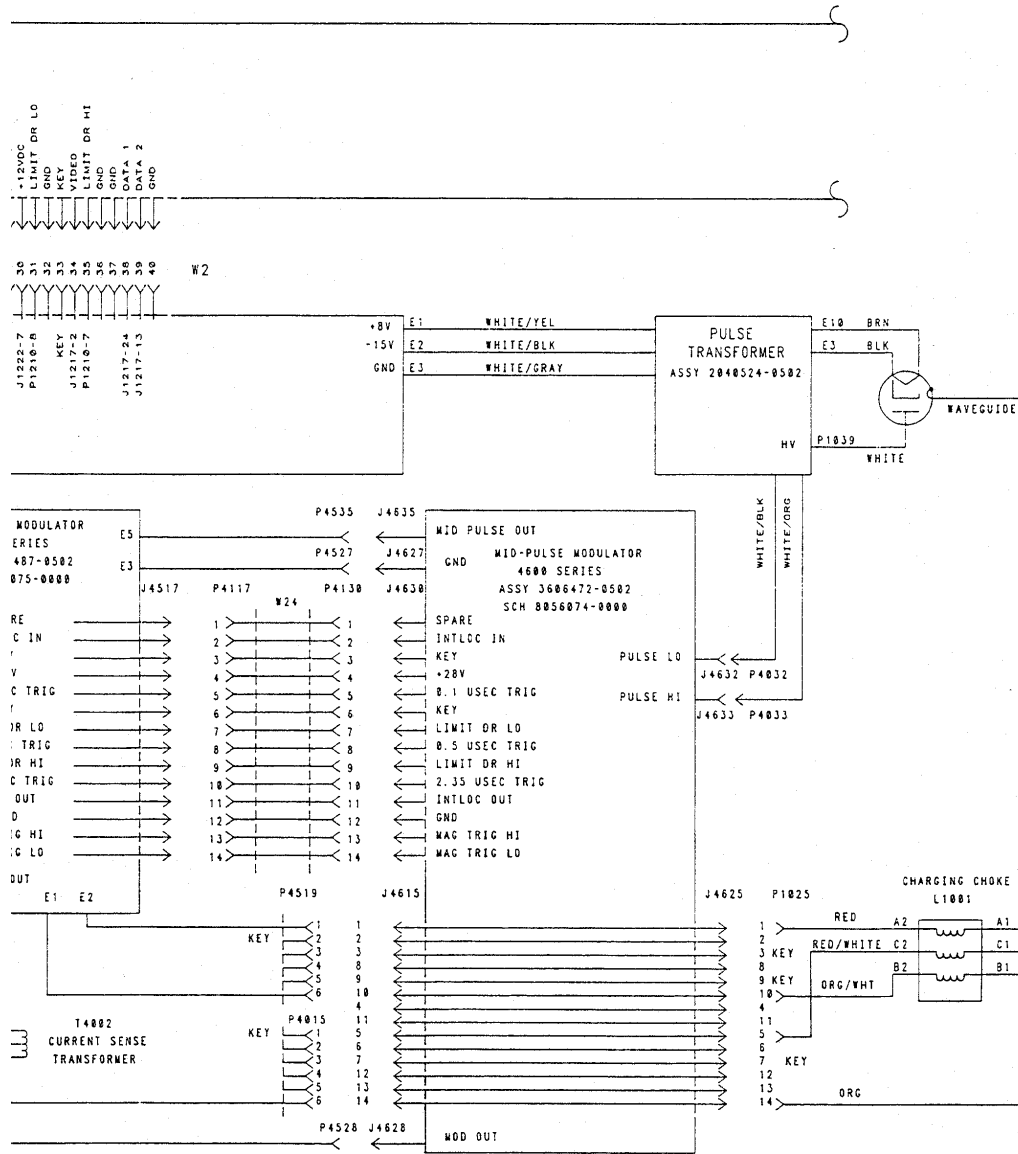
**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



Main Frame/Interconnect, Schematic Diagram (for Units with P/N 3606478-0502 Modulators Only)  
Figure 7-1.1 (Sheet 2)

I.B. 21500B  
PART 4

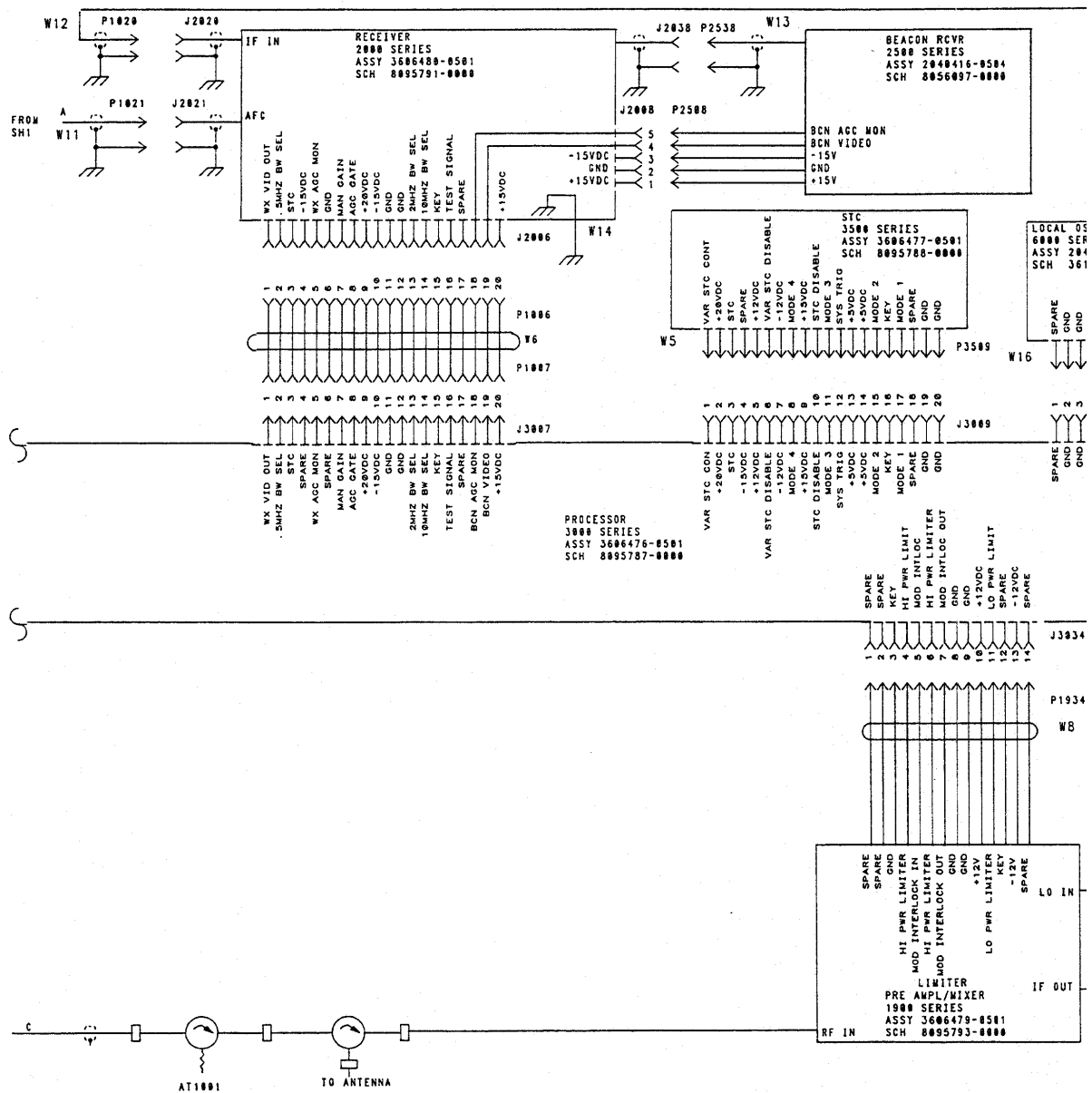
7-14.3/7-14.4  
Oct/91



4.4  
/91



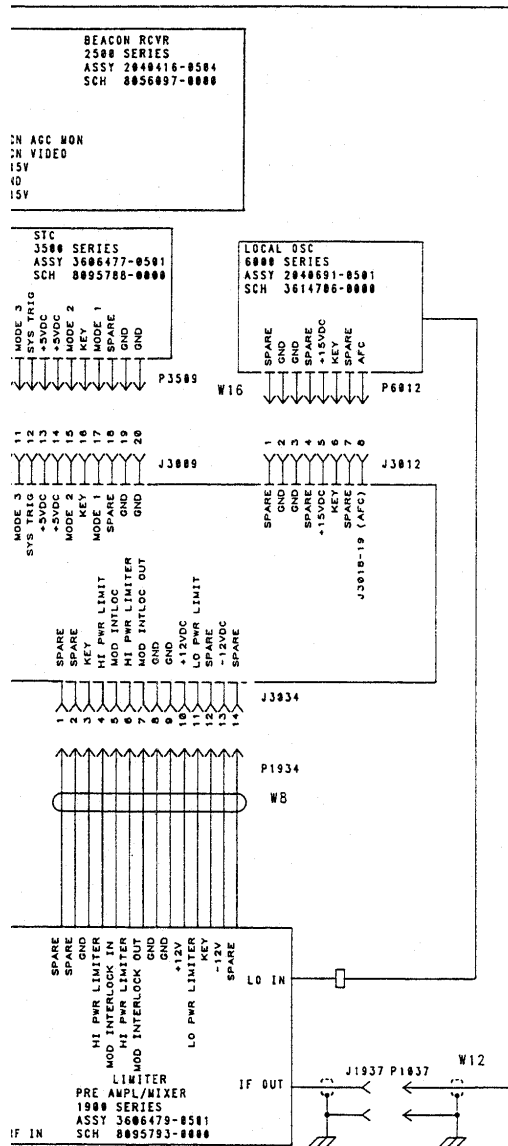
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**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**




Main Frame/Interconnect, Schematic Diagram (for Units  
with P/N 3606478-0502 Modulators Only)  
Figure 7-1.1 (Sheet 3)

I.B. 21500B  
PART 4

7-14.5/7-14.6  
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NOTES:

1. ALL RESISTANCE IN OHMS
2. ALL CAPACITANCE IN uF UNLESS OTHERWISE SPECIFIED
3. ALL INDUCTORS IN uH UNLESS OTHERWISE SPECIFIED
4. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED
5. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE; NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
6. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: R2, RV2, C16, L7, E4. (1200 SERIES ONLY)
7. CAUTION: THIS MODULE EITHER CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.



14.6  
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**MAINTENANCE MANUAL  
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**SUMMARY OF CHANGES TO**

**FRONT CONNECTOR MODULE  
P/N 2040413-0501**

SUBASSY. MOD. NO. 	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N

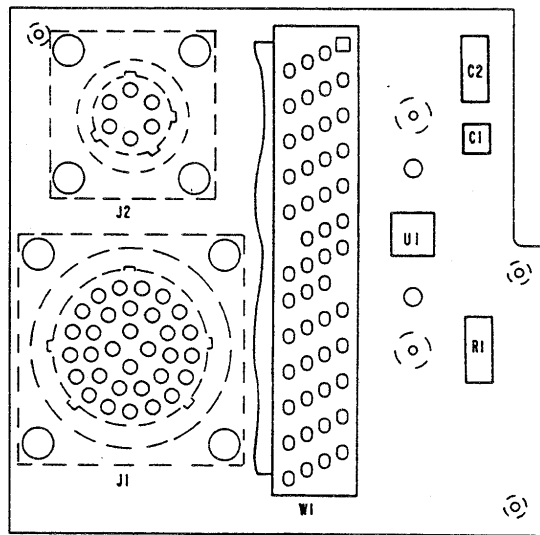
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

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PART 4

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RT-1501A RECEIVER-TRANSMITTER**



ADD 1100 TO ALL REFERENCE DESIGNATIONS

A3612995C

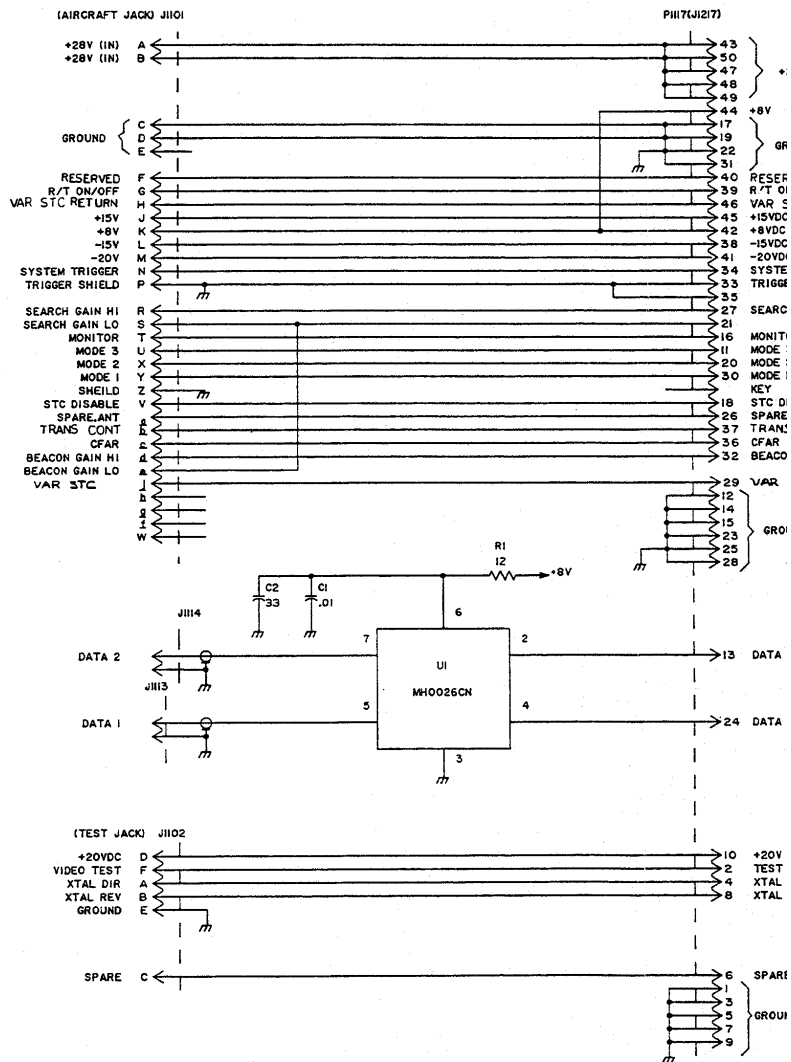
I.B. 21500B  
PART 4

Front Connector Module

7-16  
Aug 12/91

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RT-1501A RECEIVER-TRANSMITTER**

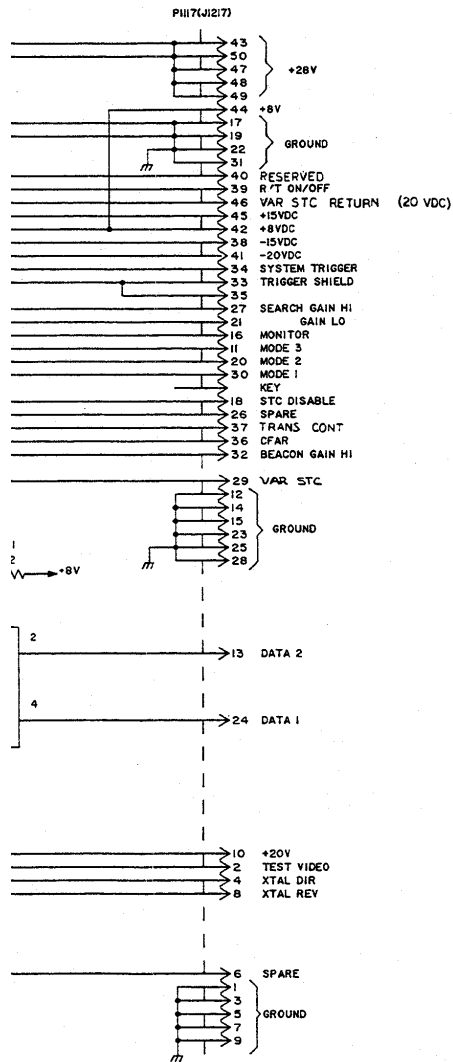


3614189 E SHT.1 OF 1


I.B. 21500B  
PART 4

Front Connector Module, Schematic Diagram  
Figure 7-2

7-17/7-18  
Aug 12/91



NOTES:

1. ALL RESISTANCE ARE IN OHMS.
2. ALL CAPACITANCE IN UF UNLESS OTHERWISE SPECIFIED.
3. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED.
4. EXCEPT FOR JACKS AND PLUGS ADD 100 TO ALL REFERENCE DESIGNATIONS.
5. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE. NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
6. NEXT CIRCUIT NUMBER TO BE USED FOR COMPONENT ADDITIONS: CS, CR, LI, QLR, 2, SI, TL, UZ, YL.



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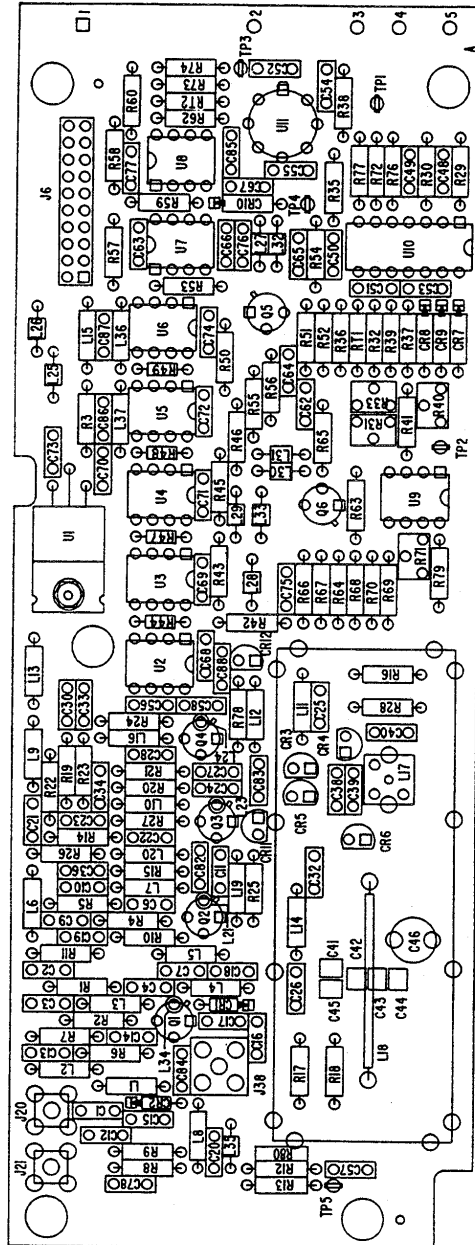
**SUMMARY OF CHANGES TO**

**RECEIVER MODULE  
P/N 3606480-0501**

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Changed value of R2004 and R2008 from 680 ohms to 200 ohms (sheet 1). To increase the gain in the afc amplifier to provide more dynamic range for the 4.5V afc lock adjustment.	- -	1120
2	Changed value of L2016 from 0.22 uH to 0.27 uH (sheet 2). To correct broadband tuning of search mode to proper 87-MHz centering with maximum amplitude.	- -	1132
3	Changed value of R2003 from 10k-ohms to 1000 ohms and C2006 from 47 picofarads to 470 picofarads (sheet 1). To prevent receiver oscillation.	1500-065	1139

\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

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**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**



NOTE: ADD 2000 TO ALL REFERENCE DESIGNATIONS.

WCB8063467AR

Receiver Module

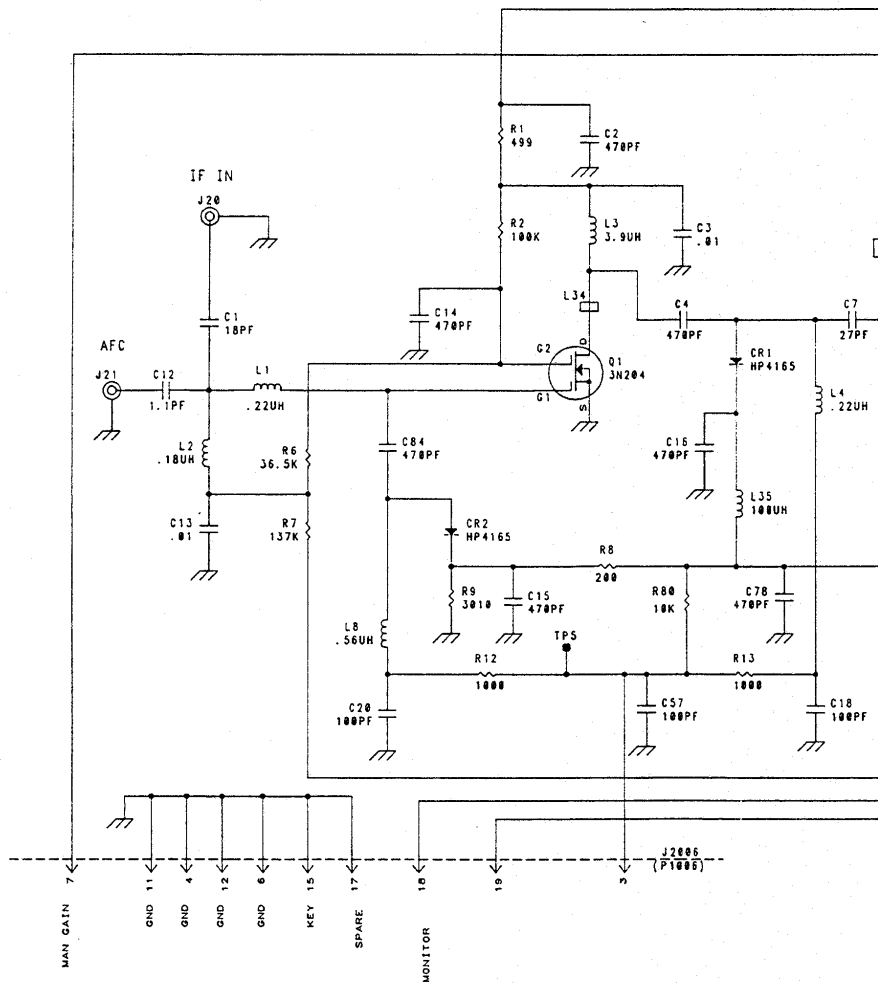
I.B. 21500B  
 PART 4

7-20  
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RT-1501A RECEIVER-TRANSMITTER**

