


REV	J	APPLICATION			REVISIONS		
		NEXT ASSEMBLY	REV	DESCRIPTION	DATE	APPROVED	APPROVED
SH	1		A	INITIAL RELEASE PER DCN W1612	10/04/01	S.ELLIOTT	----
			B	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W1714	10/31/01	V. Wallace	---
DWG. NO. 150-041116			C	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W1998	06/20/02	S. Wild	V. Wallace
			D	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W1982	10/17/02	VDW	CE/RH
			E	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W2555	12/13/02	V. Wallace	D. Cureton
			F	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W2631	02/29/03	V. Wallace	CE/RH
			G	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W2939	08/2/04	R. Talken	CE/RC
			H	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W4184	02/16/05	R. Talken	R. Hamilton
			J	UPDATE FOR MINOR SOFTWARE REVISION PER DCN W5184	5/9/06	D. Woodhurst	R. Hamilton

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<b>APPROVALS</b>	<b>DATE</b>				
DRAWN Leslie Evans	11/01/01	<b>SERVICE INSTRUCTION, WSI C-5000-10,  MTM Guard Support</b>			
CHECKED Cliff Estes	11/01/01				
ENGINEER Scott Hovelsrud	11/01/01				
ISSUED Vern Wallace	10/31/01	SIZE A	CAGE CODE <b>1B7G3</b>	DWG NO. <b>150-041116</b>	REV <b>J</b>
Typed signatures indicate approval. Handwritten signature approval of this document is on file at Wulfsberg Electronics, Prescott, Arizona.		SCALE: NONE		DO NOT SCALE DRAWING	



At this time, this modification removes PMA approval from the product.

## **REFERENCES**

C-5000 Maintenance Manual, P/N 150-040127.

C-5000 Operator's Manual, P/N 150-041102

## **MATERIAL INFORMATION**

The following table specifies the parts required to perform this Service Instruction for C-5000 flavors 31300-0X01-0XXX.

<b>149-241161-09</b>			
<b>Parts List, Modification Kit for C-5000 31300-0X01-0XXX</b>			
<b>ITEM</b>	<b>QTY</b>	<b>WED PN</b>	<b>DESCRIPTION</b>
1	1	057-03284-0010	Label, Software Configuration ID (SWID)
2	1	156-031300-01	Label, C-5000 Control Head
3	1	310-017305-0325	Part List, Processor Module (CPU board), C-5000
4	2	106-841135-03	IC, Programmed 27C256 UVPROM U25 (Serial RT)
5	1	156-031345-02	Key Legend Film Set
6	1	150-041102	OPERATORS MANUAL, C-5000 COMMUNICATION MANAGEMENT CONTROLLER
7	1	150-041103	PILOTS GUIDE, C-5000 COMMUNICATION MANAGEMENT CONTROLLER

The following table specifies the parts required to perform this Service Instruction for all other affected flavors of C-5000 (31300-0X01-[1/2/3]XXX).

<b>149-241162-09</b>			
<b>Parts List, Modification Kit for C-5000 31300-0X01-[1/2/3]XXX</b>			
<b>ITEM</b>	<b>QTY</b>	<b>WED PN</b>	<b>DESCRIPTION</b>
1	1	057-03284-0010	Label, Software Configuration ID (SWID)
2	1	156-031300-01	Label, C-5000 Control Head
3	1	106-841141-09	Parts List, I.C., Programmed EPROM, Main CPU Code, C-5000
4	1	106-841143-09	Parts List, I.C., Programmed EPROM, Main CPU Data, C-5000
5	1	106-841142-05	Parts List, I.C., Programmed EPROM, I/O CPU, C-5000
6	2	106-841135-03	Parts List, I.C., Programmed EPROM, Serial RT Card, C-5000
7	1	156-031345-02	Key Legend Film Set
8	1	150-041102	OPERATORS MANUAL, C-5000 COMMUNICATION MANAGEMENT CONTROLLER
9	1	150-041103	PILOTS GUIDE, C-5000 COMMUNICATION MANAGEMENT CONTROLLER

