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## SERVICE BULLETIN

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(Equipment Previously Supplied By Honeywell)

### REVISION 1 to SERVICE BULLETIN SB-T-03-RDR-1FB-001

#### NC-105B NAV Concentrator

**Part Number 381-5000-001 (Unit Mod 2) and  
Part Number 8095679-1001 (Unit Mod 7)**

**Subassembly Mod 4 to Master Processor Module  
P/N 3606423-0501**

#### REASON FOR CHANGE:

. Revision 1 changes the effectivity to limit the modification to units that have been manufactured by Telephonics. When Telephonics acquired the product line from Honeywell/Allied Signal, redesign was required due to many obsolete parts. As a result Service Bulletins written by Telephonics will not work on Honeywell Units

This service bulletin provides hardware changes and new software to correct Power-Up BIT and Normal Run-Time Operation problems associated with the Master Processor Module ARINC 429 LSI chip (U3).

#### Summary:

As a result of making these changes the NC105 Software Ident. Code is updated to "D" and the unit modification status of the Nav Concentrator unit is updated to "Mod 2" for p/n 381-5000-001 and "Mod 7" for p/n 8095679-1001. The Master Processor Module is updated to "Mod 4".

#### PART 1, PLANNING

##### 1. Effectivity

NC-105, Part Number 381-5000-001, retrofit Serial Numbers T2000. –T2010

NC-105, Part Number 8095679-1001

- No retrofit is required for Telephonics units (serial numbers T2000 and up) because they have been manufactured with these changes.
- No retrofit is possible for Honeywell Units (i.e. Serial Numbers that do not start with the letter "T").



**2. Reason**

This change ensures that for the ARINC 429 chip, proper operation will be obtained.

**3. Description**

This change replaces two PROMs in the unit, adds a Power Supervisory Circuit, modifies the printed wiring of the Master Processor module, updates the software identification plate, the unit mod status and the mod status of the Master Processor Module of the Nav Concentrator unit.

**4. Compliance**

This is a required change.

**5. Approval Statement**

This service bulletin contains no modification information that revises the approved configuration and therefore does not require governmental or other regulatory agency approval.

**6. Manpower**

One (1) hour of labor including testing are estimated to incorporate this modification.

**7. Weight and Balance**

None.

**8. Electrical Load Data**

Not Changed.

**9. Software**

This change incorporates software version D for the Master Processor Module of the Nav concentrator unit.

**10. References**

|              |                         |
|--------------|-------------------------|
| 381-5000-001 | Outline Drawing         |
| 8095679-1001 | Outline Drawing         |
| 3606423-0501 | Master Processor Module |

**11. Affected Publications**

|                |   |
|----------------|---|
| 006-15596-0000 | Component Maintenance Manual<br>(Parts Lists) |
|----------------|---|



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## **12. Warranty**

One (1) hour of labor will be allowed for units in warranty.



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**PART 2, MATERIAL INFORMATION**

All parts necessary to upgrade an NC-105B according to this service bulletin are listed below:

| <b>Part Number</b> | <b>Qty</b> | <b>Description</b>  |
|--------------------|------------|---|
| T5962-0278-001     | 1          | Power Supervisory Circuit, U24  |
| 381-9E05-004       | 1          | Master Processor Software, U9   |
| 381-9E05-003       | 1          | Master Processor Software, U15  |
| 26268-0001         | 1          | Plate, Identification<br>(marked SW ident code D per<br>modification 2 of p/n 381-5000-001 and<br>modification 7 of p/n 8095679-1001. ) |
| 985207-2           | A/R        | Epoxy, Resin  |
| M81822/13B30       | A/R        | Wire, Electrical  |
| 985034-1           | A/R        | Adhesive  |

Contact Telephonics for current material pricing. Please Refer to PCN Number 381-252A and this service bulletin



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### **PART 3, ACCOMPLISHMENT INSTRUCTIONS**

- 1) Disassemble the NC-105B according to component maintenance manual procedures found in the Disassembly section, page 301, to access the Master Processor Module.

#### **CAUTION**

Replacement modules will be packed in conductive foam to protect them from static charges. Do not remove the module from the foam until ready for installation in the unit. Take all anti-static precautions when handling these modules.

- 2) Remove Board 3606423-0501, Master Processor Module:

a) Perform Special Assembly Instructions shown below.

SPECIAL ASSEMBLY INSTRUCTIONS

SPECIAL ASSEMBLY INSTRUCTIONS ARE FOR -0501 ASSEMBLY ONLY AND MUST BE IMPLEMENTED SEQUENTIALLY.

STEP A

ON THE SOLDER SIDE OF THE BOARD, IMPLEMENT THE CUT LISTED IN THE CUT TABLE (TABLE I) AS SHOWN IN FIGURE 1. COVER ALL CUTS WITH FIND NO 6. USE THE LISTED CONTINUITY POINTS AS VERIFICATION THAT CONTINUITY HAS BEEN BROKEN.

STEP B

ON THE COMPONENT SIDE OF THE BOARD, IMPLEMENT THE CUT LISTED IN THE CUT TABLE (TABLE I) AS SHOWN IN FIGURE 2. COVER ALL CUTS WITH FIND NO 6. USE THE LISTED CONTINUITY POINTS AS VERIFICATION THAT CONTINUITY HAS BEEN BROKEN.