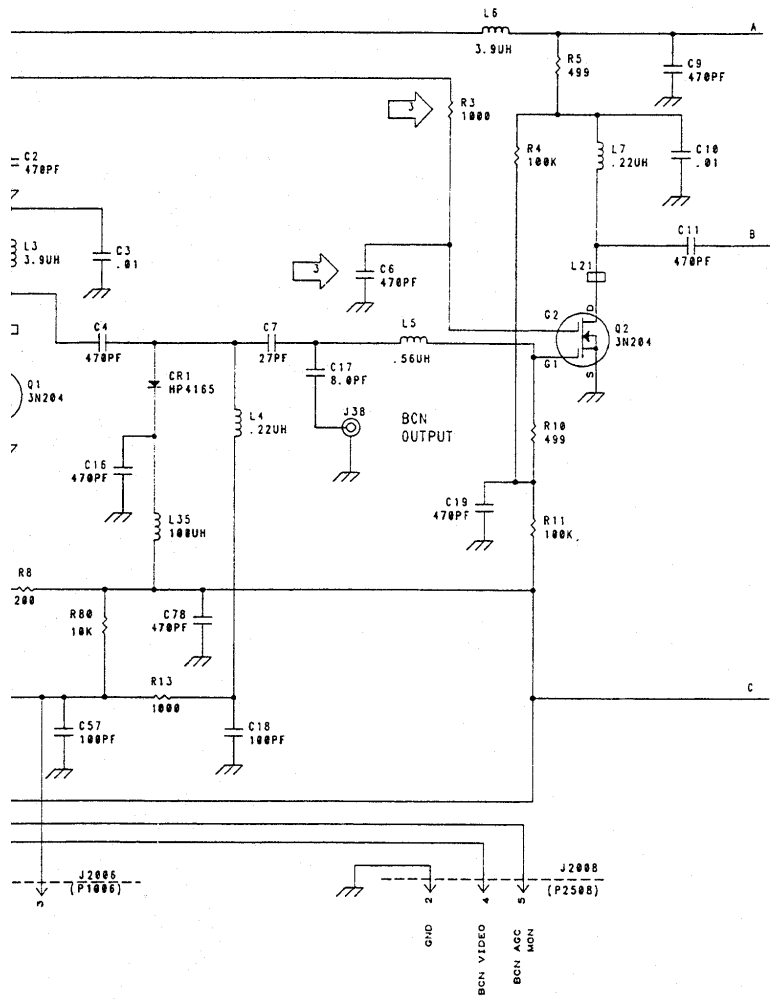


8895791A SH. 1 OF 3

I.B. 21500B  
PART 4

Receiver Module, Schematic Diagram  
Figure 7-3 (Sheet 1 of 3)

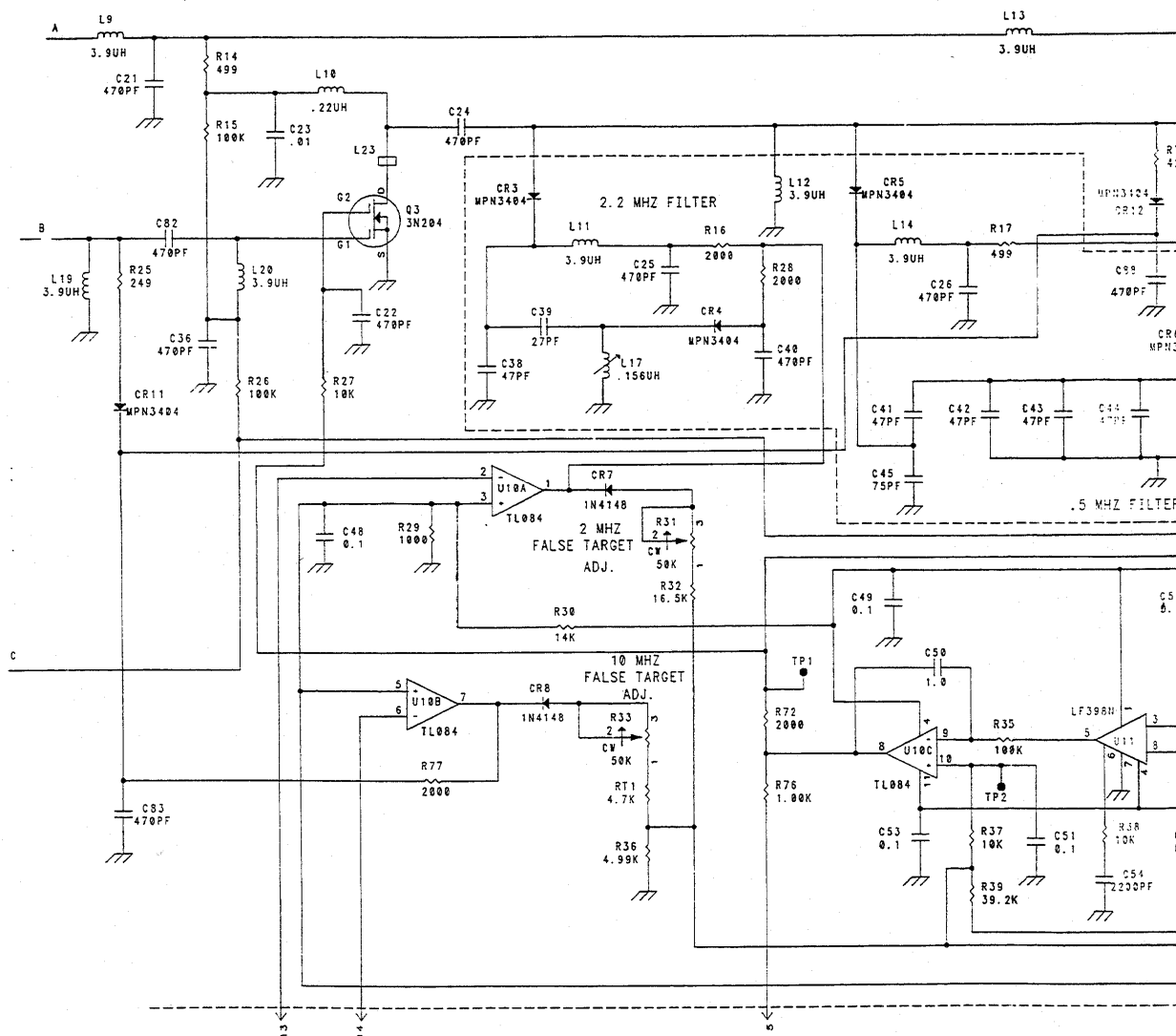
7-21/7-22  
Oct/91



/7-22  
ct/91

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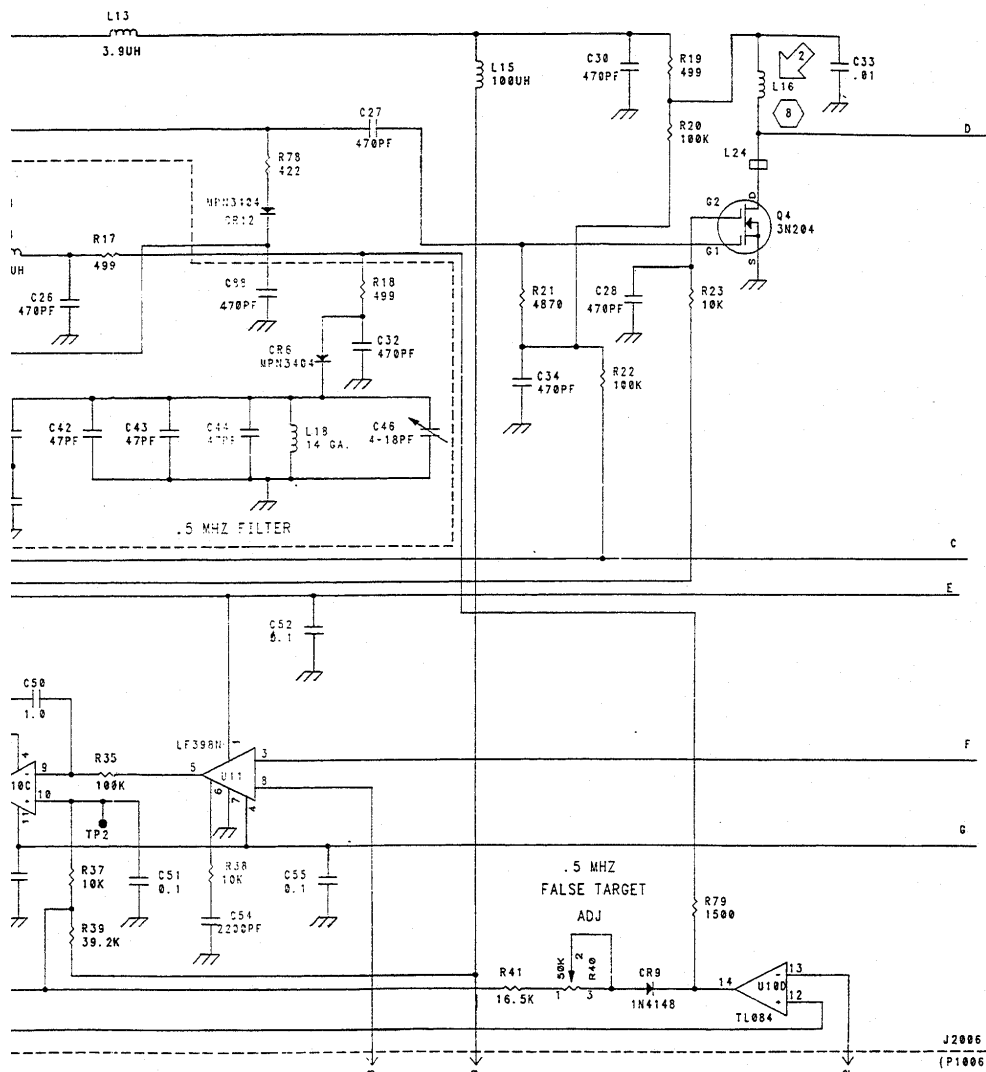


8895791C SH. 2 OF 3

I.B. 21500B  
PART 4

Receiver Module, Schematic Diagram  
Figure 7-3 (Sheet 2)

7-23/7-24  
Oct/91



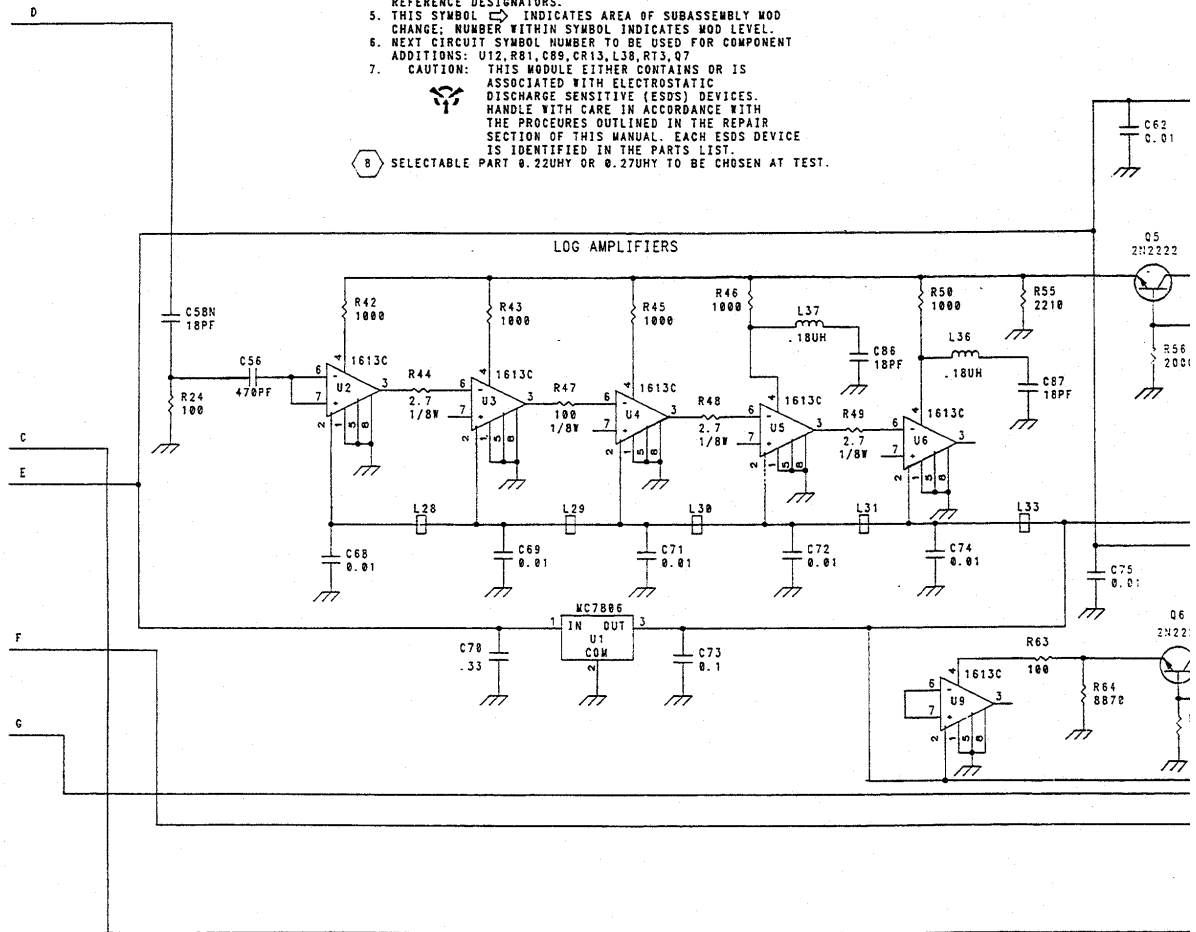
-24  
/91

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RT-1501A RECEIVER-TRANSMITTER**

**NOTES:**

1. ALL RESISTANCE IN OHMS
  2. ALL CAPACITANCE IN  $\mu$ F UNLESS OTHERWISE SPECIFIED
  3. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED
  4. EXCEPT FOR PLUGS AND JACKS ADD 2000 TO ALL REFERENCE DESIGNATORS.
  5. THIS SYMBOL  $\Rightarrow$  INDICATES AREA OF SUBASSEMBLY MOD CHANGE; NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
  6. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: U12,R81,C89,CR13,L38,RT3,Q7
  7. CAUTION: THIS MODULE EITHER CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.
- $\square$  SELECTABLE PART 0.22UHY OR 0.27UHY TO BE CHOSEN AT TEST.

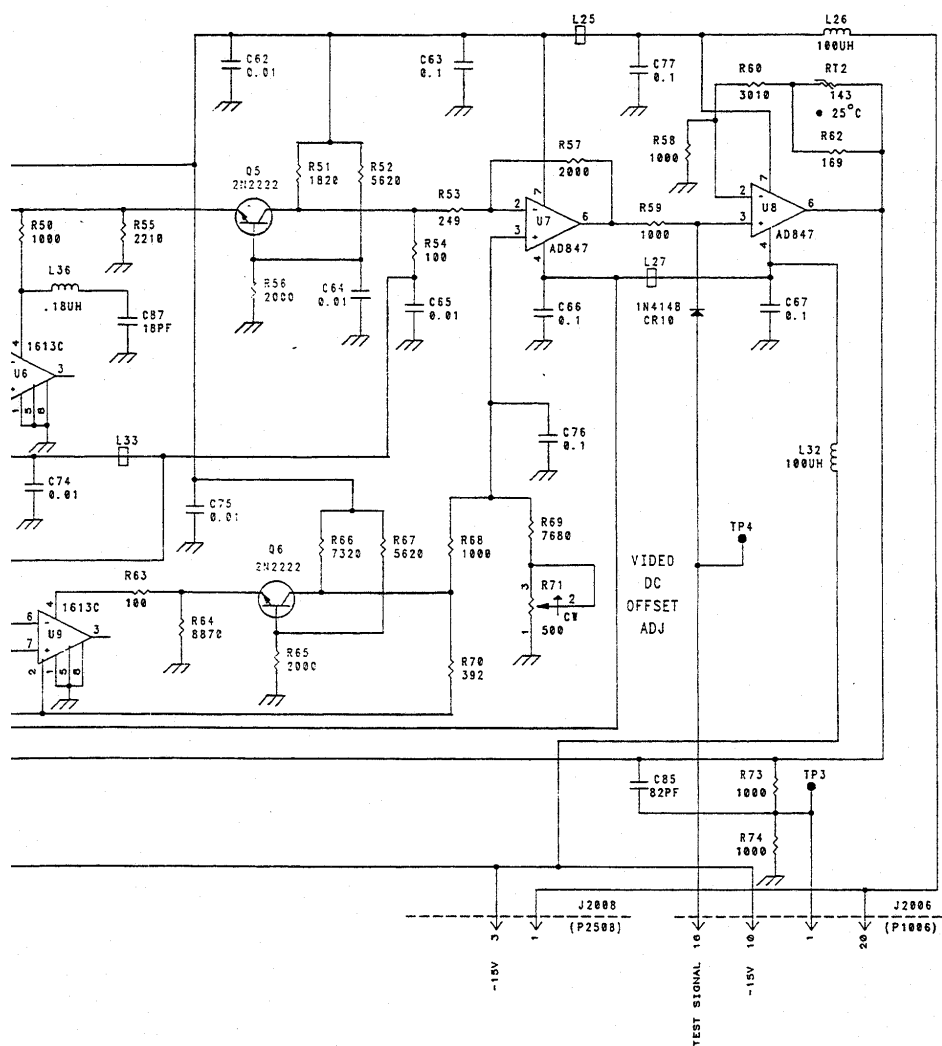


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I.B. 21500B  
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Receiver Module, Schematic Diagram  
Figure 7-3 (Sheet 3)

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**SUMMARY OF CHANGES TO**  
**BEACON MODULE**  
**P/N 2040416-0503**

SUBASSY. MOD. NO. 	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N

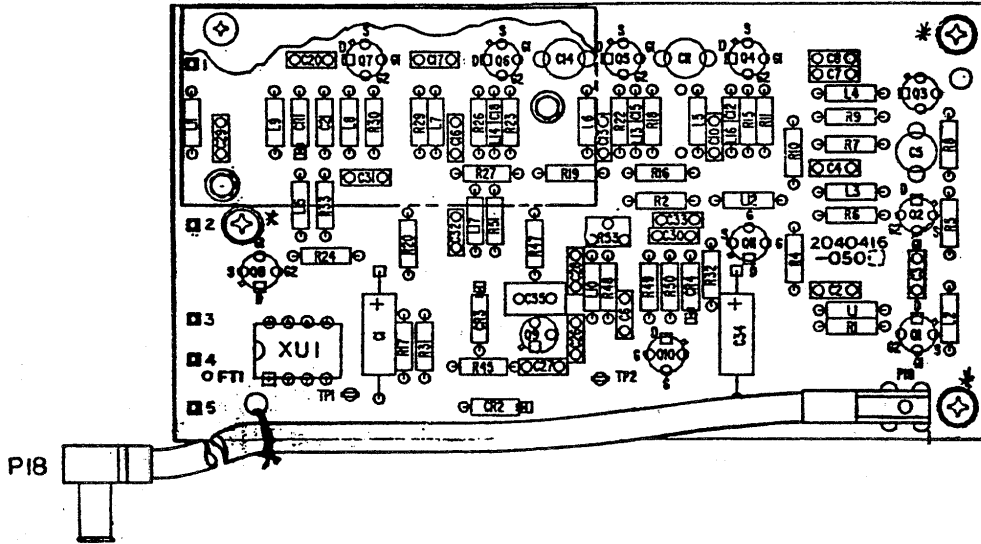
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

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Aug 12/91

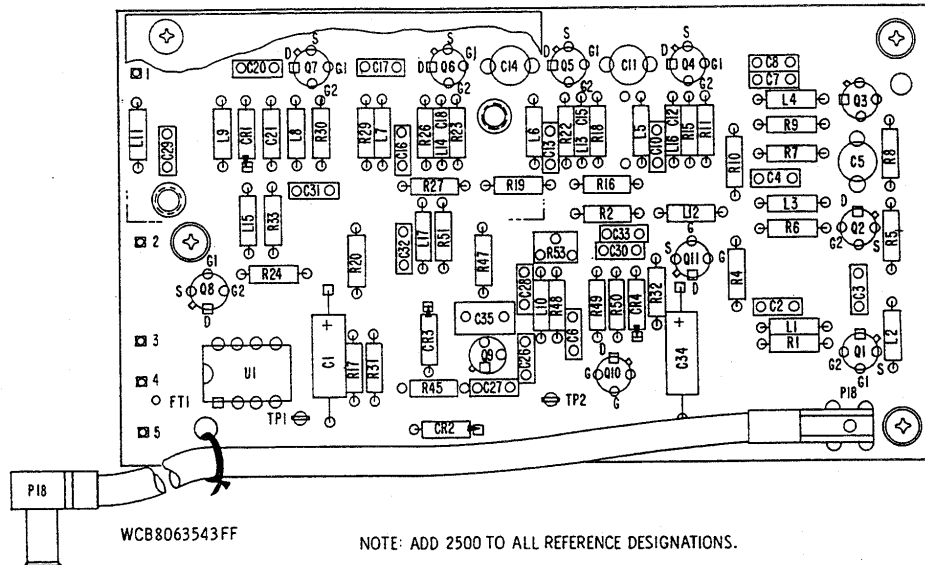
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RT-1501A RECEIVER-TRANSMITTER



WCA8063495EE

NOTE: ADD 2500 TO ALL REFERENCE DESIGNATIONS.



WCB8063543FF

NOTE: ADD 2500 TO ALL REFERENCE DESIGNATIONS.