## **MODIFICATION PROCEDURE**

### CAUTION

*Any disassembly/assembly of the C-5000 must be done at a static-safe workstation. Removed modules should be placed in antistatic bags when not installed in the unit.*

#### A. MODIFICATION OF 31300-0X01-0XXX

1. Remove the cover from the C-5000 chassis.
2. Replace CPU board, P/N 300-031315, with updated board, P/N 300-017305.
3. If present, remove Serial RT Interface Board 1, P/N 300-016290. See Figure 1. Replace EPROM U25, P/N 106-816929-XX with P/N 106-841135-03. See Figure 2. Reinstall Board.
4. Repeat step 3 for Serial RT Interface Board 2, if present. See Figure 1.
5. If present, remove RT Interface Board 3. See Figure 1. This board should be returned to the customer.
6. Remove System Interface Board, P/N 300-031320-XX. See Figure 1.
7. Verify the System Interface Board is a standard 300-031320-01 (no encryption). If not, convert the board to a standard 300-031320-01 configuration using the following procedures:

#### **P/N 31300-0X01-0XXX with Mod 7 and/or Mod 19** (See Figure 6 and 7)

- a. System Interface Module 300-031320-01 without ALC Module attached  
Remove R187, P/N 234-014791-0000 from JP2 pads 2-3 and move to JP2 pads 1-2.  
Remove R196 if present.  
Remove R192, P/N 234-014791-0000 from JP3 pads 2-3 and move to JP3 pads 1-2.  
Replace R172 resistor with 3.65K ohm resistor, P/N 139-03651-0000.
- b. System Interface Module 300-031320-01 with ALC Module attached  
Remove ALC E2 wire from JP2 and connect to pad of R140 closest to JP7.  
Perform steps in procedure (a) above.

#### **P/N 31300-0X01-[1/2/3]XXX**

- c. System Interface Module 300-031320-02 without ALC Module attached  
Perform steps in procedure (a) above.  
Change board identification from 300-031320-02 to -01.

- d. System Interface Module 300-031320-02 with ALC Module attached  
Remove ALC E2 wire from JP2 and connect to pad of R140 closest to JP7.  
Perform steps in procedure (a) above.  
Change board identification from 300-031320-02 to -01.

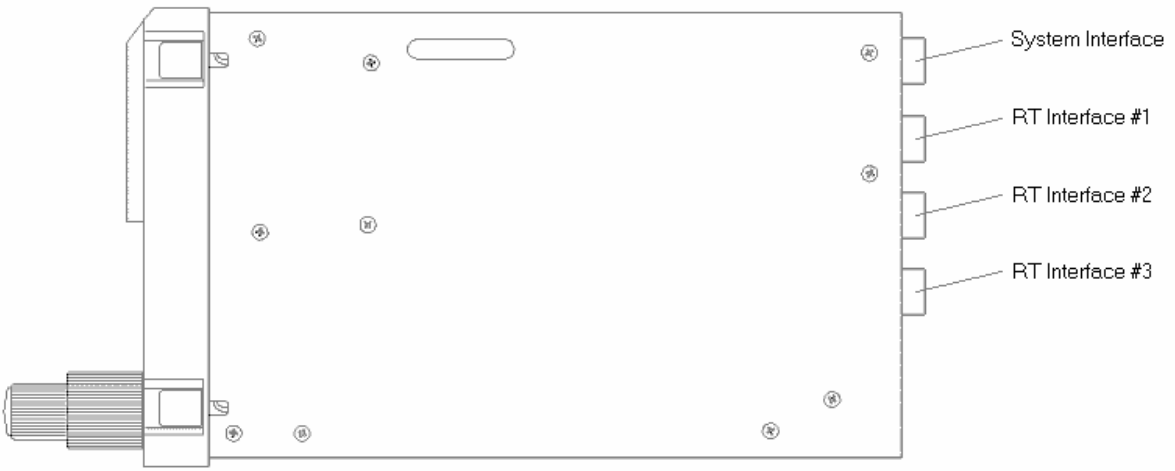
**P/N 31300-0X0X-XXXX**

- e. System Interface Module 300-031320-02 Rev P or later (See Figure 5)  
Install R30, 0 ohm resistor, P/N 234-040024-0000.  
Move resistor on JP2 from position 2-3 to 1-2.  
Remove RT1.  
Change board identification from 300-031320-02 to -01.
8. Verify the System Interface Board (prior to Rev. P) has the Automatic Level Control (ALC) circuit (See Figure 6). If not, apply EO 2297.
9. Reinstall System Interface Board.
10. Install updated key legend, P/N 156-031345-02, per Figure 3.
11. Reinstall cover on the C-5000 chassis.
12. Affix the new Control Head and Software Mod labels. Transfer the unit serial number to the new label and mark a capital "M" in front of the serial number.

