



CODAN

Design fault in the DSP Modem PCB in the 9001 Fax & Data Interface

Introduction

This Service Bulletin affects the users of the 9001 Fax & Data Interface with serial numbers CO500 to CO629. There is a design fault in the DSP Modem printed circuit board (PCB) (part number 08-04826-001) in the 9001 that affects the performance of the 9001.

The “-ACK line” of the 9001 Fax & Data Interface is being held low as it passes through a via (a through-hole connection between the tracks on either side of the PCB). The via is shorting to the ferrite of T1.

The ferrite creates a 1 kΩ resistance to ground through the clip holding the two ferrites together. This creates a parallel port interrupt on the PC Expansion PCB (see Figure 1). This activity on the PC Expansion PCB initiates a “BUSY” response in the 9001, which responds as if it is printing. The most common cause of this problem is solder in the via running underneath T1.

This problem has only occurred recently in the factory, however there may be some PCBs in the field that are faulty due to rough handling.

Symptom

When the 9001 is sending

When the 9001 is sending a text or binary file, it displays a message, “Channel Busy, try again later”.

When the 9001 is receiving

The 9001 will not respond when receiving a text file, binary file, or fax.

Action

To correct the problem, the solder in the via running underneath T1 on the DSP Modem PCB must be removed. To access the via, T1 must be removed.

Removing the DSP Modem PCB

- Switch the power off to the 9001.
- Remove the front panel of the 9001 by removing the four securing screws.
- Locate the slot containing the DSP Modem PCB at the top right-hand corner of the interface (see Figure 1).
- Pull the lever forward and remove the DSP Modem PCB (part number 08-04826-001).

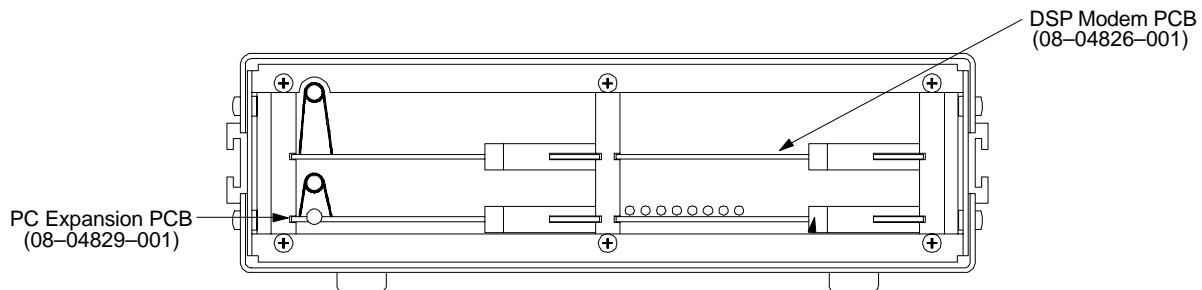


Figure 1: Position of the DSP Modem PCB in the 9001

Removing Transformer T1

To remove T1:

- Desolder T1 from the DSP Modem PCB (see Figure 2).



Do not damage any of the pads on the PCB.

Removing the solder from the via

- Locate the via, which runs directly underneath T1 (see Figure 2).

The via has a track between pins 27 and 26 of IC11.

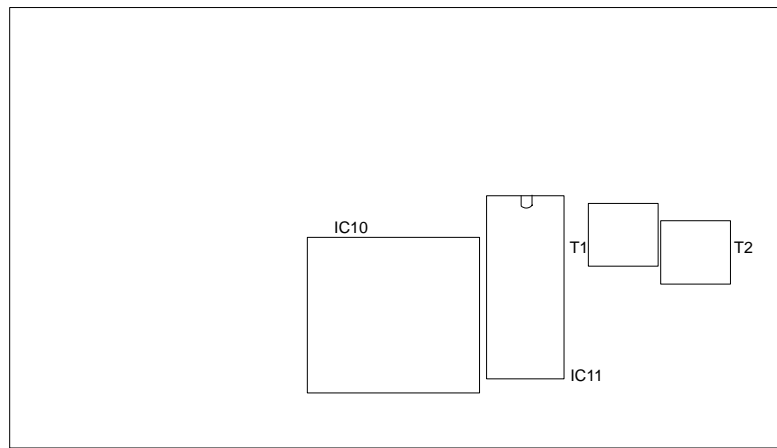


Figure 2: DSP Modem PCB

- Remove the solder with a solder wick.
 - ↪ Check that there are no sharp pieces of solder protruding from the via.
- Place a piece of insulating tape over the via.
 - ↪ Ensure that the via is completely covered by the tape.
- Resolder T1 to the DSP Modem PCB.

Checking the operation of the DSP Modem PCB

- Connect a multimeter (that reads ohms) to the via from underneath the PCB, and to the largest pad next to it, or a ground pin of an IC, e.g. pin 16 of any EPROM.

The multimeter should show a reading of approximately 3.5 M Ω .
- While the multimeter is still connected, push down lightly on T1.

If the multimeter still reads approximately 3.5 M Ω , then continue from *Reinstalling the DSP Modem PCB into the 9001*.

Otherwise, repeat the steps from page 2, *Removing Transformer T1*.

Reinstalling the DSP Modem PCB into the 9001

- Replace the DSP Modem PCB in the slot at the top right-hand corner of the 9001 (see Figure 1).
- Replace the front panel of the 9001 and secure it into position with the four securing screws.
- Switch on the 9001 and try sending a text or binary file using 9102 Fax & Data Controller software.
 - ↪ If the 9001 begins sending the text or binary file, the problem has been rectified.