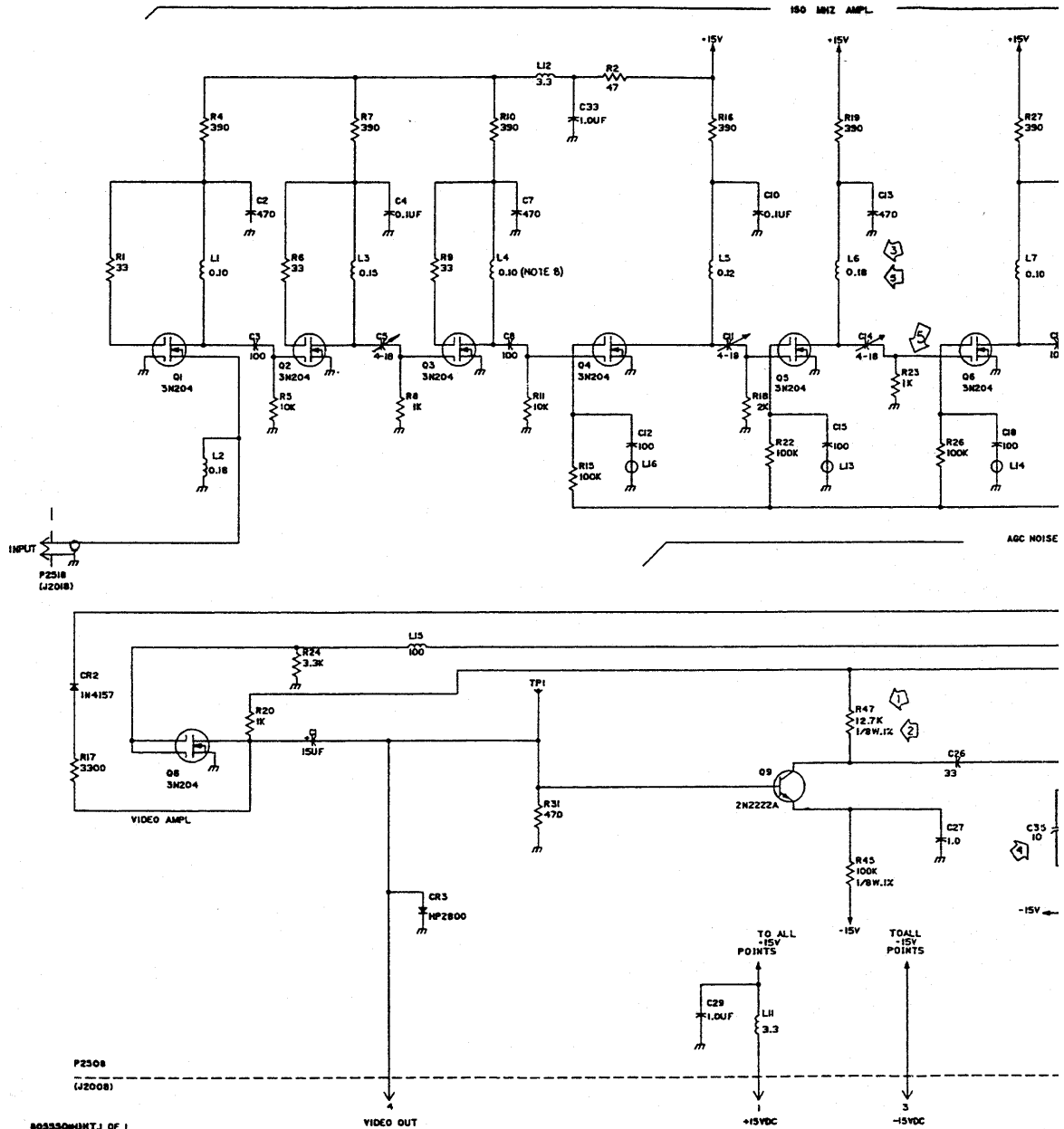
Beacon Module

I.B. 21500B  
PART 4

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Oct/91



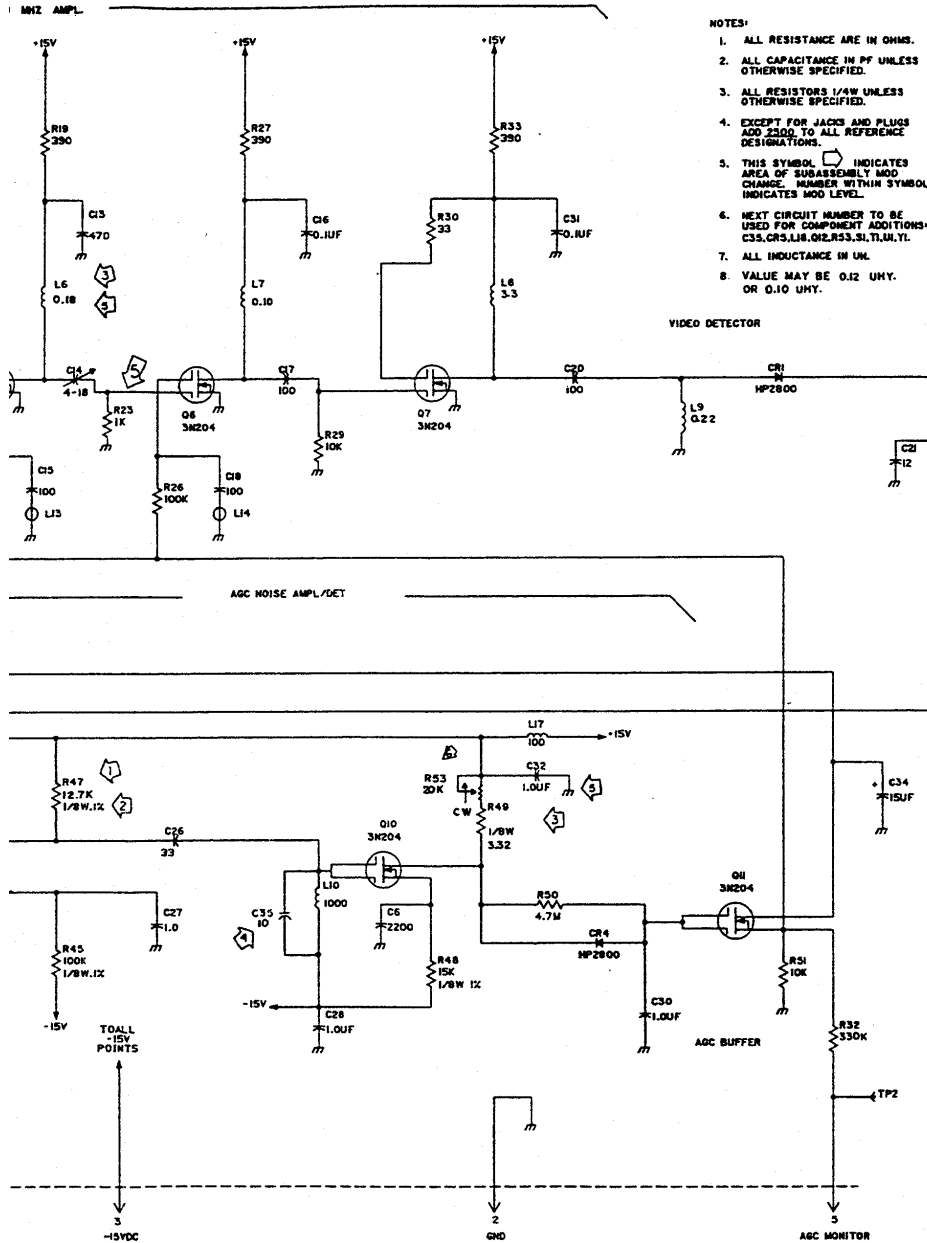
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 MAINTENANCE MANUAL  
 RT-1501A RECEIVER-TRANSMITTER




I.B. 21500B  
 PART 4

Beacon Module, Schematic Diagram  
 Figure 7-4

7-29/7-30  
 Aug 12/91



- NOTES:
1. ALL RESISTANCE ARE IN OHMS.
  2. ALL CAPACITANCE IN PF UNLESS OTHERWISE SPECIFIED.
  3. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED.
  4. EXCEPT FOR JACKS AND PLUGS ADD 2500 TO ALL REFERENCE DESIGNATIONS.
  5. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE. NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
  6. NEXT CIRCUIT NUMBER TO BE USED FOR COMPONENT ADDITIONS: C35,CR5,L18,012,R53,SI,TI,M,YI.
  7. ALL INDUCTANCE IN UH.
  8. VALUE MAY BE 0.12 UHY. OR 0.10 UHY.

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**SUMMARY OF CHANGES TO**

**PROCESSOR MODULE  
P/N 3606476-0501**

SUBASSY. MOD. NO. 	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Added C3057 to variable STC disable circuit (sheet 2). To correct afc sample timing.	1500-050	1116, 1114, 1112, & 1110

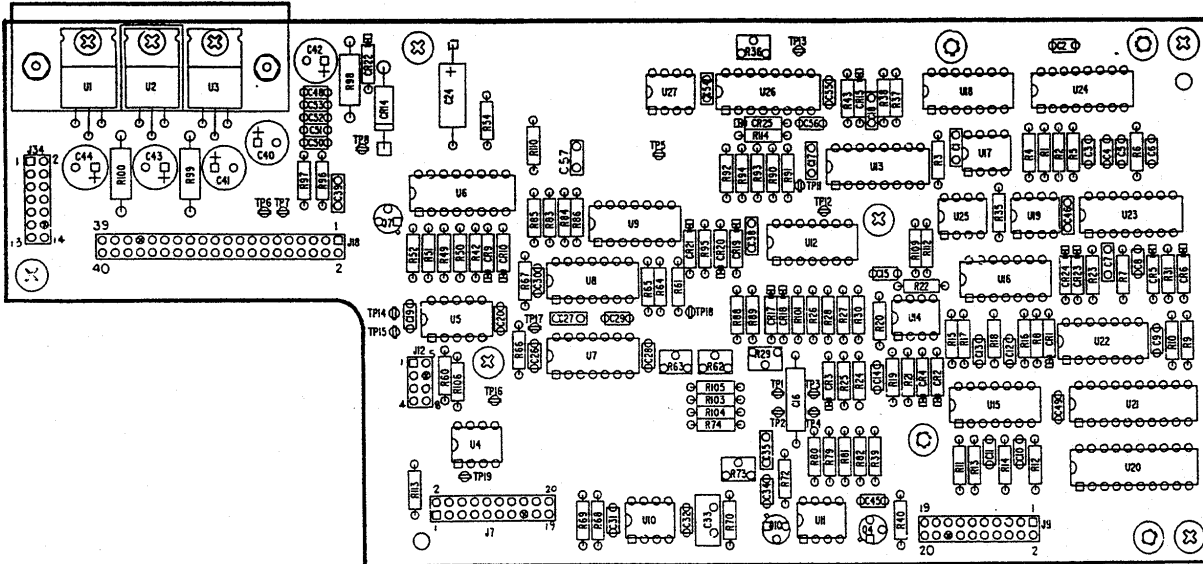
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

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7-31/7-32  
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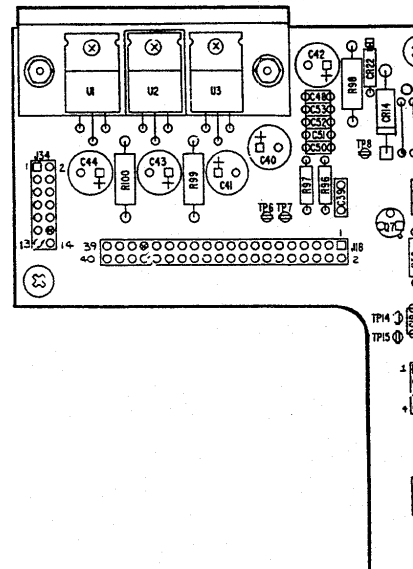
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RT-1501A RECEIVER-TRANSMITTER**



WC88063456

NOTE: ADD 3000 TO ALL REFERENCE DESIGNATIONS.

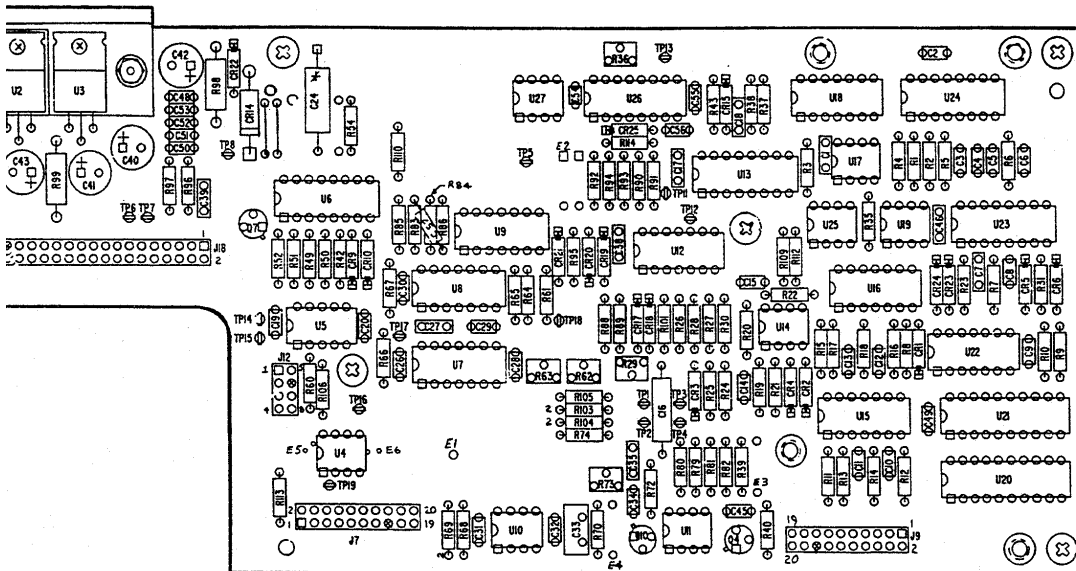
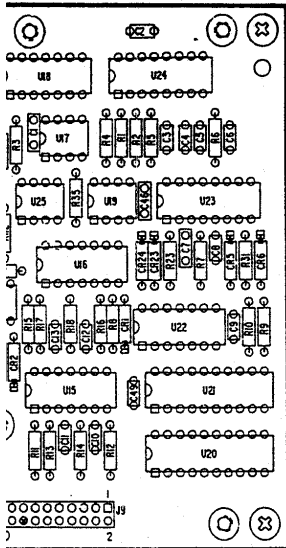


WC88063455BDN

Processor Module

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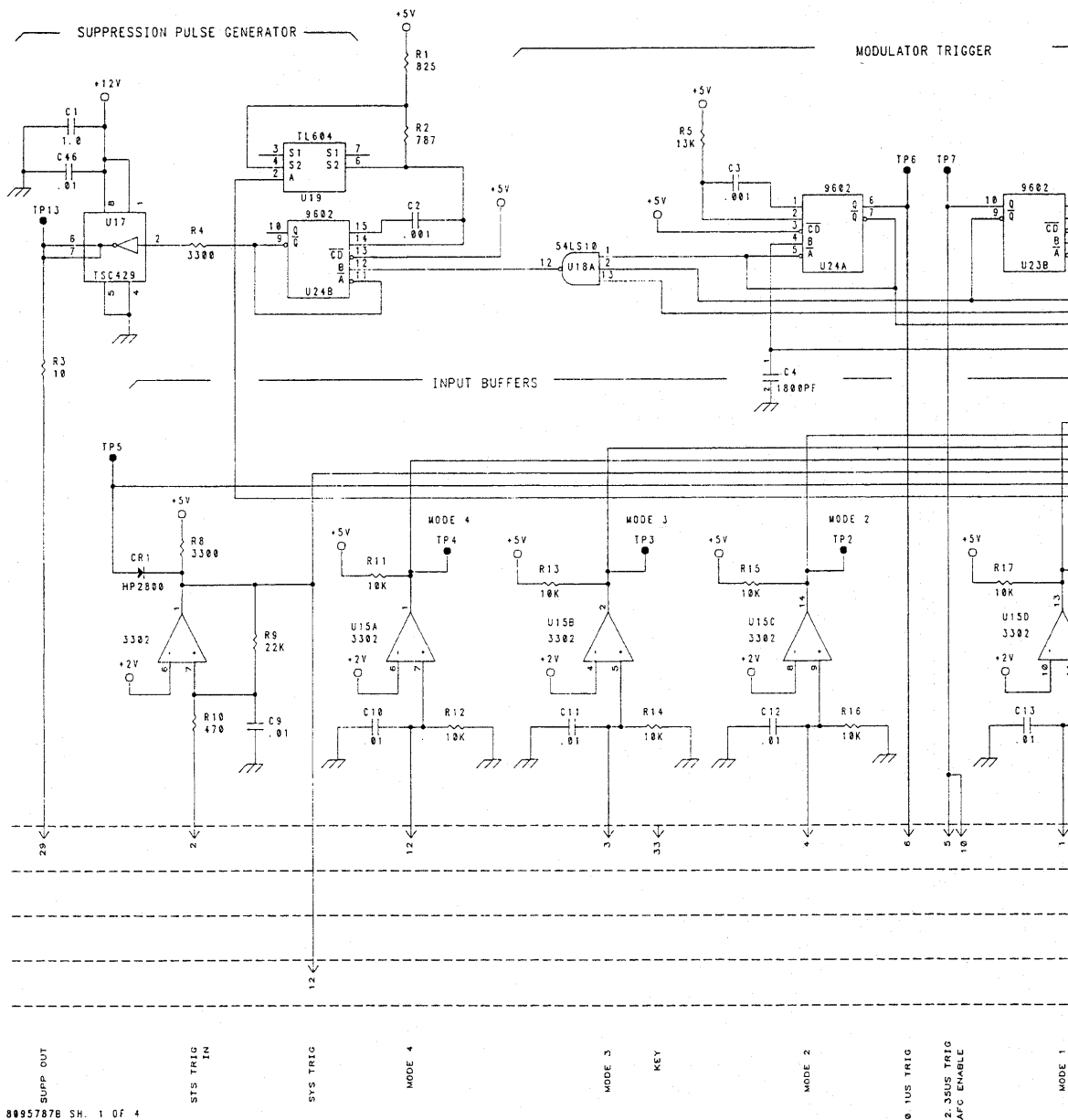
BDN

NOTE: ADD 3000 TO ALL REFERENCE DESIGNATIONS.

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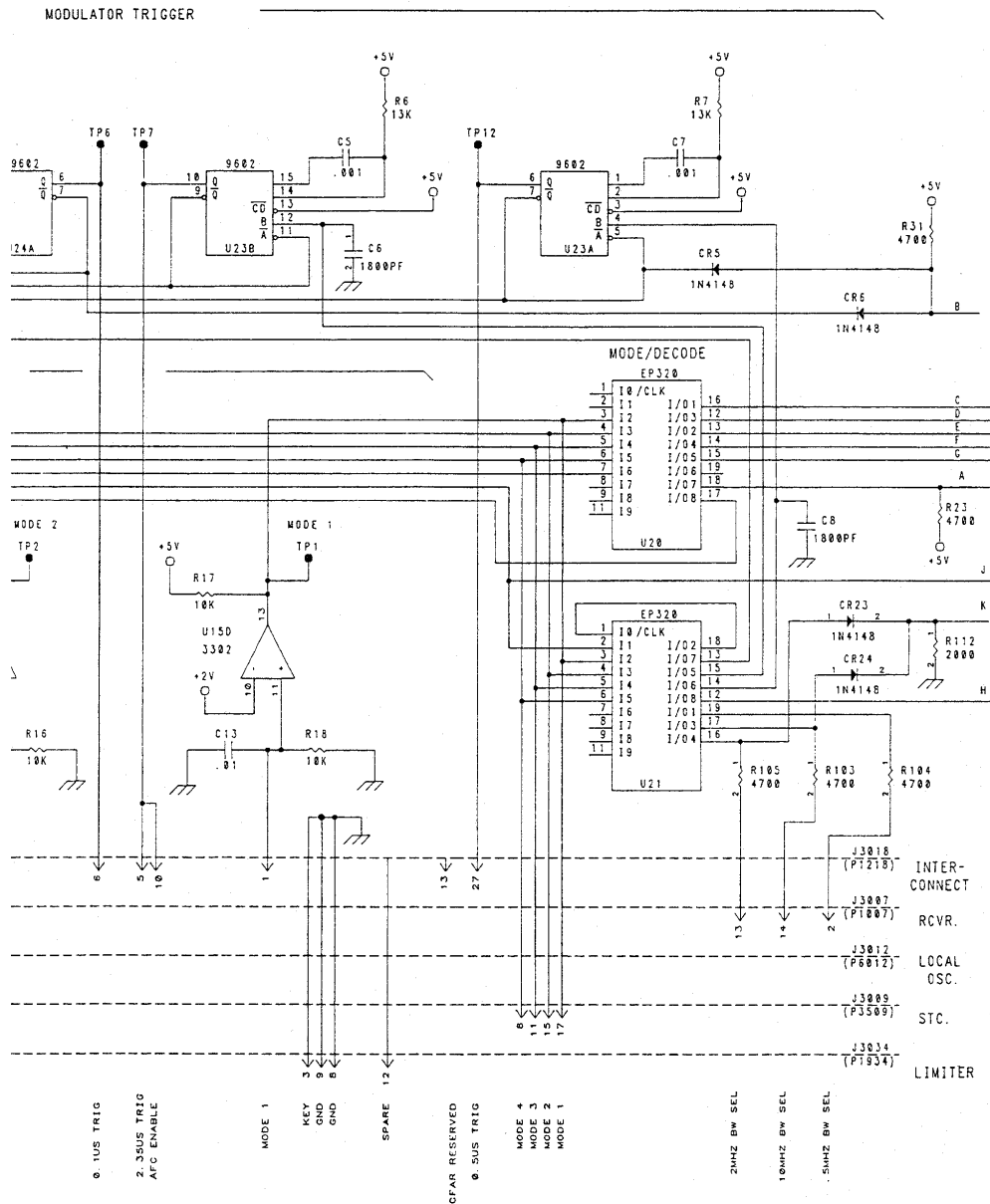
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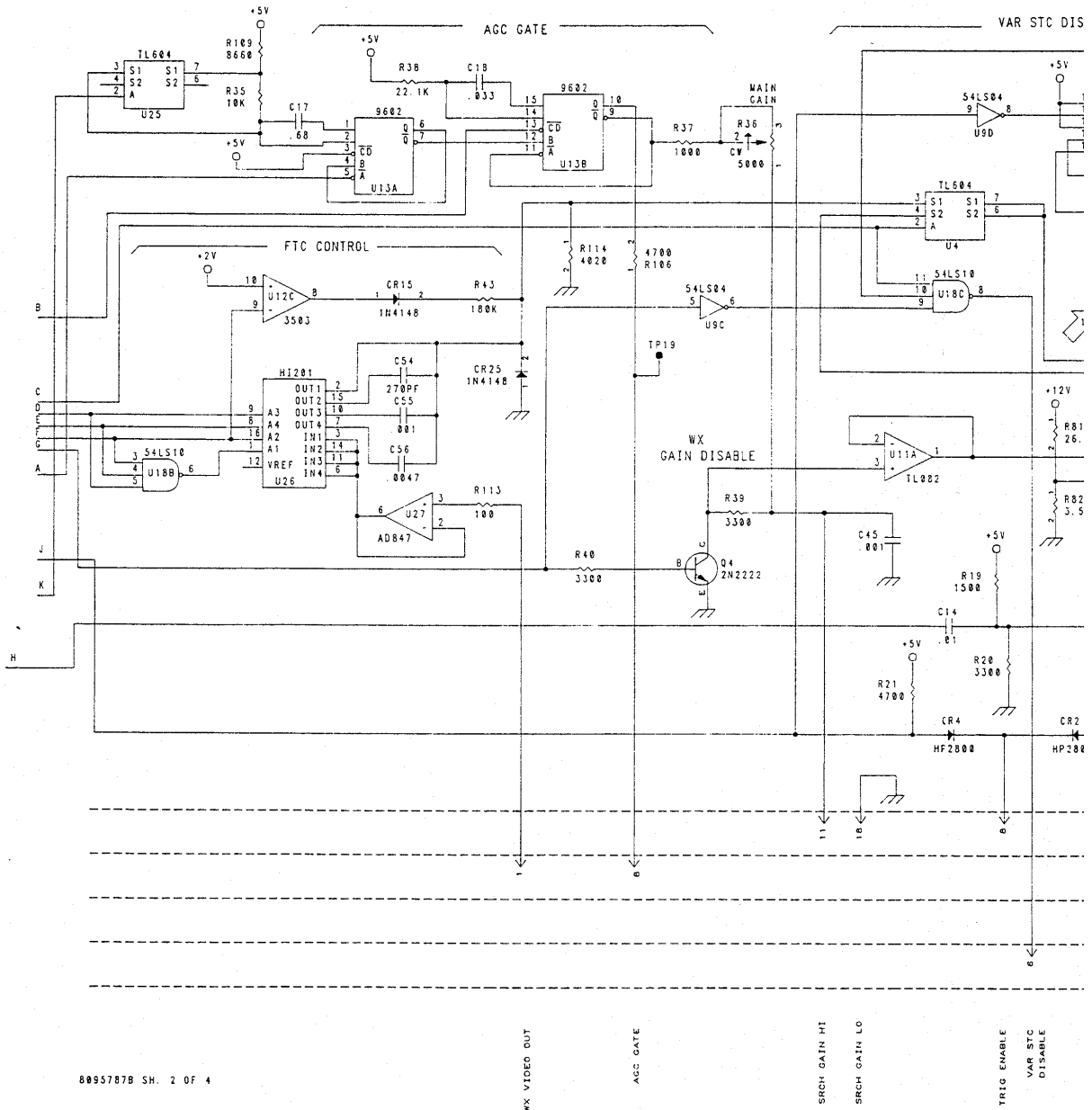
Processor Module, Schematic Diagram  
Figure 7-5 (Sheet 1 of 4)