STEP C

ON THE SOLDER SIDE OF THE BOARD INSTALL COMPONENT (F/N 70) & JUMPERS IAW THE JUMPER TABLE (TABLE II) USING FIND NO 7 AS SHOWN IN FIGURE 3. TACK BOND THE JUMPERS TO THE BOARD AS NEEDED USING FIND NO 8. VERIFY THE JUMPERS BY TESTING BOARD CONTINUITY AS INDICATED IN TABLE III.

| CUT TABLE I  |       |                   |
|--------------|-------|-------------------|
| FROM         | TO    | CONTINUITY POINTS |
| VIA UNDER U5 | U5-22 | U2-5 TO U5-22     |
| U11-9        | VIA   | U11-9 TO TP19     |
|              |       |                   |
|              |       |                   |

| JUMPER TABLE II |        |                   |
|-----------------|--------|-------------------|
| FROM            | TO     | CONTINUITY POINTS |
| U5-22           | U9-22  | U5-22 TO U2-3     |
| U24-GND         | U11-7  |                   |
| U24-VCC         | U11-14 |                   |
| U24-RESET       | U11-9  |                   |

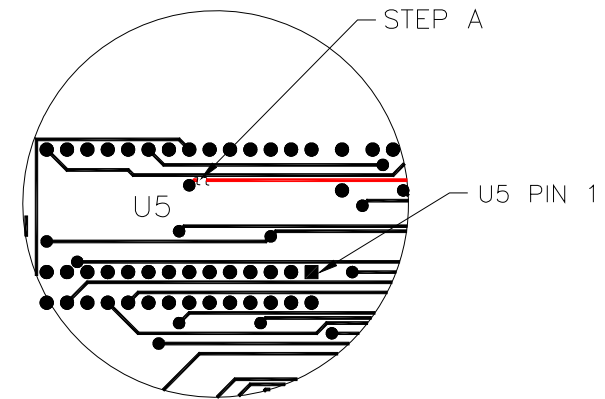


FIGURE 1  
VIEWED FROM SOLDER SIDE

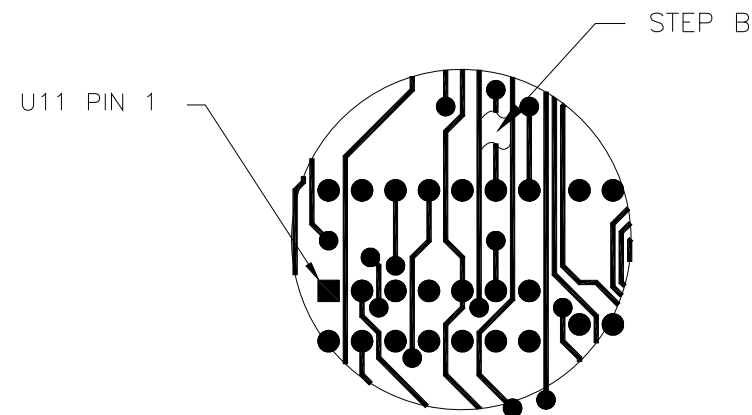


FIGURE 2  
VIEWED FROM COMPONENT SIDE

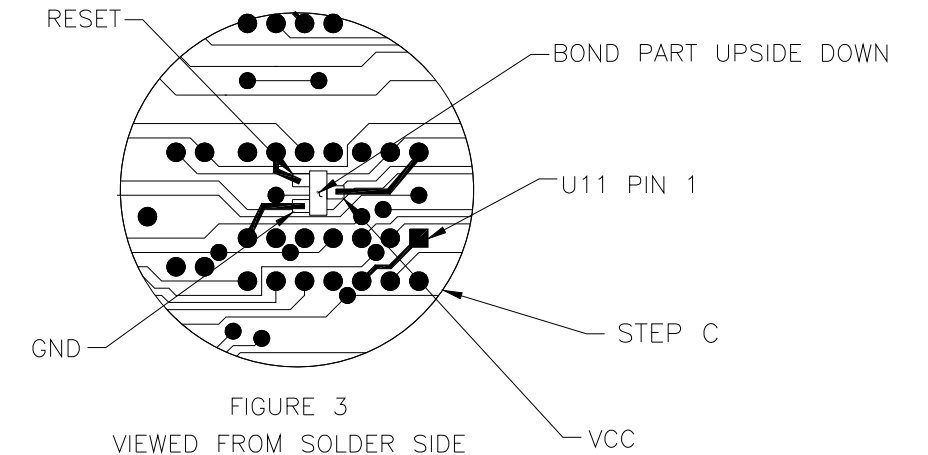


FIGURE 3  
VIEWED FROM SOLDER SIDE

**NOTE: "VIA" is a connection between solder and component sides through the board.**



b) Remove and replace microcircuit at U9 per the following table:

| Part Number  | Replace with |
|--------------|--------------|
| 381-9E05-002 | 381-9E05-004 |

c) Remove and replace microcircuit at U15 per the following table:

| Part Number  | Replace with |
|--------------|--------------|
| 381-9E05-001 | 381-9E05-003 |

- 3) Place a dot of red paint on the board modification decal to indicate that mod 4 has been accomplished for the Master Processor Module.
- 4) Reassemble the unit according to the instructions in the Assembly Section, page 701, of the Component Maintenance Manual.
- 5) Perform a complete functional test of the unit in accordance with the Testing and Troubleshooting section, page 101, of the Component Maintenance Manual.

#### 6) IDENTIFICATION PROCEDURE

Remove and replace the Software Identification Code Plate with the Software Identification Code Plate marked for Revision D.

Place a dot of red paint on the Modification Plate on the front of the NC-105B Nav Concentrator Unit to indicate that Mod 2 (for p/n 381-5000-001) and Mod 7 (for p/n 8095679-1001) has been accomplished.

Place a dot of red paint on the board modification decal to indicate that Mod 4 has been accomplished for the Master Processor Module.



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