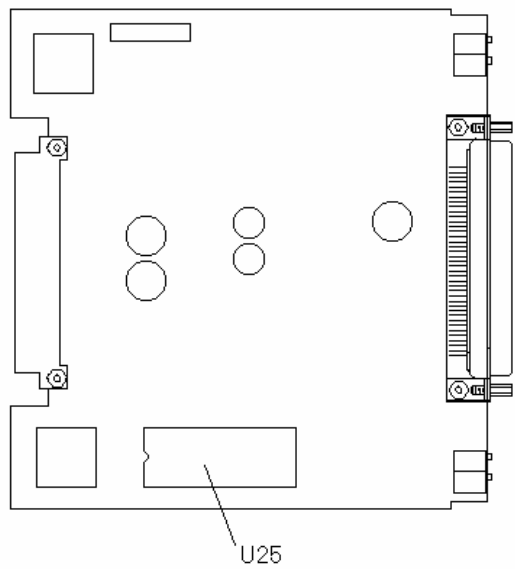
**B. MODIFICATION OF 31300-0X01-[1/2/3]XXX (SEE FIGURES 6-7)**

1. Remove the cover from the C-5000 chassis.
2. Remove EPROMS U201, P/N 106-816662-XX, U208, P/N 106-816664-XX, and U304, P/N 106-816663-XX from the CPU board. See Figure 4.
3. Install updated EPROMS U201, P/N 106-841141-09, U208, P/N 106-841143-09, and U304, P/N 106-841142-05 onto the CPU board. Reinstall CPU board.
4. If present, remove Serial RT Interface Board 1, P/N 300-016290-XX. See Figure 1. Replace EPROM U25, P/N 106-816929-XX with P/N 106-841135-03. See Figure 2. Reinstall Board.
5. Repeat step 4 for Serial RT Interface Board 2, if present. See Figure 1.
6. If present, remove RT Interface Board 3. See Figure 1. This board should be returned to the customer.
7. Remove System Interface Board, P/N 300-031320-XX. See Figure 1.
8. Verify the System Interface Board is a standard 300-031320-01 (no encryption). If not, convert the board to a standard 300-031320-01 configuration using the procedures in step A.7.

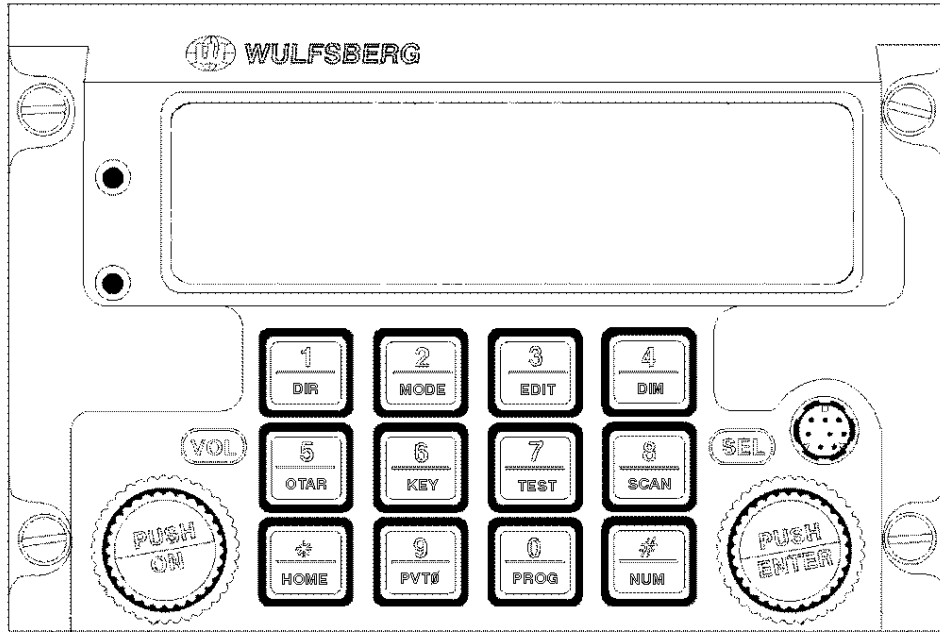
9. Verify the System Interface Board has the Automatic Level Control (ALC) circuit. If not, apply EO 2297.
10. Reinstall System Interface Board.
11. Install updated key legend, P/N 156-031345-02, per Figure 3.
12. Reinstall cover on the C-5000 chassis.
13. Affix the new Control Head and Software Mod labels. Transfer the unit serial number to the new label and mark a capital "M" in front of the serial number.