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7-35/7-36  
Aug 12/91



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**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**



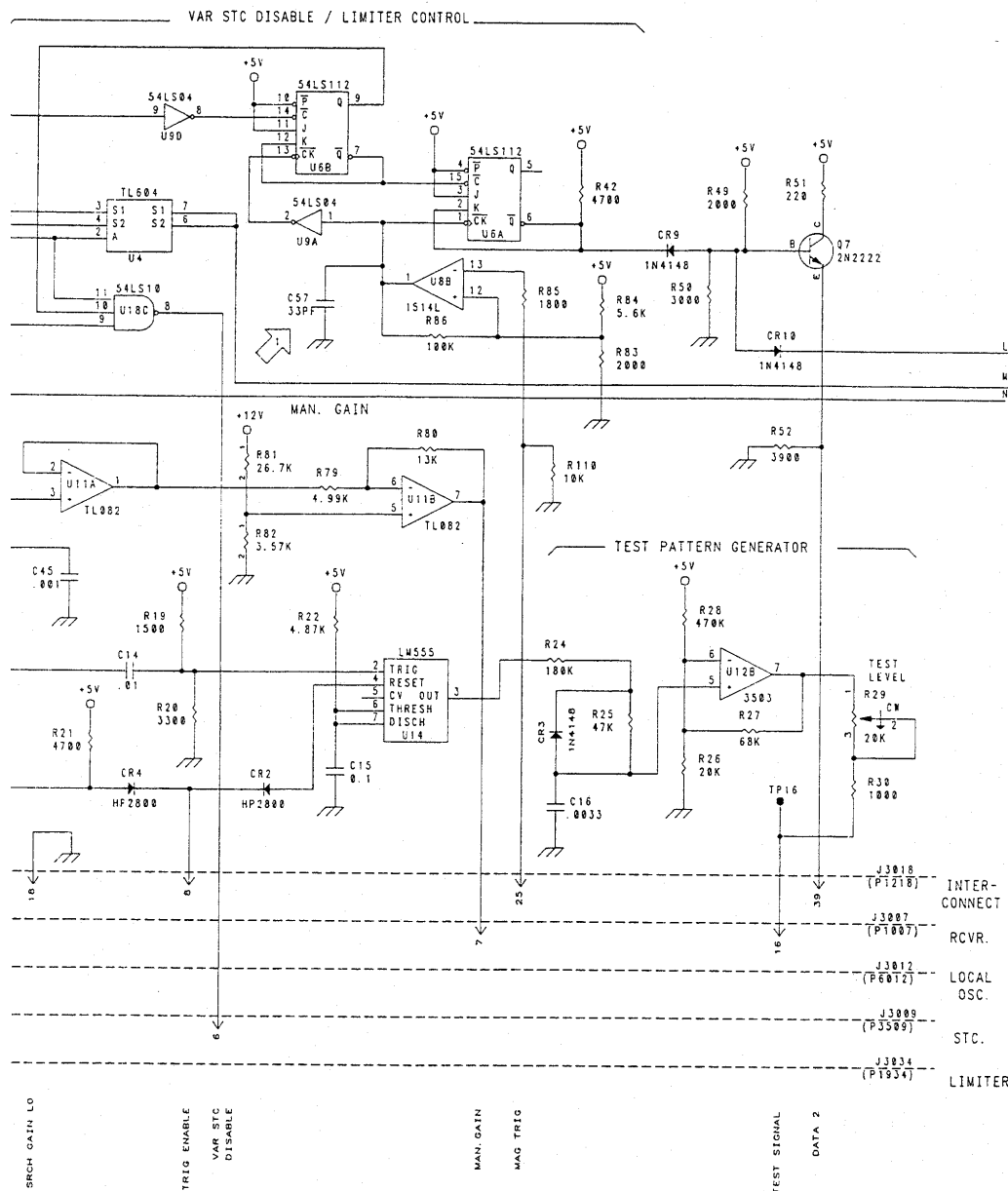
8895787B SH. 2 OF 4

Processor Module, Schematic Diagram  
 Figure 7-5 (Sheet 2)

I.B. 21500B  
 PART 4

7-37/7-38  
 Aug 12/91

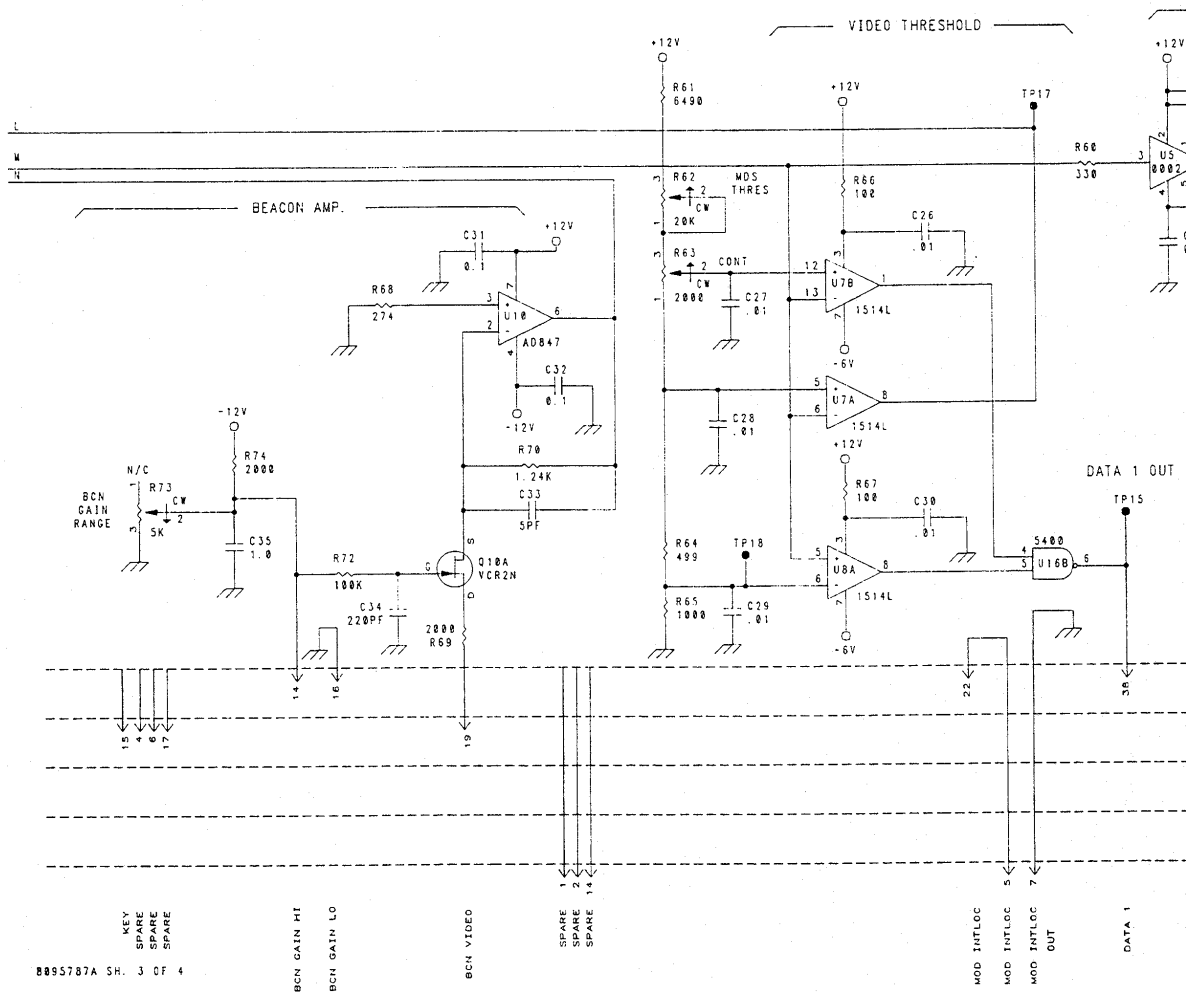




-38  
/91

BENDIX/KING

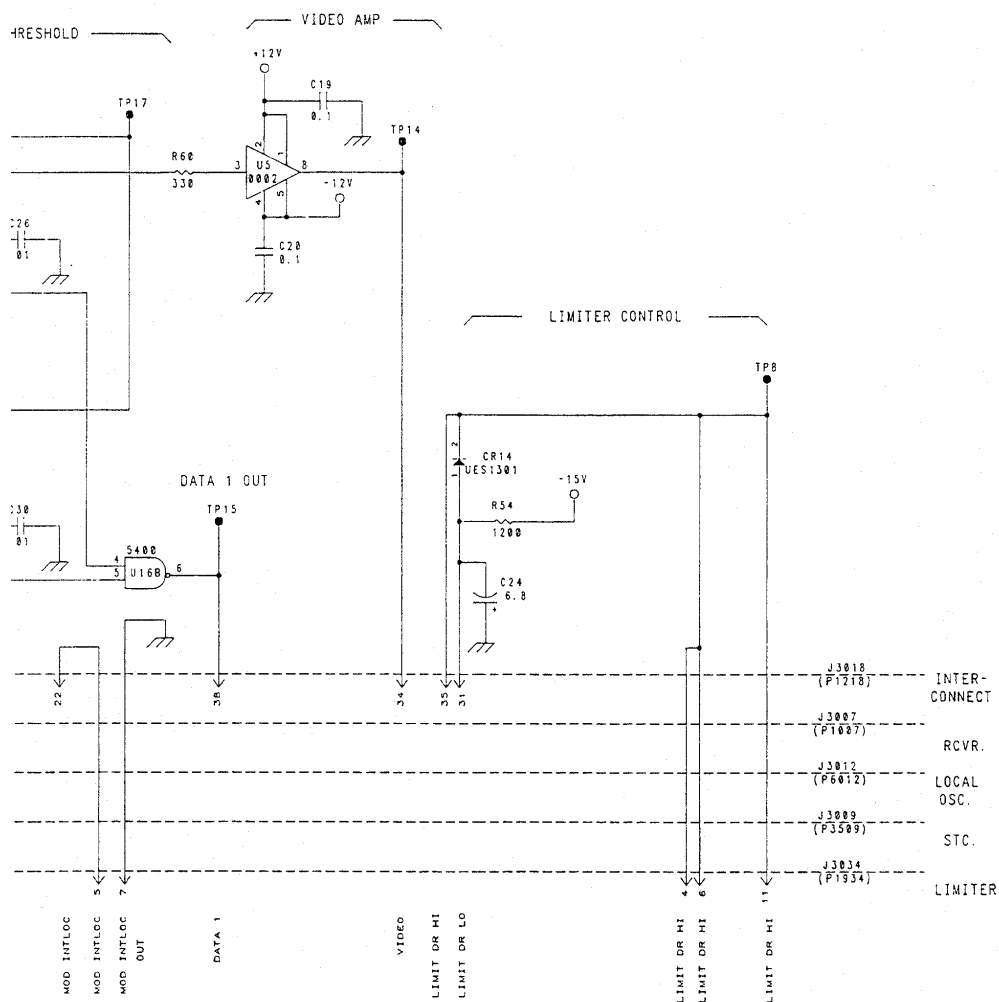
MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER



I.B. 21500B  
PART 4

Processor Module, Schematic Diagram  
Figure 7-5 (Sheet 3)

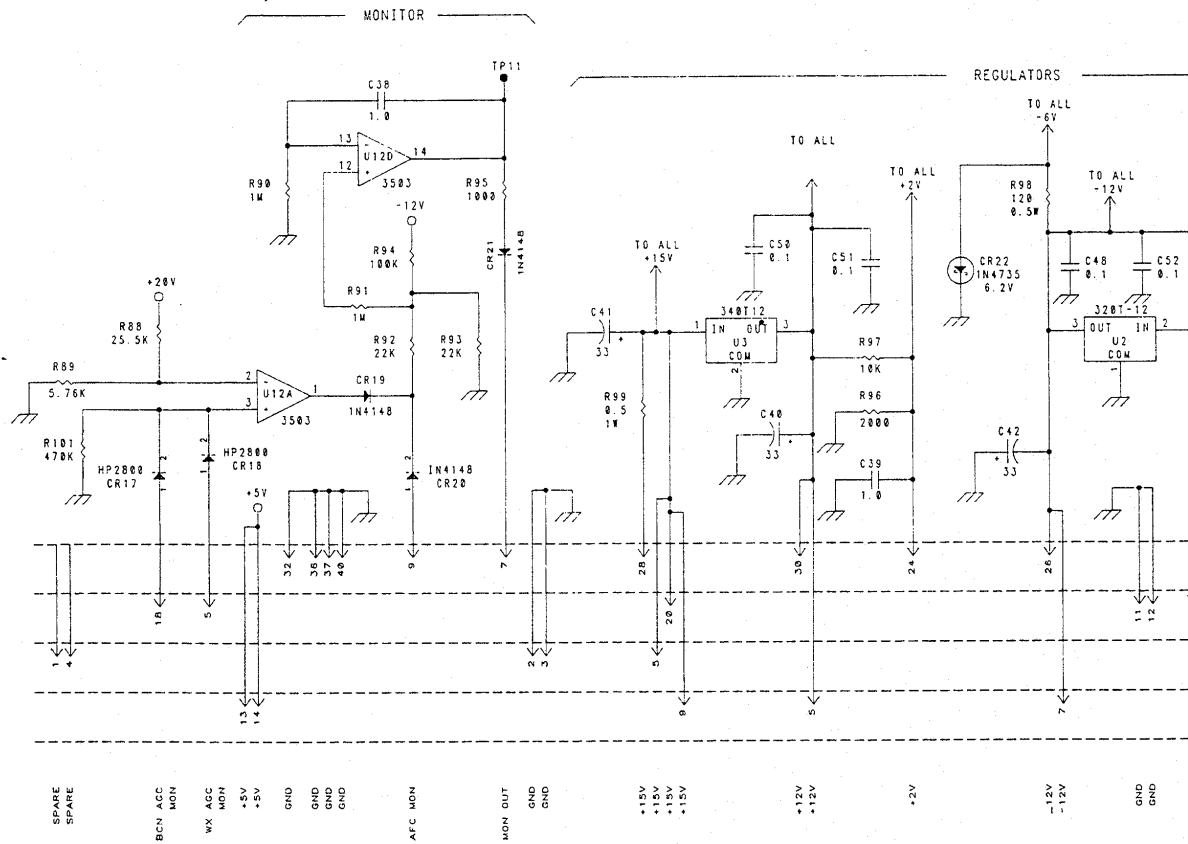
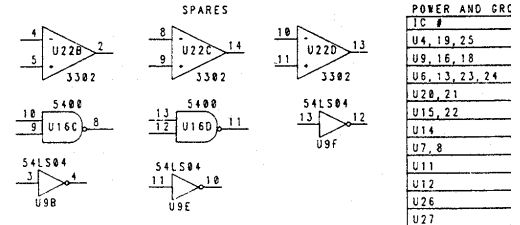
7-39/7-40  
Aug 12/91



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/91

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



8895787A SH. 4 OF 4

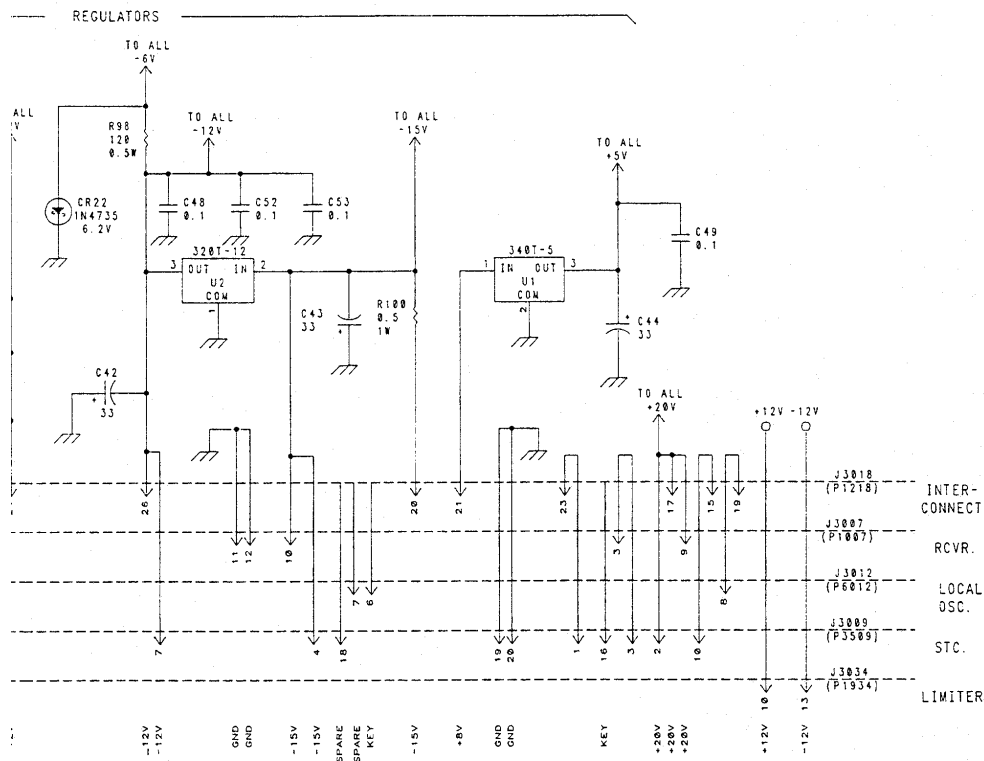
Processor Module, Schematic Diagram  
Figure 7-5 (Sheet 4)

I.B. 21500B  
PART 4

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Aug 12/91

POWER AND GROUND TABLE				
IC #	IC #	GND	+5	+12 -12
U4, 19, 25	1	8	5	
U9, 16, 18	7	14		
U6, 13, 23, 24	8	16		
U20, 21	10	20		
U15, 22	12	3		
U14	1	8		
U7, 8	11			
U11		8	4	
U12		4	11	
U26	5	13	4	
U27		7	4	

- NOTES:
1. ALL RESISTANCE IN OHMS
  2. ALL CAPACITANCE IN UF UNLESS OTHERWISE SPECIFIED
  3. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED
  4. EXCEPT FOR PLUGS AND JACKS ADD 3000 TO ALL REFERENCE DESIGNATORS.
  5. THIS SYMBOL INDICATES AREA OF SUBASSEMBLY MOD CHANGE; NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
  6. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: U28, R114, C57, CR26, L5, Q11, TP21.
  7. CAUTION: THIS MODULE EITHER CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.





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MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER

SUMMARY OF CHANGES TO

MODULATOR REGULATOR MODULE  
P/N 3606486-0501 AND -0502

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Replaced 4.7V Zener diode CR4016 (1N750A) with 6.8V Zener diode (1N754A).	- -	1125

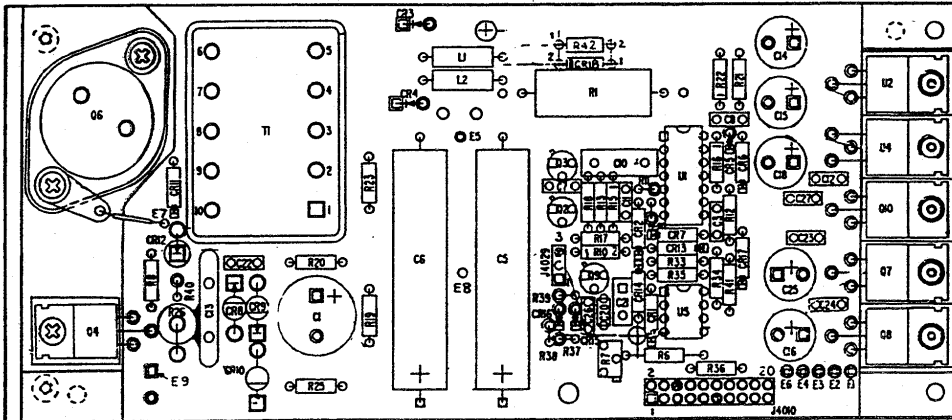
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

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Aug 12/91

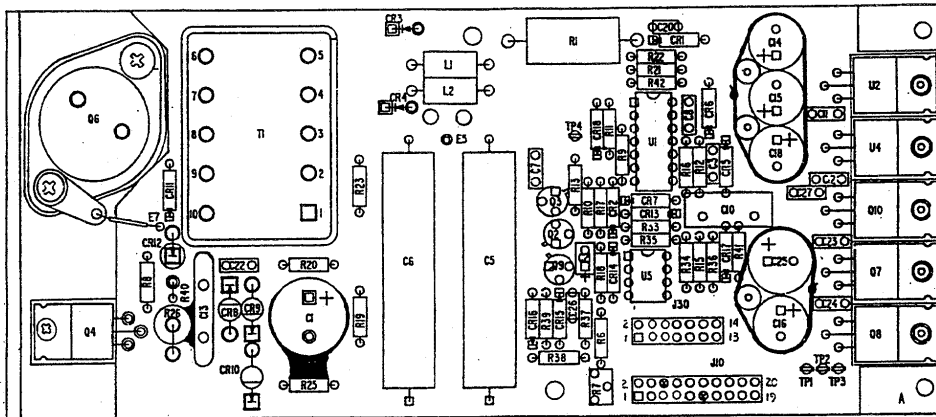
**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



WCB8063459 F

NOTE: ADD 4000 TO ALL REFERENCE DESIGNATIONS.



WCB8063459 AF

NOTE: ADD 4000 TO ALL REFERENCE DESIGNATIONS.