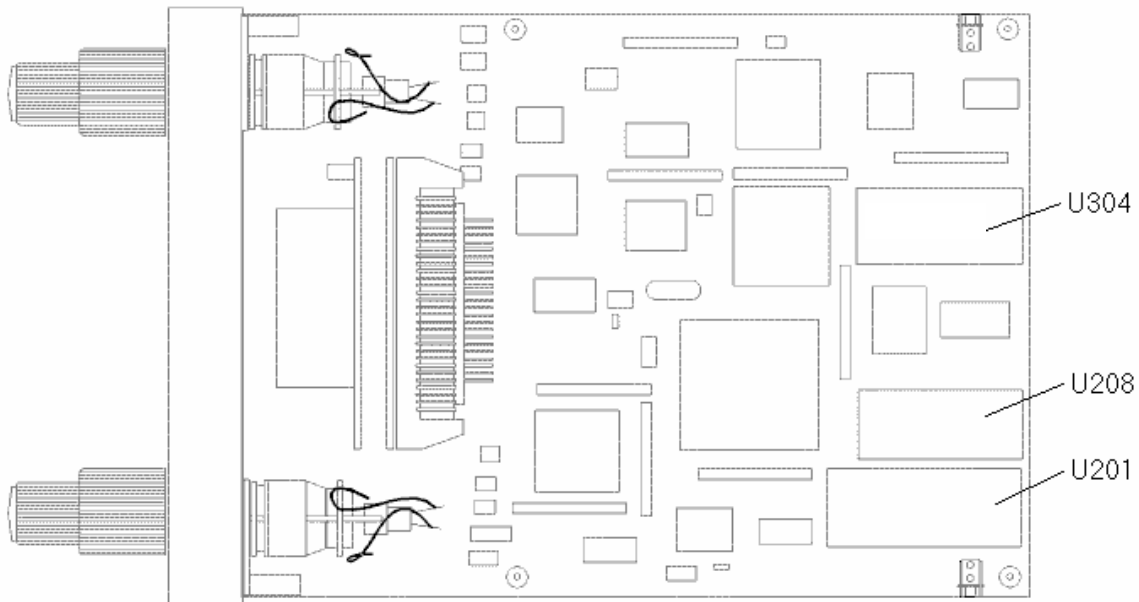
**Figure 1. Interface Board Locations**



**Figure 2. EPROM Location, Serial RT Interface Board**



**Figure 3. Key Legend Locations**



**Figure 4. EPROM Locations, CPU board**

## **UNIT IDENTIFICATION PROCEDURE**

The following table specifies the new part number, hardware Mod, and software Mod that should be applied to the refurbished C-5000.

<b>Original C-5000 P/N</b>	<b>Refurbished C-5000 P/N</b>	<b>Hardware MOD</b>	<b>Software MOD</b>
31300-0a01-bcde	31300-1a02-1cd0	1	10

a, b, c, d, e = Any digit

## **UNIT TESTING PROCEDURE**

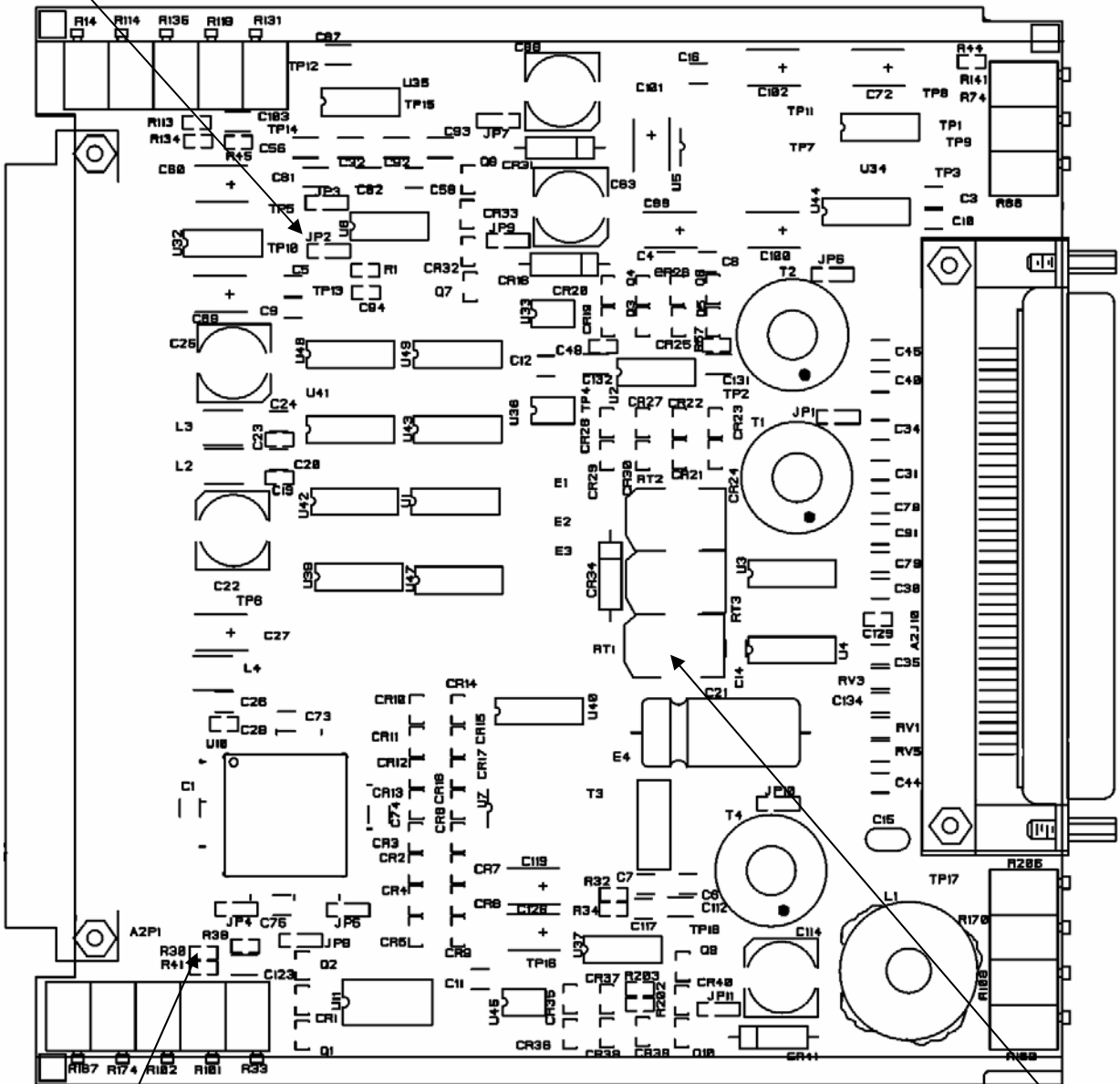
When the unit is powered on, check to ensure that part number 106-841141-09 is displayed after the copyright messages.

Perform a complete functional test of the unit in accordance with the Automatic Test Equipment (ATE) Test Procedure, specified in the C-5000 Maintenance Manual, P/N 150-040127.

FIGURE 5.