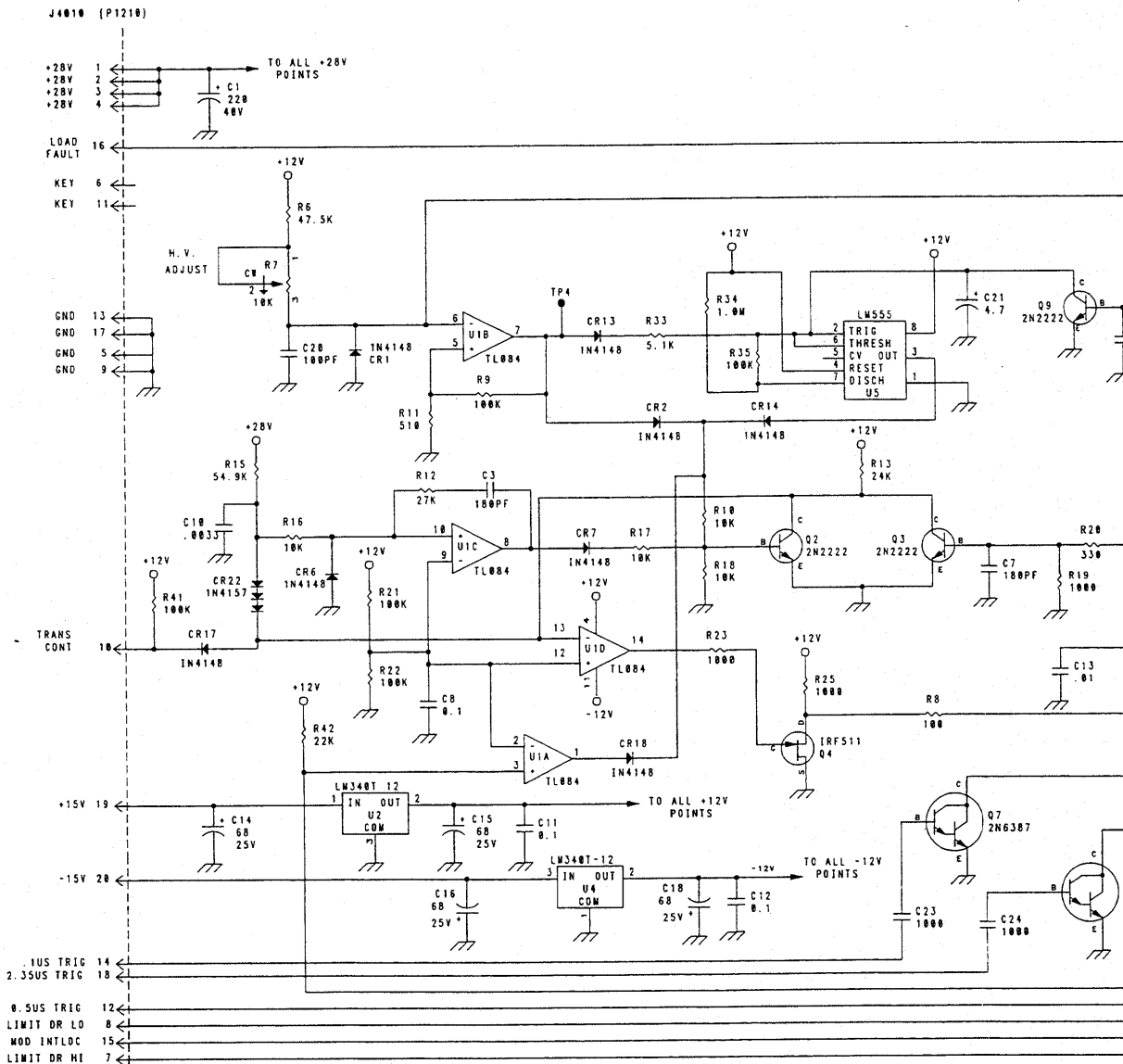
**Modulator Regulator Module**

I.B. 21500B  
PART 4

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Oct/91

BENDIX/KING

MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER



893586A SH. 1 OF 1

Modulator Regulator Module, Schematic Diagram  
Figure 7-6

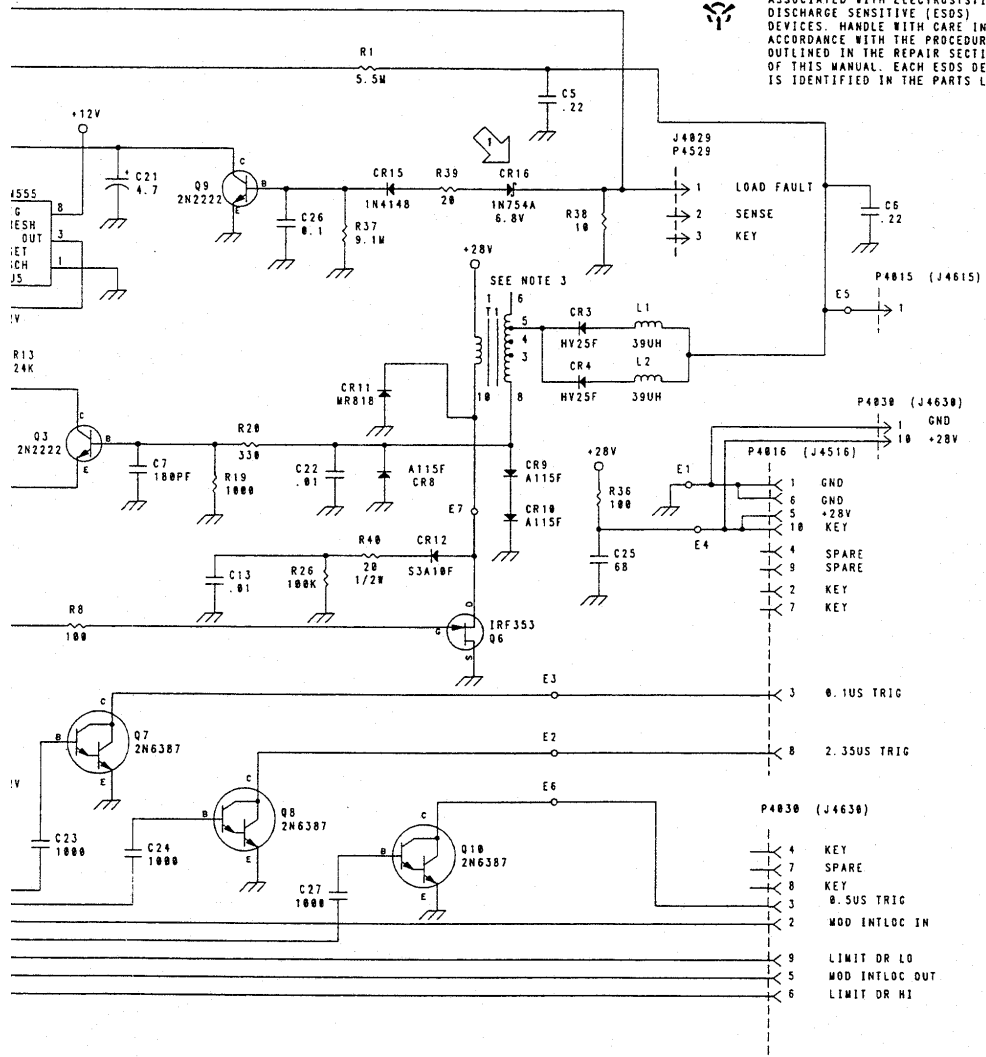
I.B. 21500B  
PART 4

7-45/7-46  
Oct/91



- NOTES:
1. RESISTORS ARE IN OHMS 1/4 WATT UNLESS OTHERWISE NOTED.
  2. CAPACITANCE IN UF UNLESS OTHERWISE NOTED.
  3. SELECT TAP IN TEST.
  4. NEXT CIRCUIT SYMBOL TO BE USED FOR COMPONENT
- ADDITIONS: CR19, R41, L3, T2, U6, Q11, C27
5. EXCEPT FOR PLUGS AND JACKS, ADD 4800 TO ALL REFERENCE DESIGNATORS.

6. CAUTION: THIS MODULE CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.



'-46  
/91



**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

**SUMMARY OF CHANGES TO**

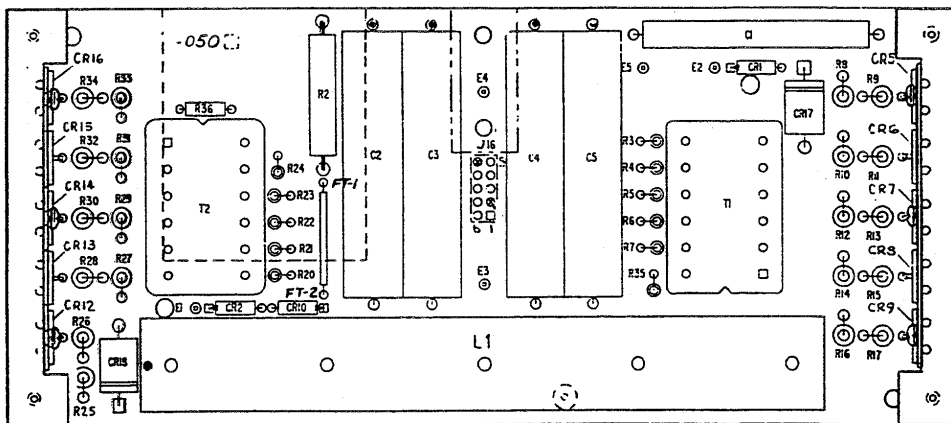
S/L PULSE MODULATOR MODULE  
P/N 3606487-0501 AND -0502

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Mechanical changes to eliminate high-voltage arcing above 20,000 feet. Does not affect schematic diagram.	1500-060	1139

\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



WCB8063464 AD

NOTE: ADD 4500 TO ALL REFERENCE DESIGNATIONS.

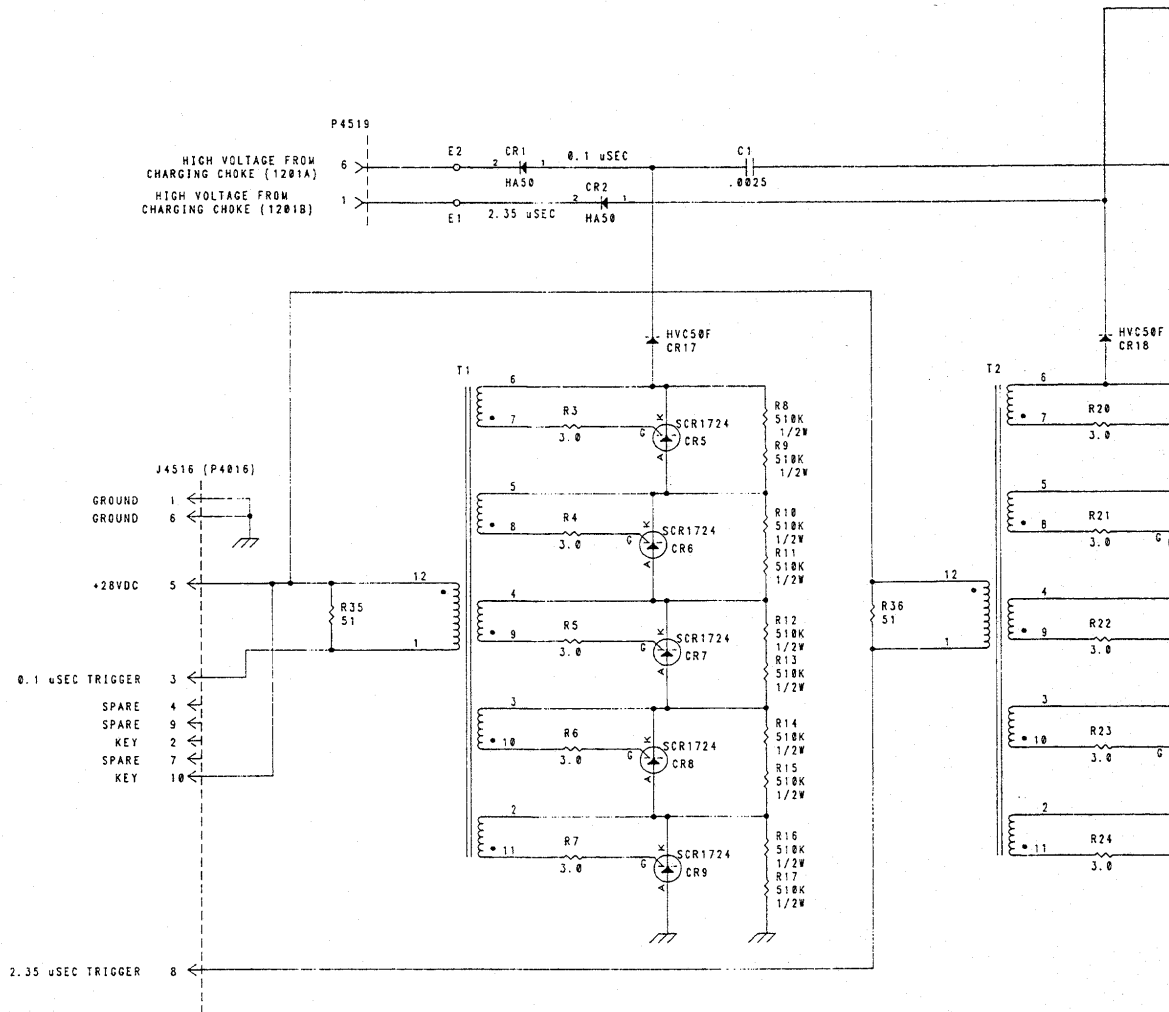
I.B. 21500B  
PART 4

S/L Pulse Modulator Module

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Aug 12/91

BENDIX/KING

MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER

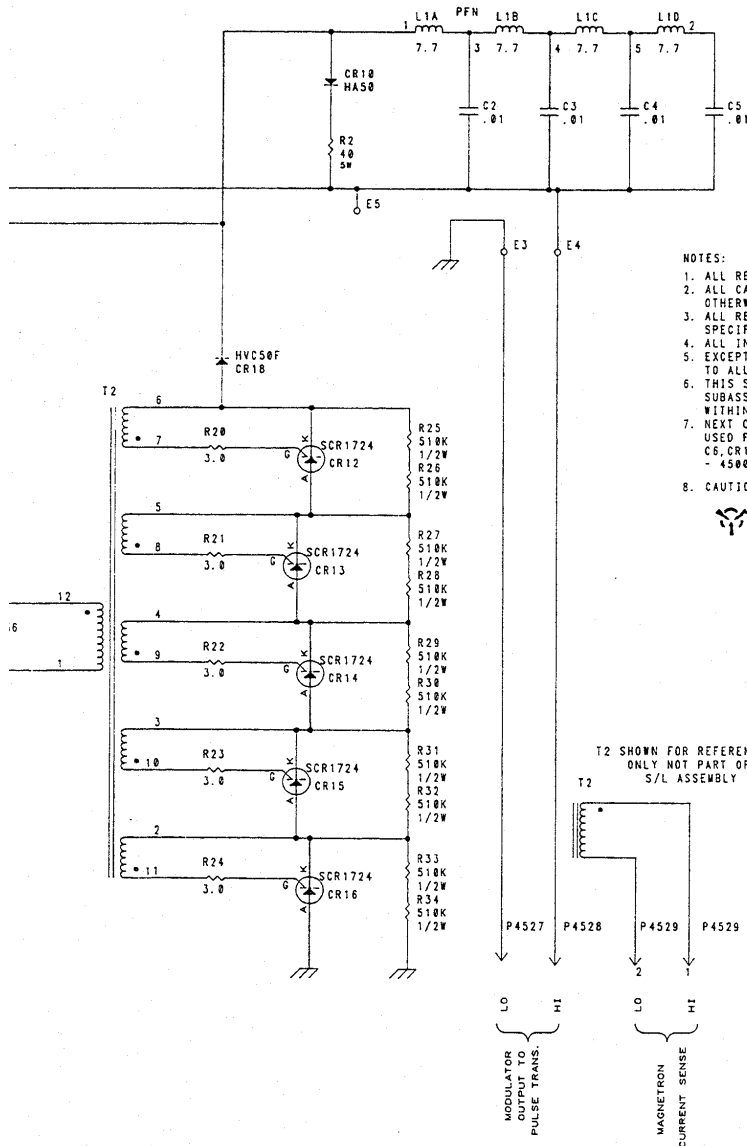



8095781 SH. 1 OF 1

I.B. 21500B  
PART 4

S/L Pulse Modulator Module, Schematic Diagram  
Figure 7-7

7-49/7-50  
Aug 12/91



- NOTES:
1. ALL RESISTANCE IN OHMS
  2. ALL CAPACITANCE IN UF UNLESS OTHERWISE SPECIFIED
  3. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED
  4. ALL INDUCTANCE IN MICROHENRYS.
  5. EXCEPT FOR PLUGS AND JACKS ADD 4500 TO ALL REFERENCE DESIGNATORS.
  6. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY W/O CHANGE: NUMBER WITHIN SYMBOL INDICATES W/O LEVEL.
  7. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: C6, CR19, L2, O1, R37, S1, T4, U1, Y1 - 4500 SERIES ONLY
  8. CAUTION: THIS MODULE EITHER CONTAINS OR IS ASSOCIATED WITH ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES. HANDLE WITH CARE IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN THE REPAIR SECTION OF THIS MANUAL. EACH ESDS DEVICE IS IDENTIFIED IN THE PARTS LIST.

T2 SHOWN FOR REFERENCE ONLY NOT PART OF S/L ASSEMBLY

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**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

**SUMMARY OF CHANGES TO  
MID-PULSE MODULATOR MODULE  
P/N 3606472-0501 AND -0502**

SUBASSY MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Mechanical changes to eliminate high-voltage arcing above 20,000 feet. Does not affect schematic diagram.	1500-060	1139

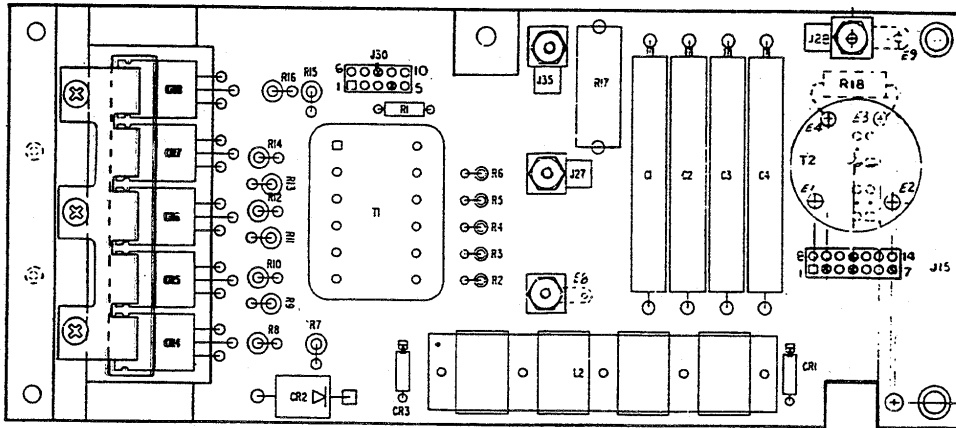
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

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Oct/91

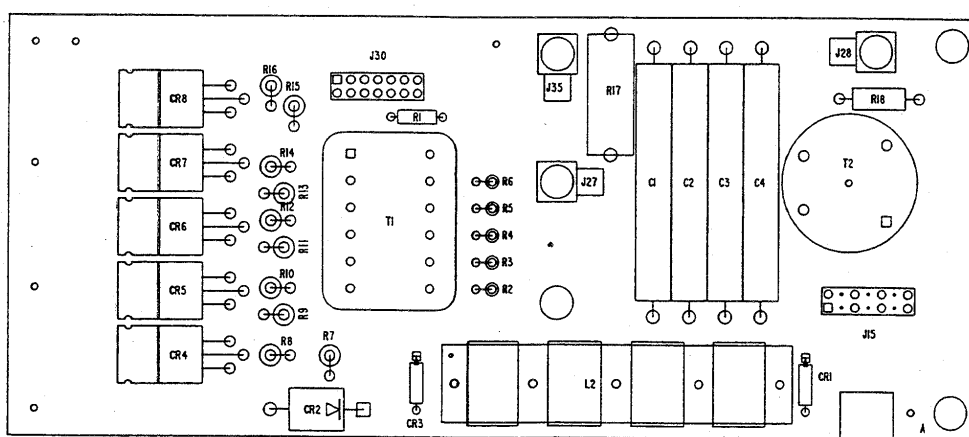
BENDIX/KING

MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER



WCB 8063463 AJ

NOTE: ADD 4600 TO ALL REFERENCE DESIGNATIONS.



WCB 8063463 AJ

NOTE: ADD 4600 TO ALL REFERENCE DESIGNATIONS.