TOP VIEW

JP2

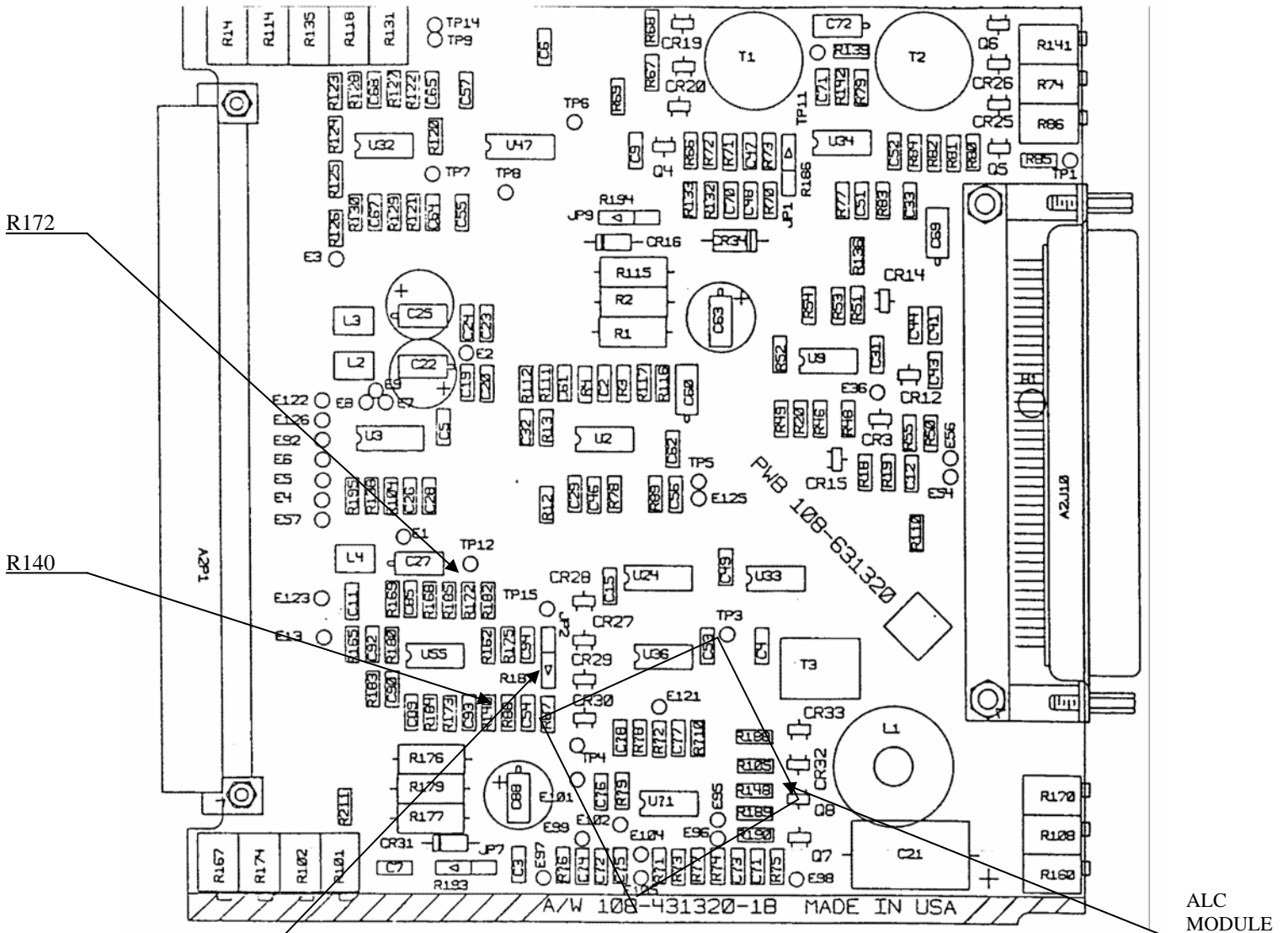


C-5000 SYSTEM INTERFACE MODULE BUILT USING  
PARTS LIST 310-031320-02 REV. R OR LATER

RT1

R30

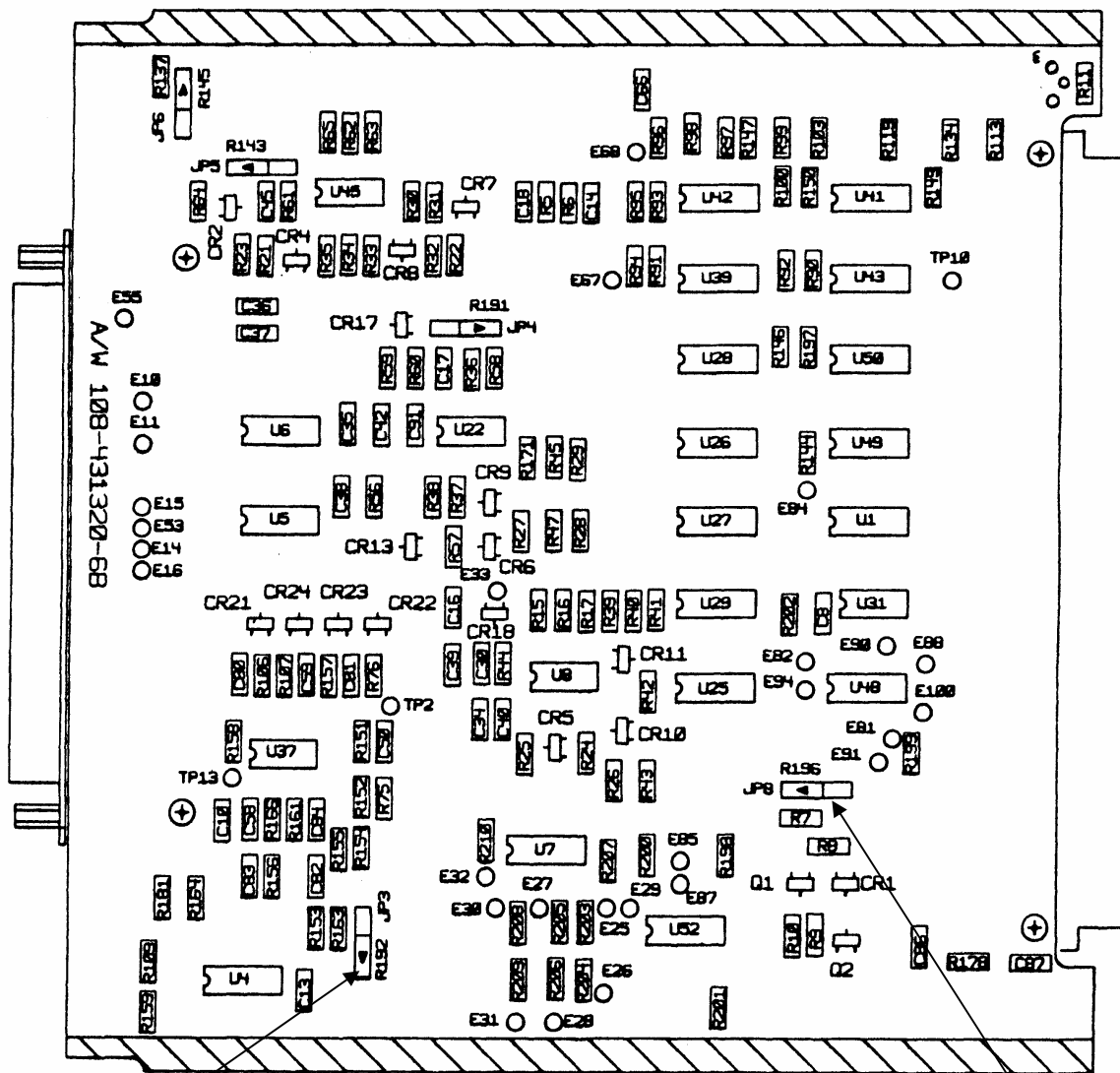
FIGURE 6  
TOP VIEW



C-5000 SYSTEM INTERFACE MODULE BUILT  
USING PARTS LIST 310-031320-0X REV. N OR EARLIER

JP2

FIGURE 7  
BOTTOM VIEW



C-5000 SYSTEM INTERFACE MODULE  
USING PARTS LIST 310-031320-0X REV. N OR EARLIER

JP3

R196