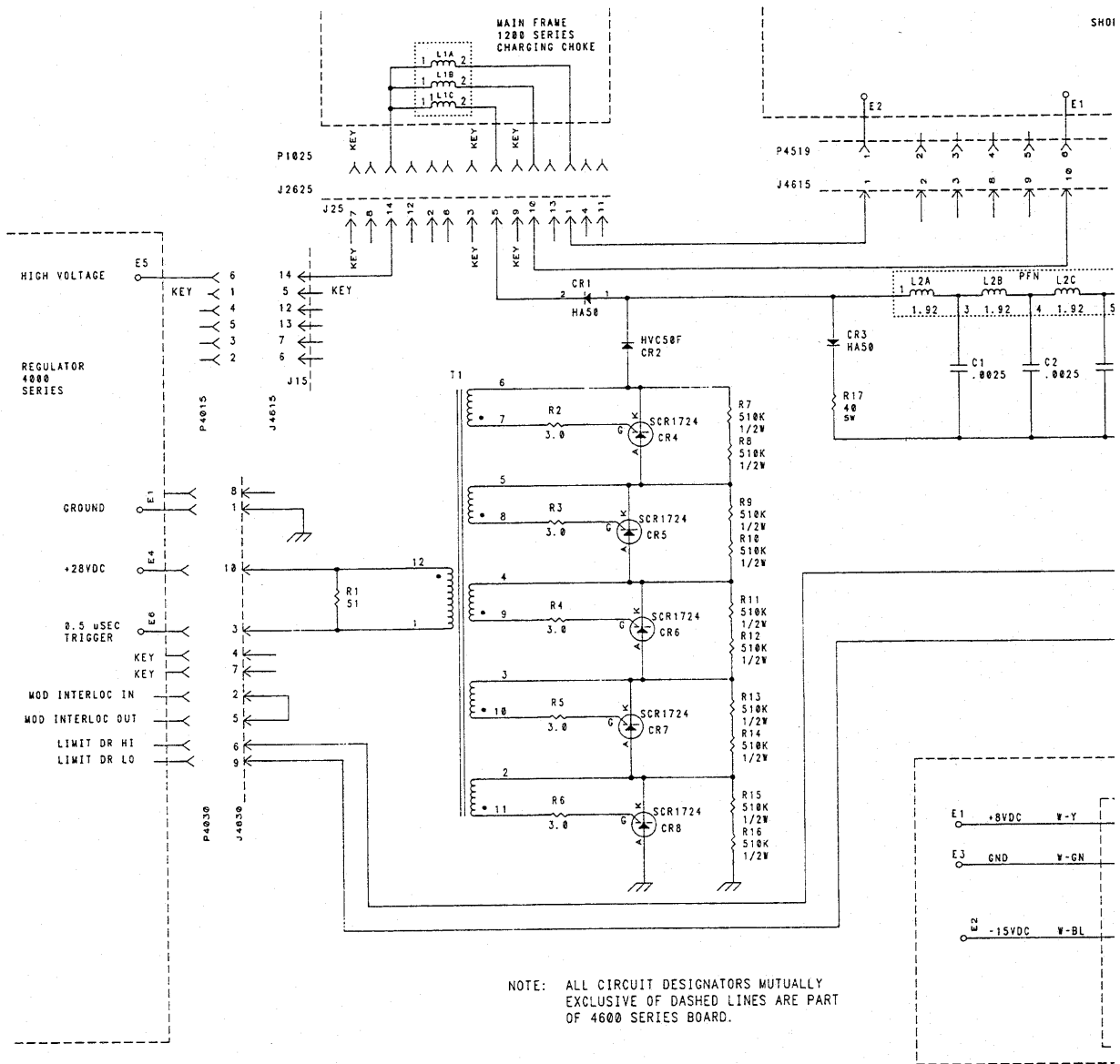
Mid-Pulse Modulator Module

I.B. 21500B  
PART 4

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Oct/91

BENDIX/KING

MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER



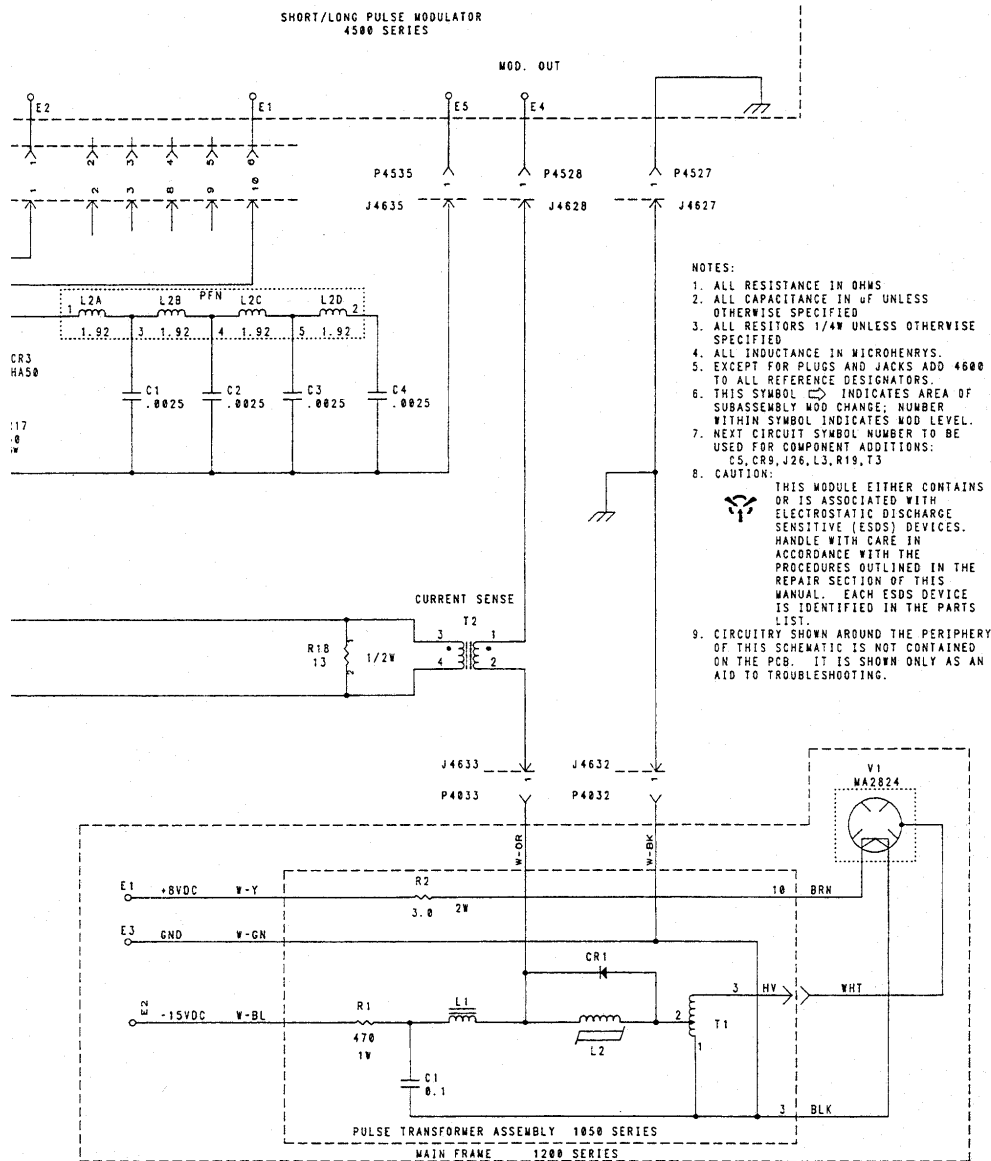
8895788A SH. 1 OF 1

I.B. 21500B  
PART 4

Mid-Pulse Modulator Module, Schematic Diagram  
Figure 7-8

7-53/7-54  
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7-54  
t/91



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**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

**SUMMARY OF CHANGES TO**

**POWER SUPPLY ASSEMBLY  
P/N 2040420-0501**

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Incorporated prior to equipment release.	-	-

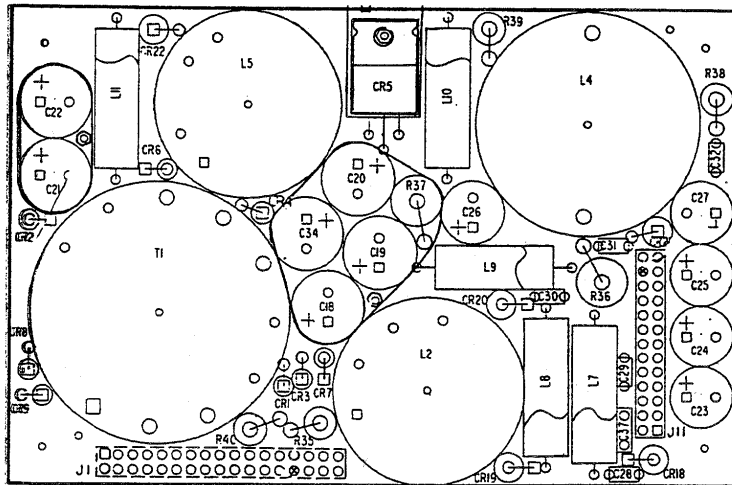
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

7-55  
Aug 12/91

**BENDIX/KING**

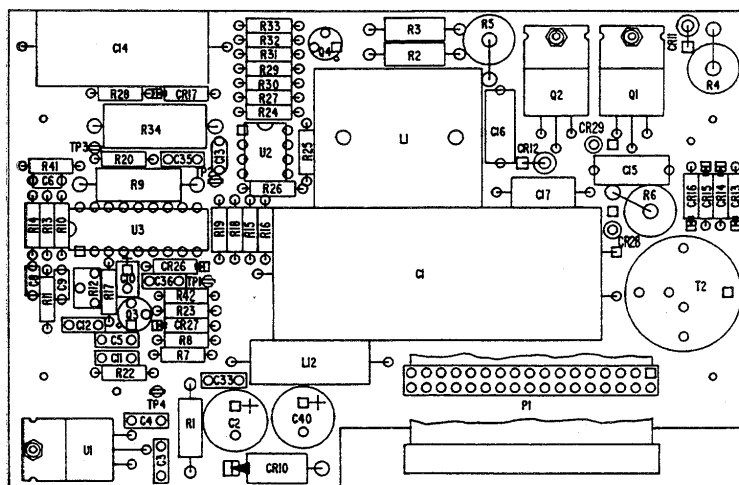
**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



WCB8063465AF

NOTE: ADD 5200 TO ALL REFERENCE DESIGNATIONS.

Output Module, P/N 2040522-0501



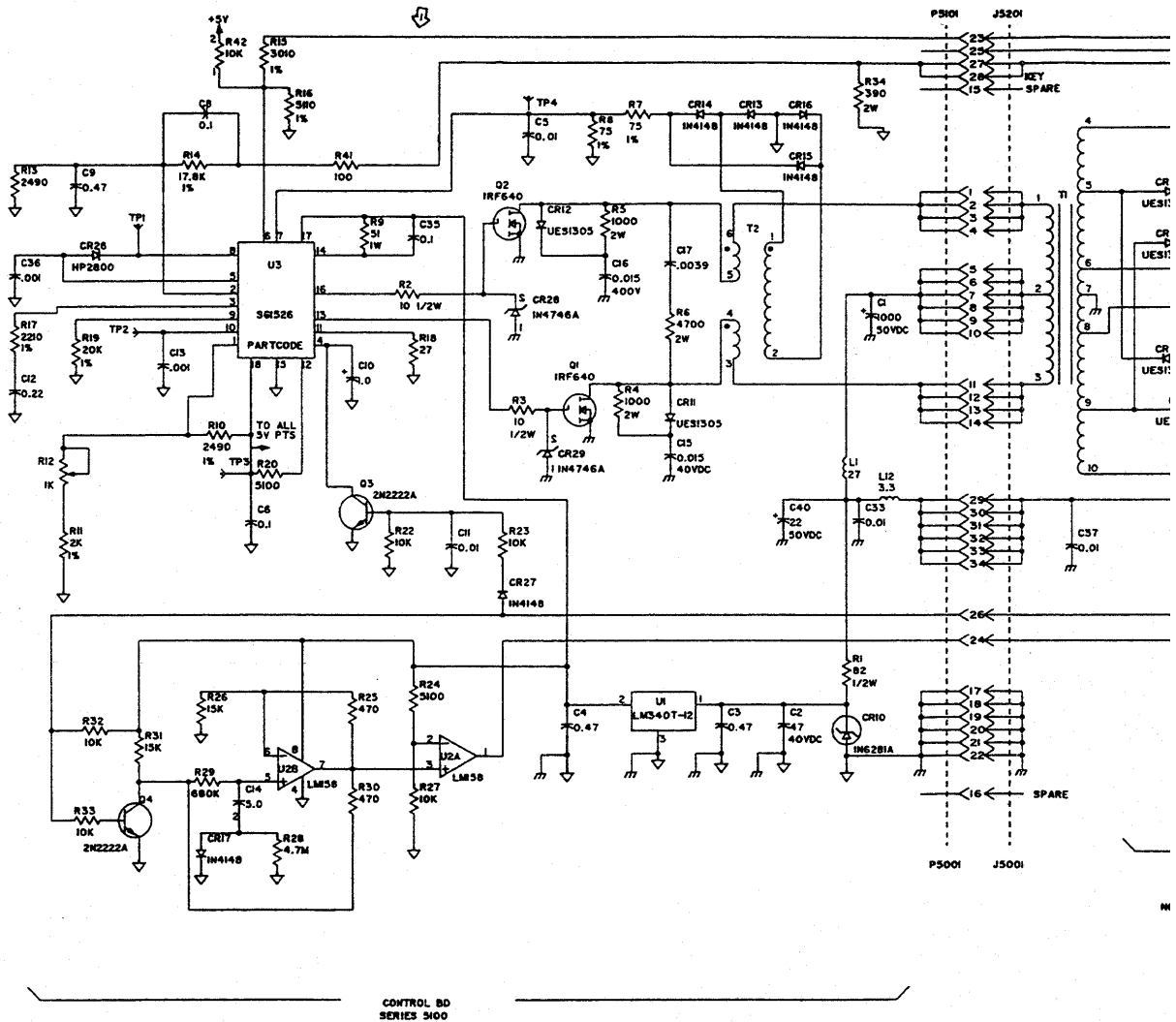
WCB8063466 A,BCJ

NOTE: ADD 5100 TO ALL REFERENCE DESIGNATIONS.

Control Module, P/N 2040523-0501

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MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER

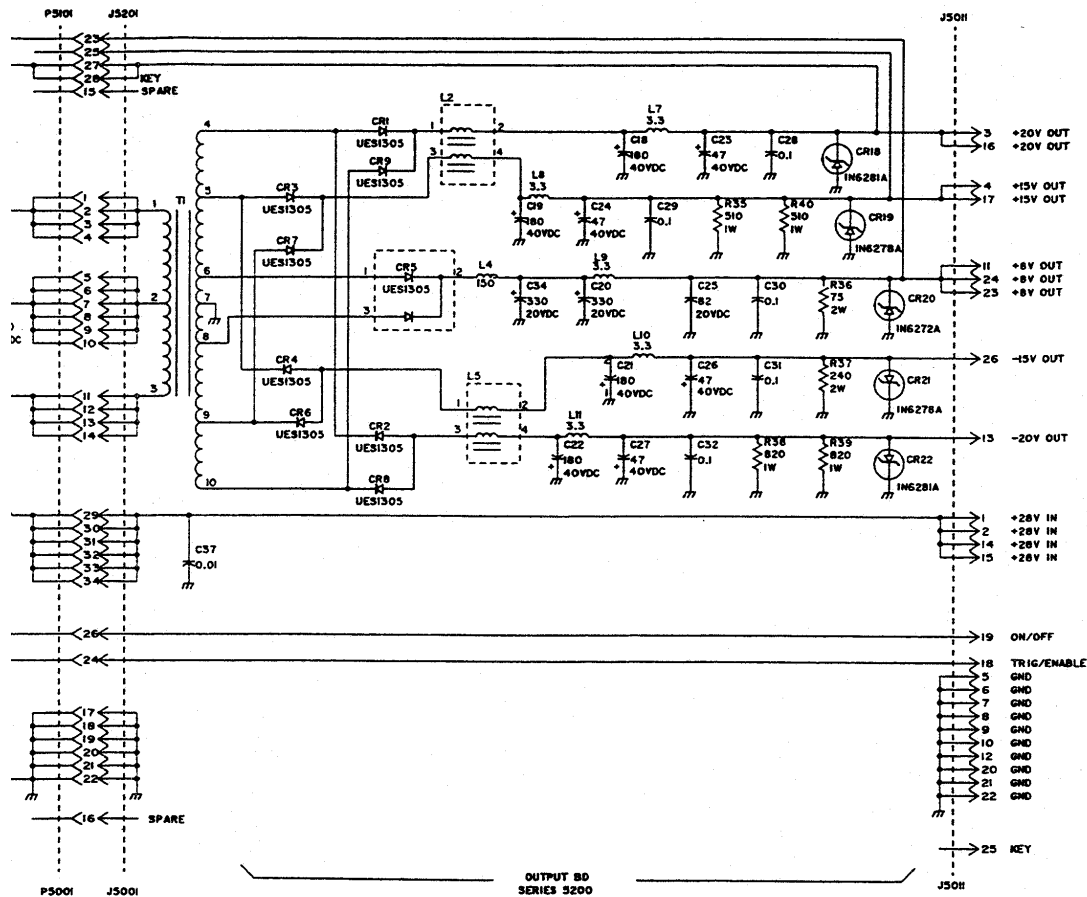


361496 C

I.B. 21500B  
PART 4

Power Supply Assembly, Schematic Diagram  
Figure 7-9

7-57/7-58  
Oct/91




- NOTES:
1. ALL RESISTANCE IN OHMS.
  2. ALL RESISTORS 1/4 WATT UNLESS OTHERWISE SPECIFIED.
  3. ALL CAPACITANCE IN MICRO FARADS UNLESS OTHERWISE SPECIFIED
  4. ALL INDUCTANCE IN MICRO HENRIES UNLESS OTHERWISE SPECIFIED
  5. ADD 500 TO ALL COMPONENT DESIGNATIONS CONTROL BD.  
ADD 5200 TO ALL COMPONENTS DESIGNATION OUTPUT BD.
  6. NEXT REFERENCE DESIGNATION TO BE USED FOR COMPONENT ADDITIONS C38,L13,Q5,R43,T3,TP5,U4..
  7. ▽= LOW POWER GND. AND ▨=HIGH POWER GND. ON P.C.B..

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

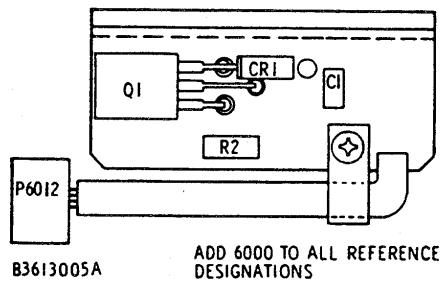
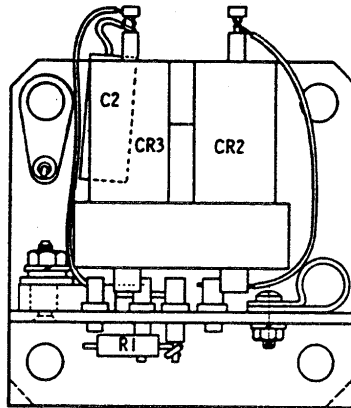
**SUMMARY OF CHANGES TO  
LOCAL OSCILLATOR ASSEMBLY  
P/N 2040691-0501**

SUBASSY. MOD. NO. 	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Incorporated prior to equipment release.	- -	- -
2	Replaced 0.01-microfarad capacitor C6001 with one having a value of 0.1 microfarads. To prevent pulling of local oscillator frequency when dust cover is installed.	1500-064	1139

\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



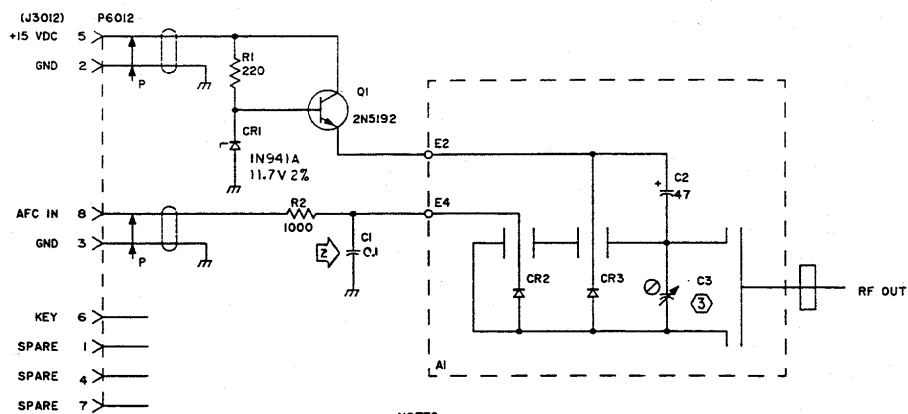
Local Oscillator Assembly

I.B. 21500B  
PART 4

7-60  
Aug 12/91

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



**NOTES:**

1. ALL RESISTANCE IN OHMS. CAPACITANCE IN MICROFARADS.
2. EXCEPT FOR PLUGS AND JACKS, ADD 6000 TO ALL REFERENCE DESIGNATIONS.
- ③ C3 IS A FREQUENCY ADJUST TUNING SCREW.

341706 BSHT.1 OF 1

I.B. 21500B  
PART 4

Local Oscillator Assembly, Schematic Diagram  
Figure 7-10

7-61/7-62  
Oct/91





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**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

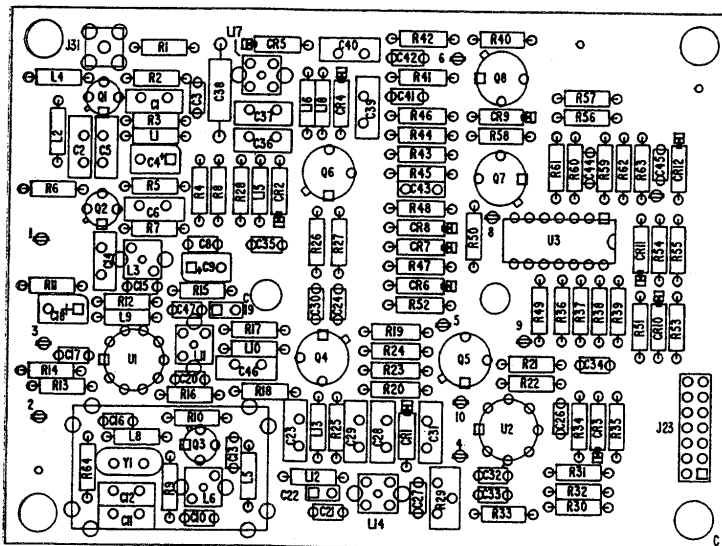
**SUMMARY OF CHANGES TO**

**AFC MODULE  
P/N 2040421-0501**

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1 thru 3	Incorporated prior to equipment release.	- -	- -
4 5	Added capacitor C7049. Added C7050, R7065, and R7066. To eliminate noise spikes on the 12V line.	1500- 030	1103
7	Changed value of R7004 and R7008 from 680 to 200 ohms. To increase the gain in the 87-MHz afc amplifier to provide more dynamic range for the 4.5V afc lock pulse adjustment.	1500- 049	1120
8	Changed value of R7062 from 10k to 6800 ohms, and added R7067 and thermistor RT7001. To limit the range of afc sweep voltage so the radar will not false-lock on the second harmonic of the mixer.	1500- 053	1132

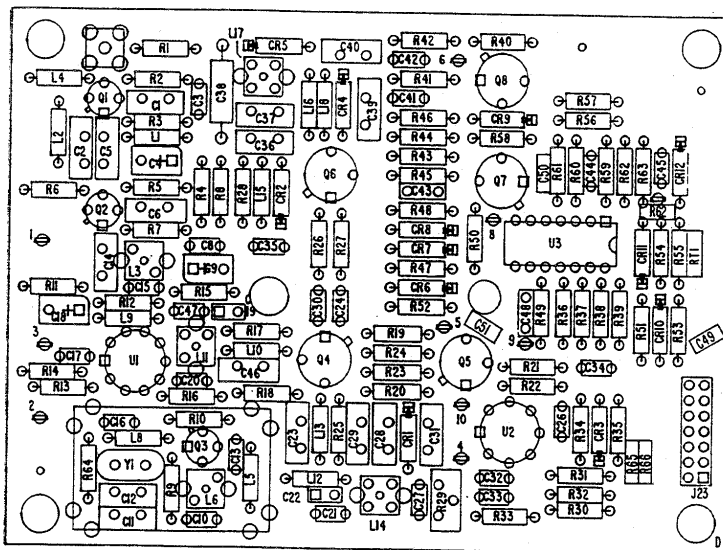
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

**BENDIX/KING**  
**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**



WCB8063460CD

NOTE: ADD 7000 TO ALL REFERENCE DESIGNATIONS.



WCB8063457DD

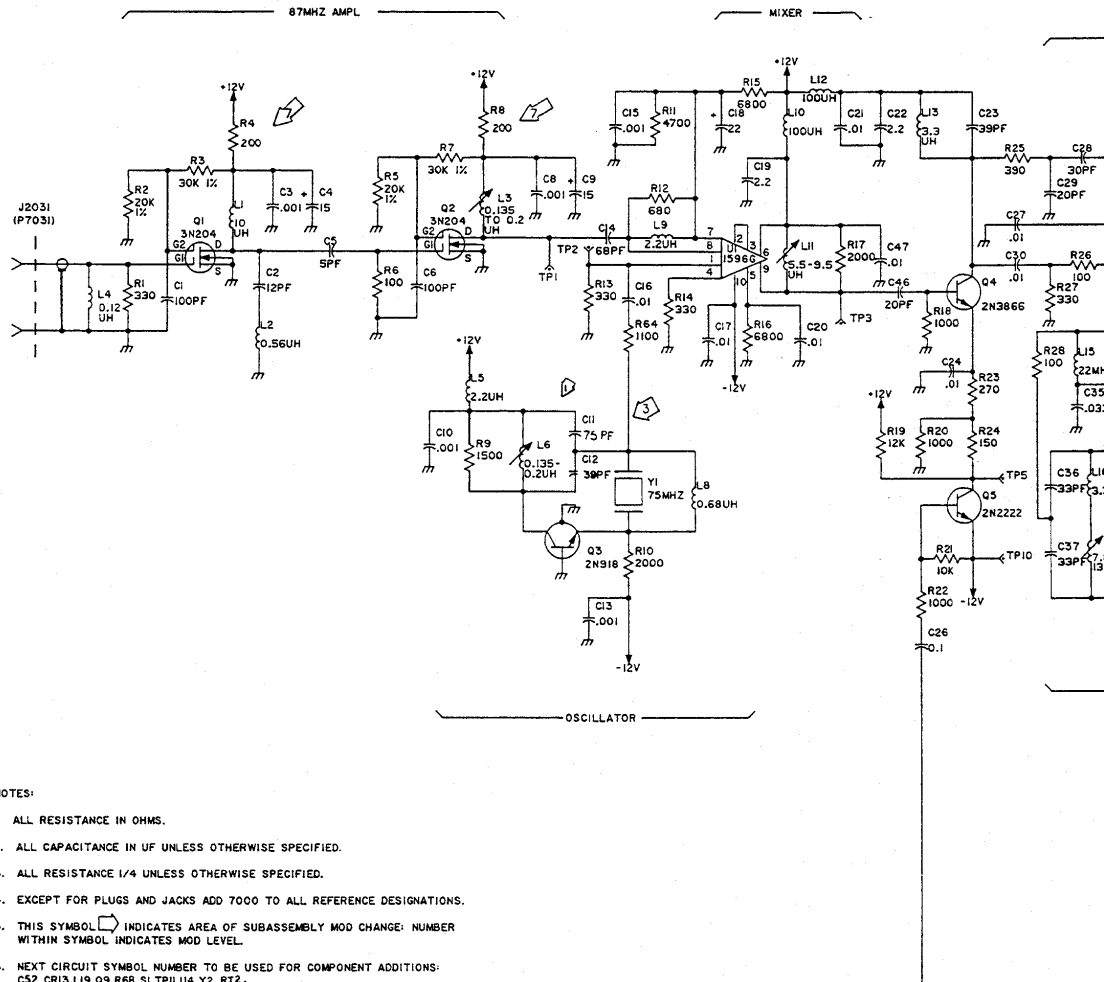
NOTE: ADD 7000 TO ALL REFERENCE DESIGNATIONS.


Afc Module

I.B. 21500B  
 PART 4

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 Oct/91

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 MAINTENANCE MANUAL  
 RT-1501A RECEIVER-TRANSMITTER



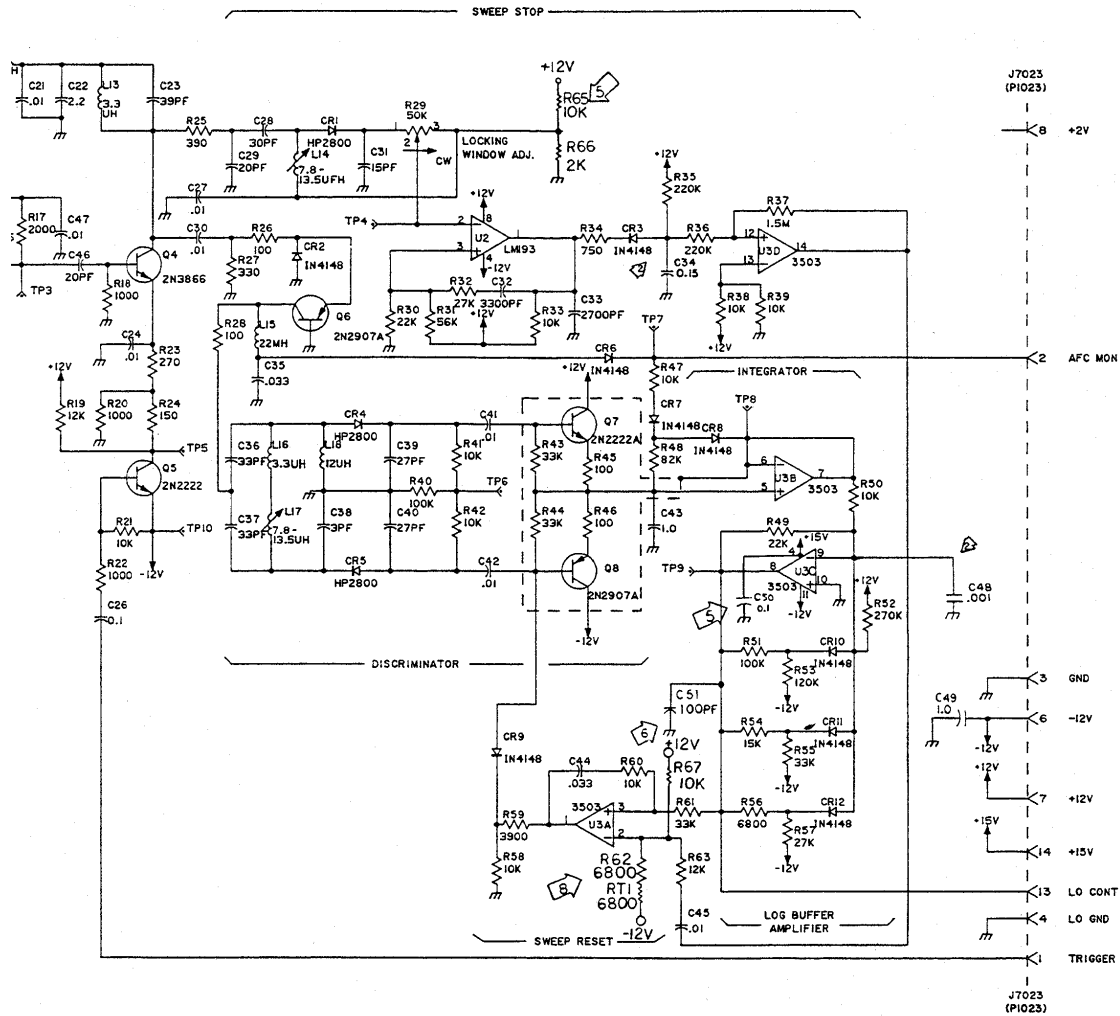
- NOTES:
1. ALL RESISTANCE IN OHMS.
  2. ALL CAPACITANCE IN UF UNLESS OTHERWISE SPECIFIED.
  3. ALL RESISTANCE 1/4 UNLESS OTHERWISE SPECIFIED.
  4. EXCEPT FOR PLUGS AND JACKS ADD 7000 TO ALL REFERENCE DESIGNATIONS.
  5. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE; NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
  6. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: C52, CR13, LI9, Q9, R68, S1, TP11, U4, Y2, RT2.

3614197K SHT.J OF 1

I.B. 21500B  
 PART 4

Afc Module, Schematic Diagram  
 Figure 7-11

7-65/7-66  
 Oct/91






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**MAINTENANCE MANUAL**  
**RT-1501A RECEIVER-TRANSMITTER**  
**SUMMARY OF CHANGES TO**  
**STC MODULE**  
**P/N 3606477-0501**

SUBASSY. MOD. NO. 	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N

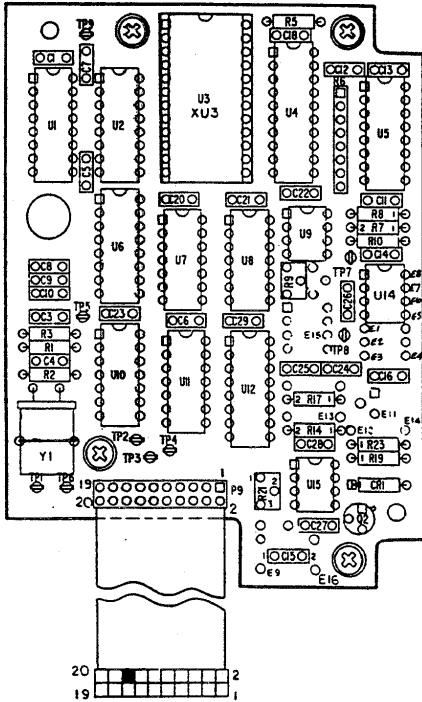
\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

I.B. 21500B  
PART 4

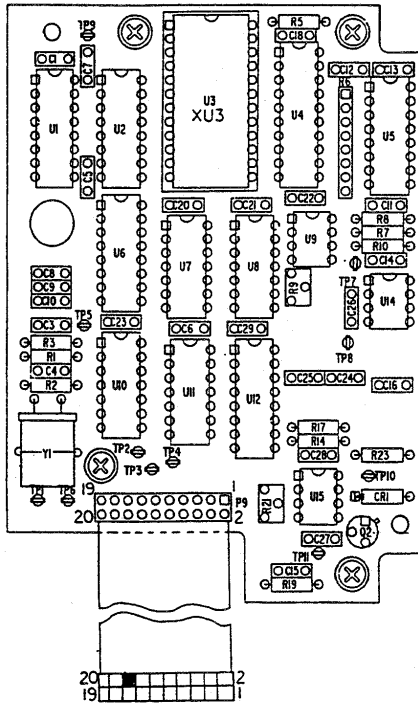
7-67  
Aug 12/91

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



WCB8063461 ABJ  
NOTE: ADD 3500 TO ALL REFERENCE DESIGNATIONS.



WCB8063468  
NOTE: ADD 3500 TO ALL REFERENCE DESIGNATIONS.

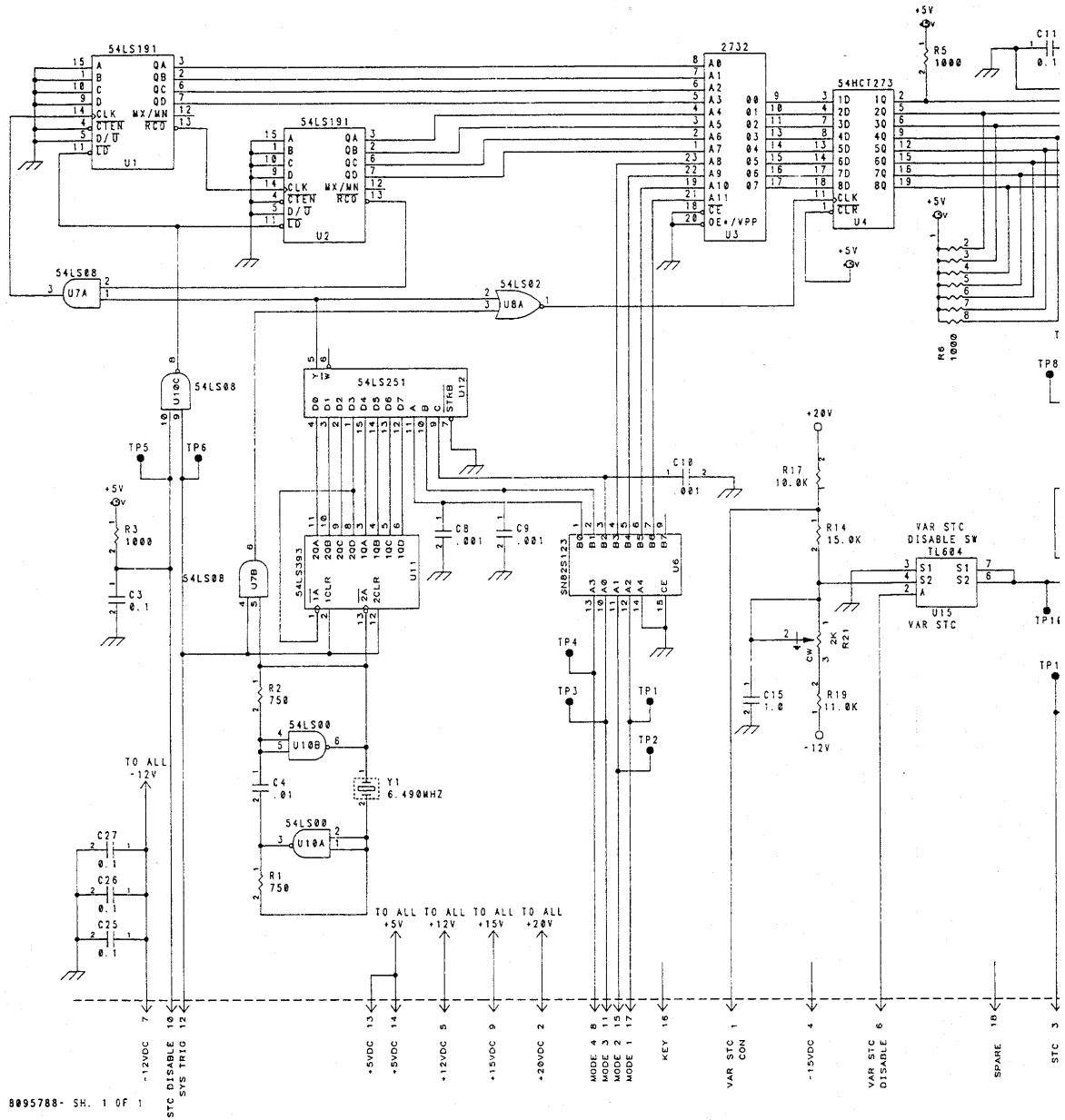
STC Module

I.B. 21500B  
PART 4

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Aug 12/91

BENDIX/KING

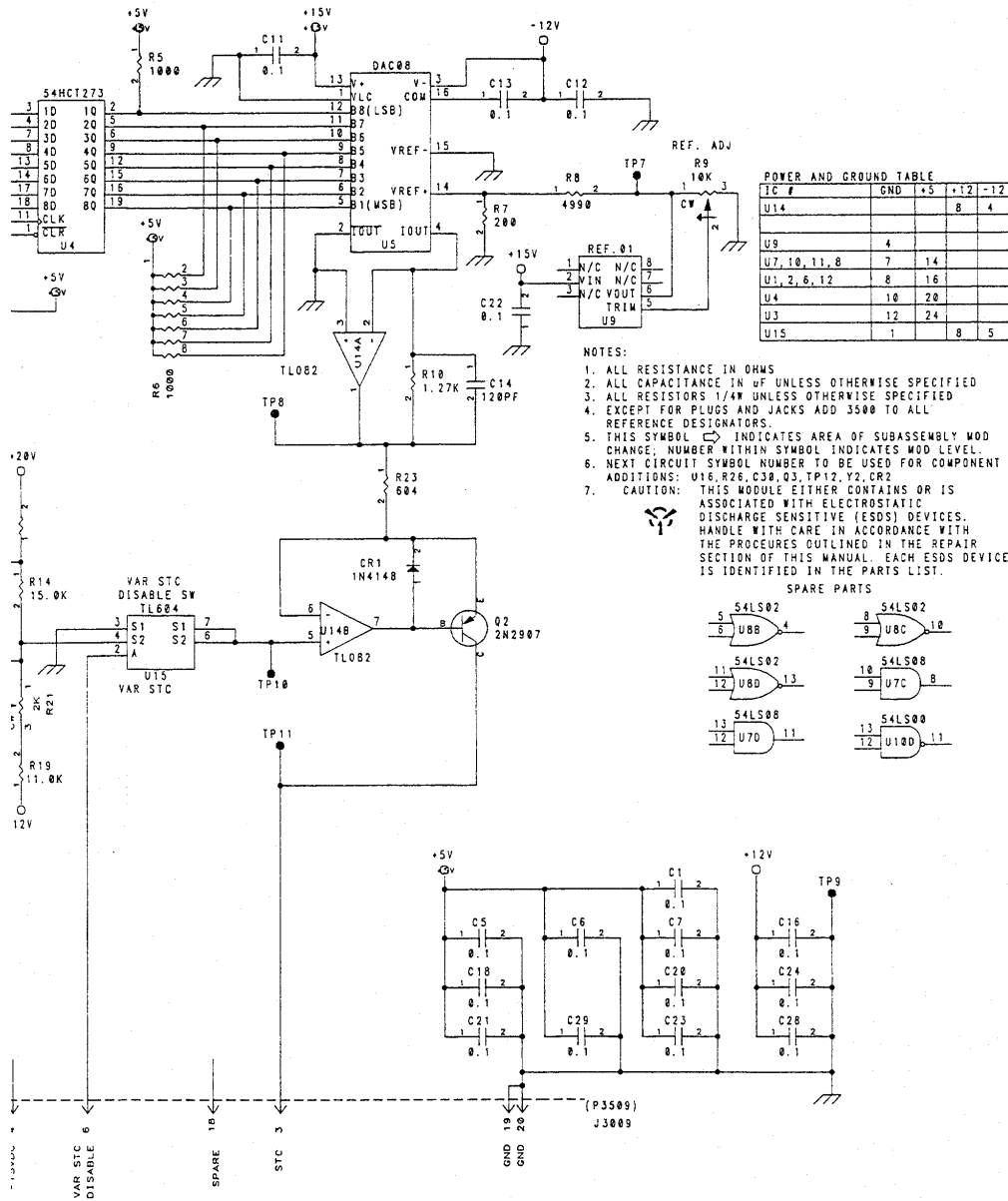
MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER



I.B. 21500B  
PART 4

STC Module, Schematic Diagram  
Figure 7-12

7-69/7-70  
Oct/91







**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

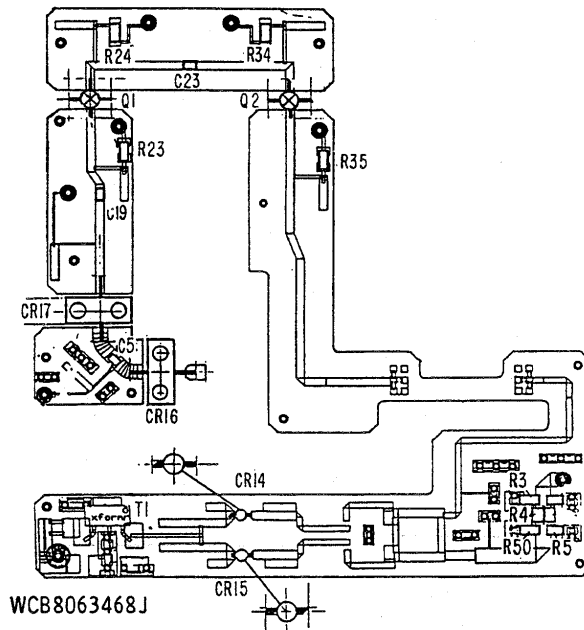
**SUMMARY OF CHANGES TO  
PREAMPLIFIER-LIMITER ASSEMBLY  
P/N 3606479-0502**

SUBASSY. MOD. NO.	DESCRIPTION OF CHANGE	SERVICE BULLETIN NUMBER *	EFFECTIVITY UNIT S/N
1	Added components C1925, CR1920, CR1921, R1952, and R1953, and changed value of C1924 from 0.1 to 0.01 microfarad. Subassembly Mod 1 to preamplifier-limiter assembly includes subassembly Mod 1 to bias module. Part of Unit Mod 11. To improve limiter reliability.	1500-066	1139

\*SEE SERVICE BULLETIN LIST IN FRONT OF MANUAL

**BENDIX/KING**

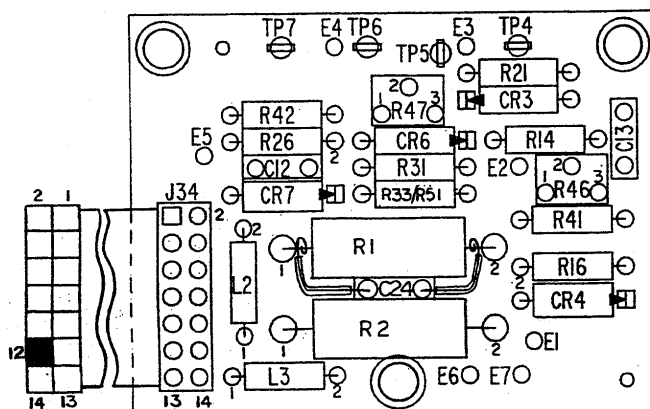
**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



NOTE: ADD 1900 TO ALL REFERENCE DESIGNATIONS.

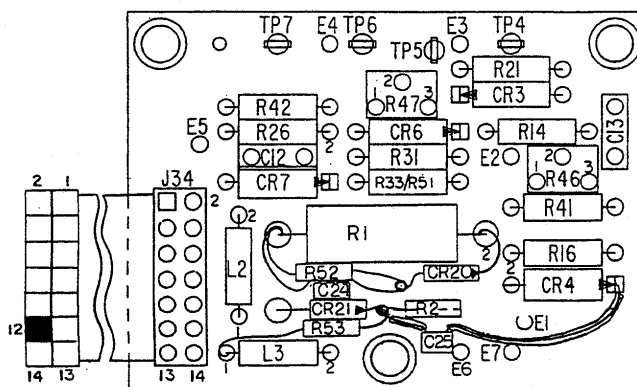
**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



WCB8063470AF

NOTE: ADD 1900 TO ALL REFERENCE DESIGNATIONS.



WCB8063471A

NOTE: ADD 1900 TO ALL REFERENCE DESIGNATIONS.

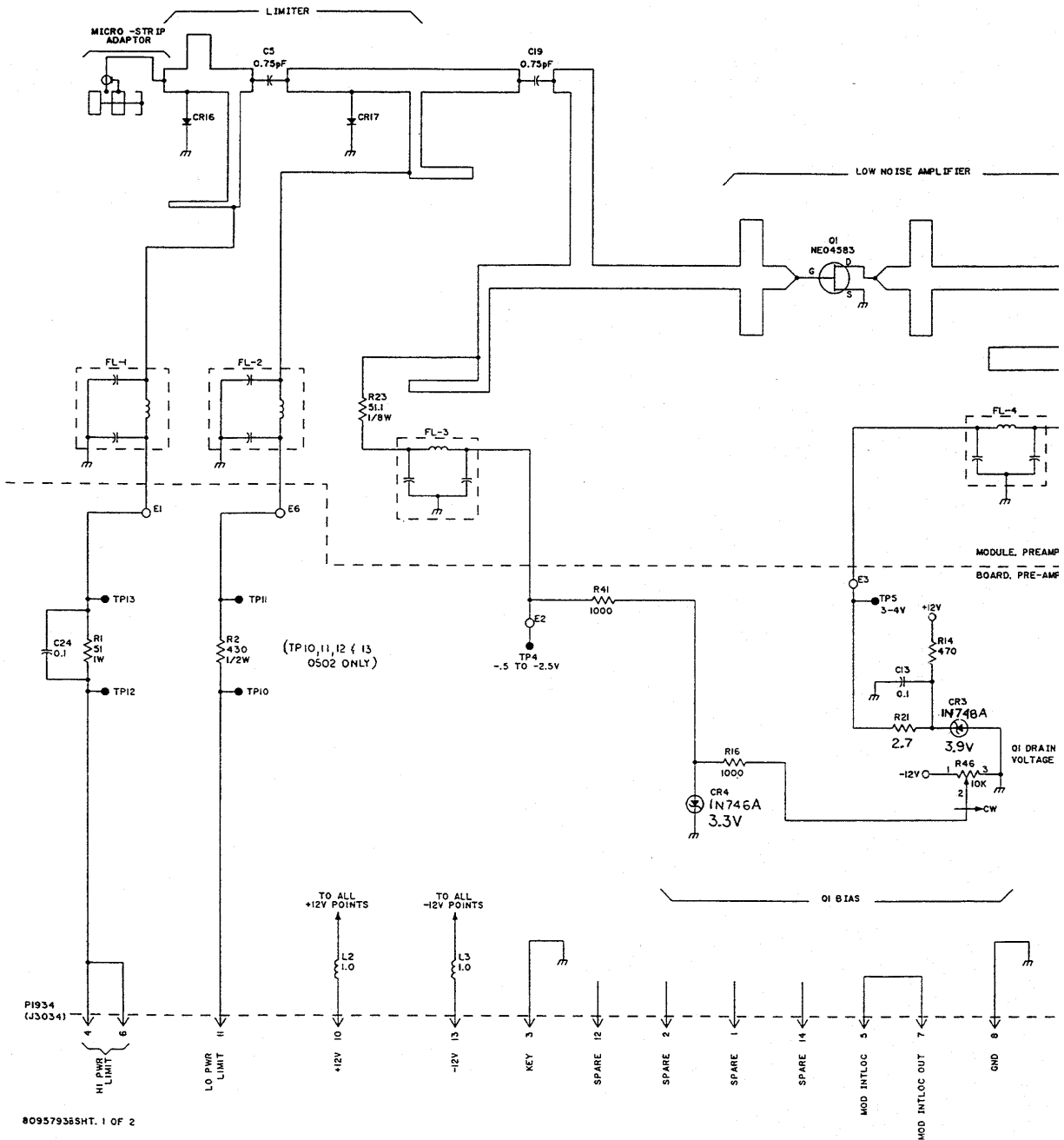
**Bias Module**

I.B. 21500B  
PART 4

7-73/7-74  
Oct/91

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**

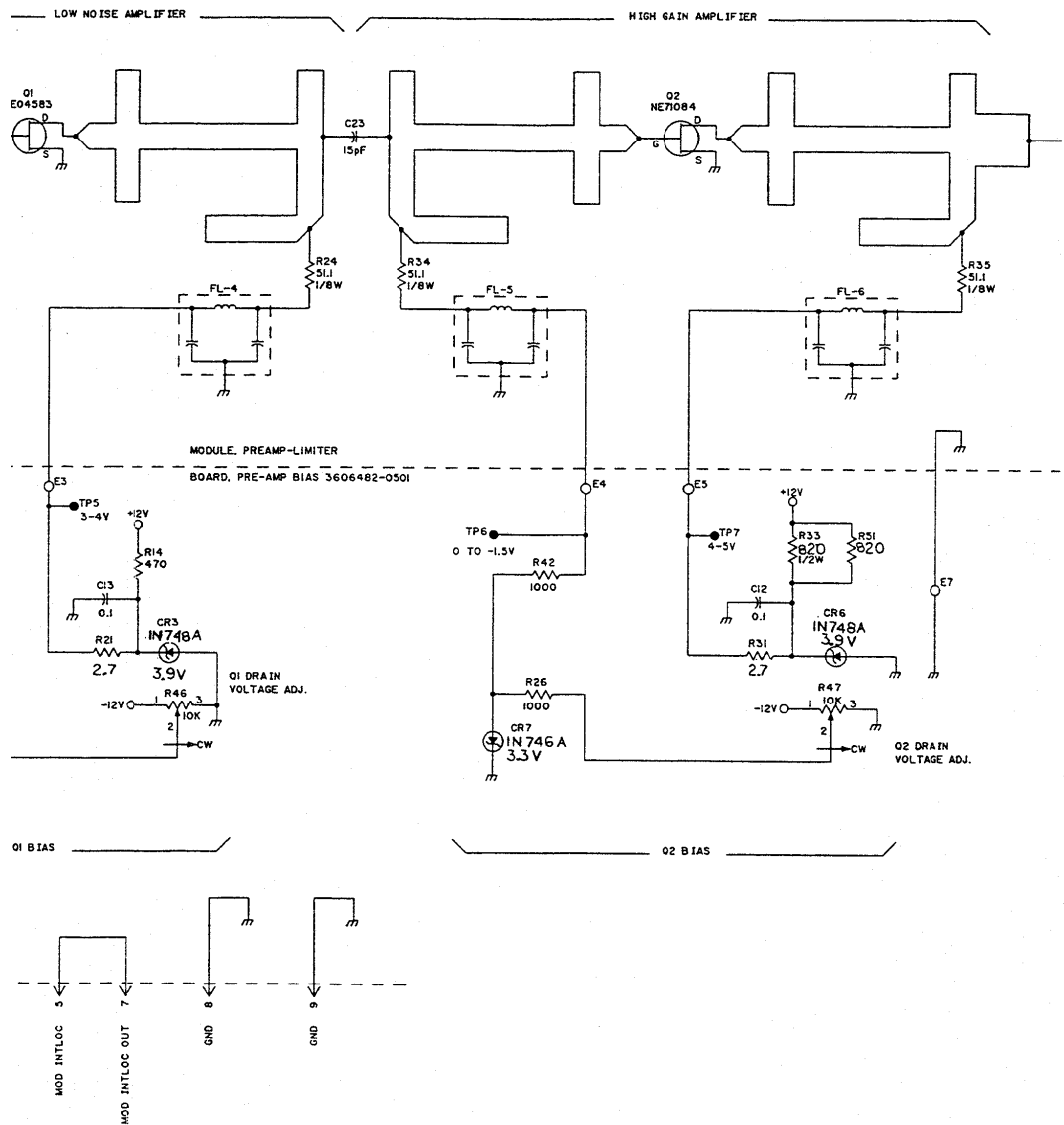


809579385HT. 1 OF 2

Pre-amplifier-Limiter Assembly, Schematic Diagram  
Figure 7-13 (Sheet 1 of 2)

I.B. 21500B  
PART 4

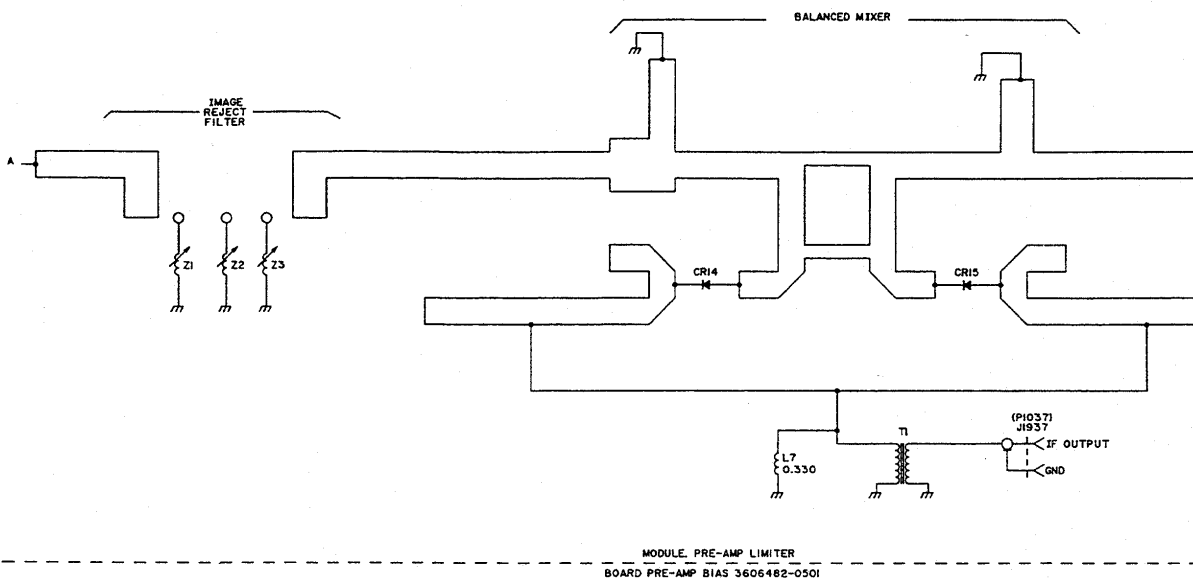
7-75/7-76  
Aug 12/91



-76  
/91

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



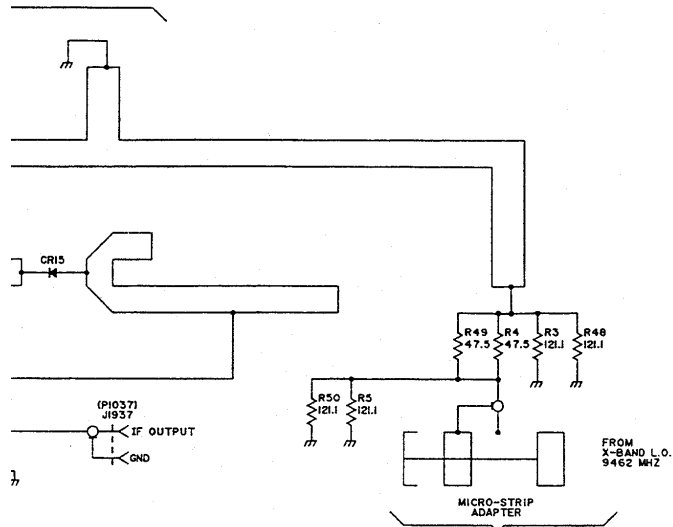
P1934  
(J3034)

8095793ASHT. 2 OF 2


I.B. 21500B  
PART 4

Preamplifier-Limiter Assembly, Schematic Diagram  
Figure 7-13 (Sheet 2)

7-77/7-78  
Aug 12/91

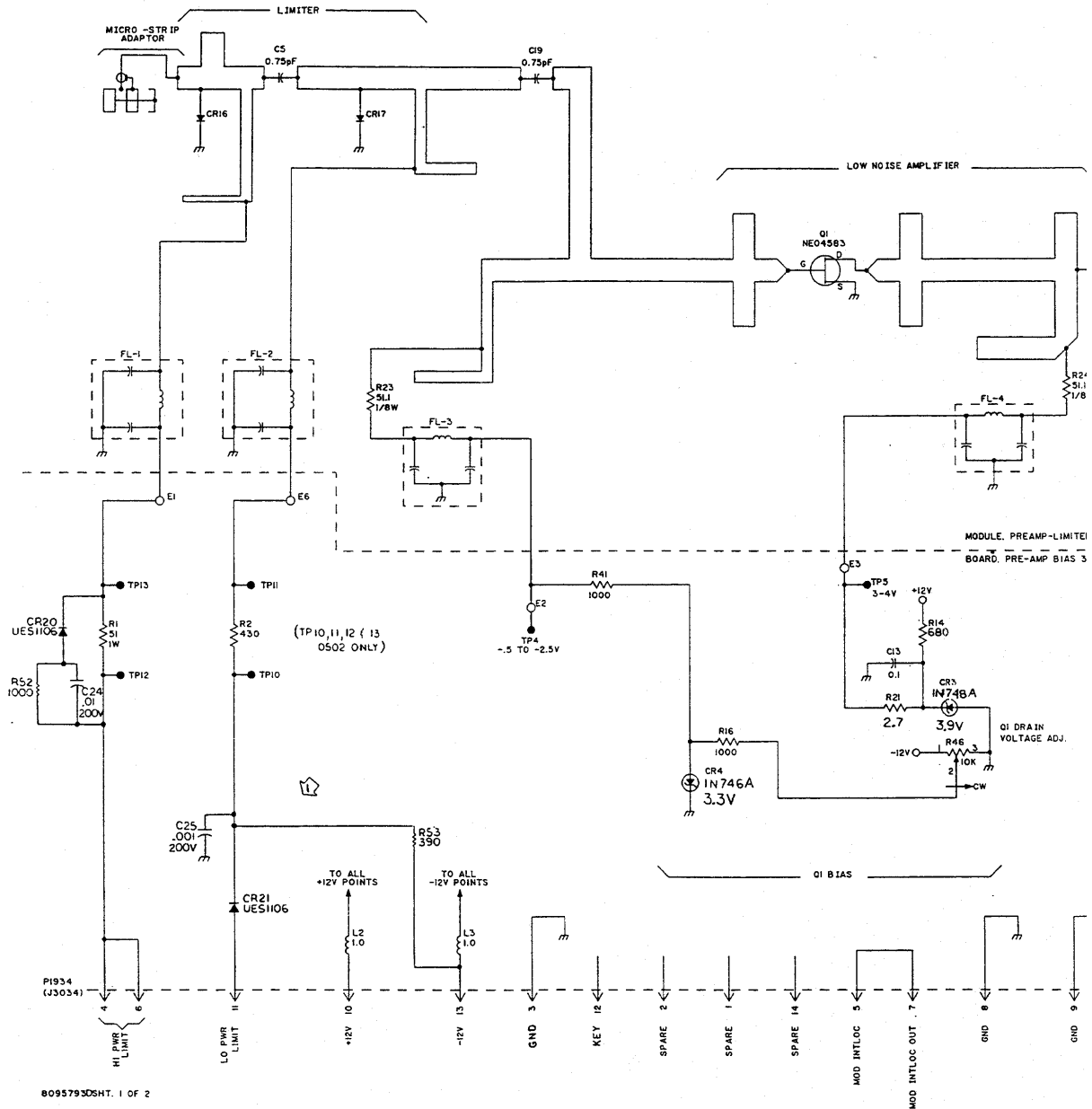


NOTES

1. ALL RESISTANCE IN OHMS.
2. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED.
3. ALL CAPACITANCE IN pF UNLESS OTHERWISE SPECIFIED.
4. ALL INDUCTANCE IN μH UNLESS OTHERWISE SPECIFIED.
5. EXCEPT FOR JACKS AND PLUGS ADD 1500 TO ALL REFERENCE DESIGNATIONS.
6. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE. NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
7. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: E8, FL7, J1938, Q5, L6, TP12, U2, CR20, R52, C25, Z4, T2.

**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



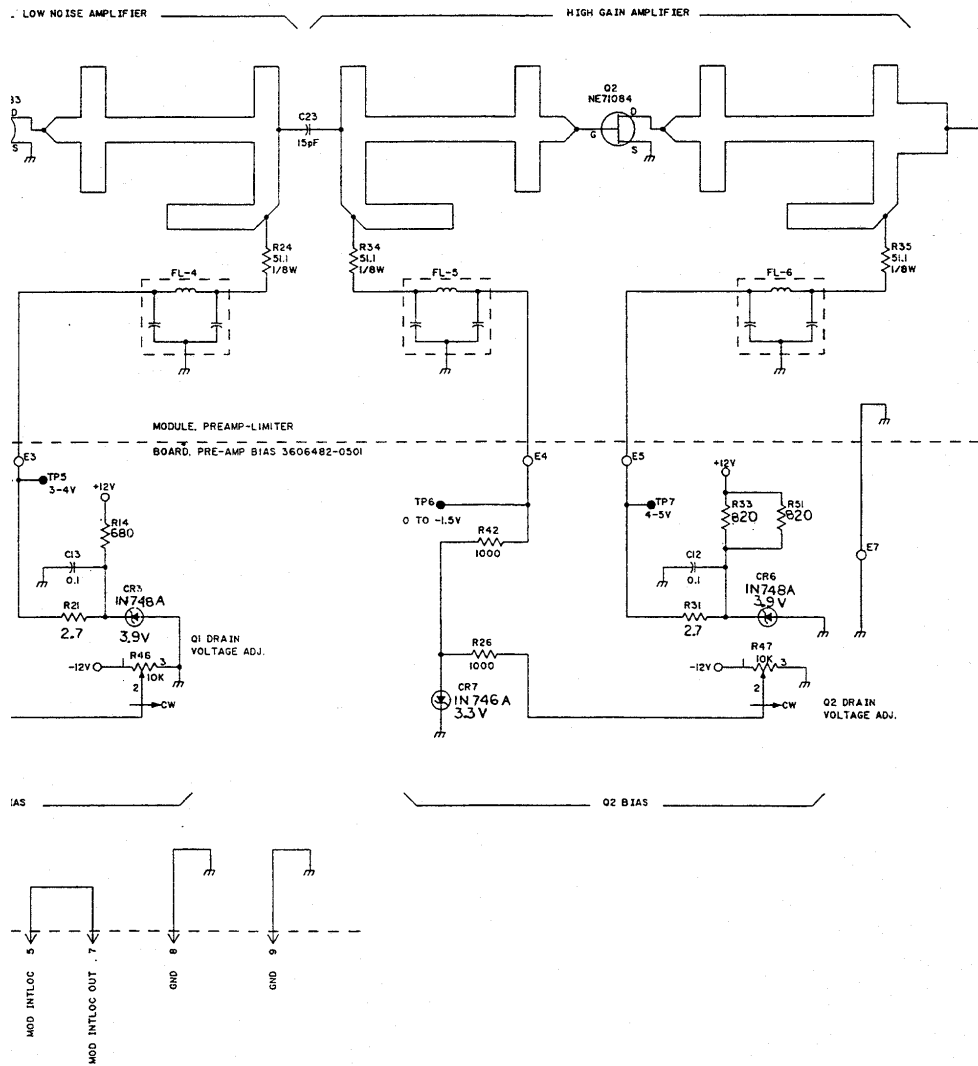
809579305HT, 1 OF 2

Pre-amplifier-Limiter Assembly, Schematic Diagram  
Figure 7-13a (Sheet 1 of 2)

I.B. 21500B  
PART 4

7-79/7-80  
Oct/91

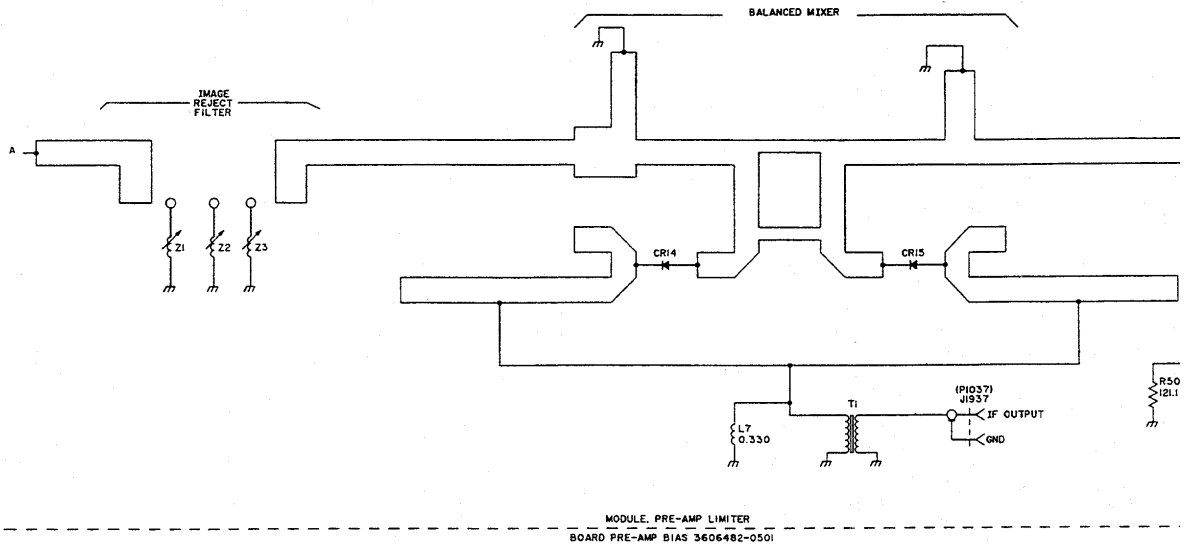




'-80  
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**BENDIX/KING**

**MAINTENANCE MANUAL  
RT-1501A RECEIVER-TRANSMITTER**



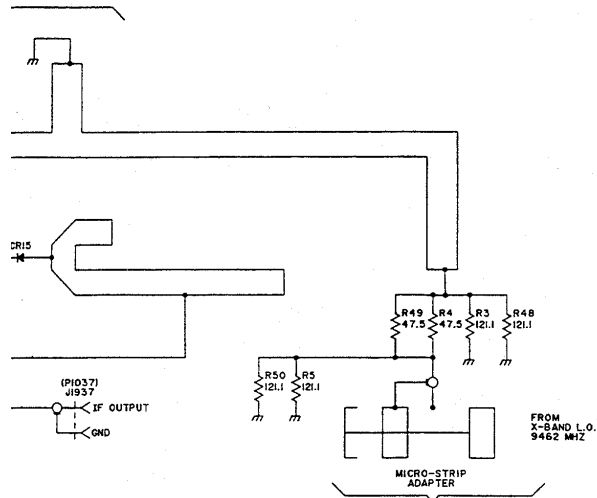
P1934  
(J3034)

8095793ASHT. 2 OF 2


I.B. 21500B  
PART 4

Preamplifier-Limiter Assembly, Schematic Diagram  
Figure 7-13a (Sheet 2)

7-81/7-82  
Oct/91



NOTES

1. ALL RESISTANCE IN OHMS.
2. ALL RESISTORS 1/4W UNLESS OTHERWISE SPECIFIED.
3. ALL CAPACITANCE IN  $\mu$ F UNLESS OTHERWISE SPECIFIED.
4. ALL INDUCTANCE IN  $\mu$ H UNLESS OTHERWISE SPECIFIED.
5. EXCEPT FOR JACKS AND PLUGS ADD 100 TO ALL REFERENCE DESIGNATIONS.
6. THIS SYMBOL  INDICATES AREA OF SUBASSEMBLY MOD CHANGE. NUMBER WITHIN SYMBOL INDICATES MOD LEVEL.
7. NEXT CIRCUIT SYMBOL NUMBER TO BE USED FOR COMPONENT ADDITIONS: E8, FL7, J1938, Q5, L9, TP12, U2, CR20, R52, C25, Z4, T2.

7-82  
:/91