How to Troubleshoot the IMACS E&M Card

Table of Contents

Scope
This document pertains to the IMACS 600, 800, and 900.

Introduction
This document is guide on how to determine if an E&M card is faulty. An E&M card may be faulty if a voice signal is not received at one end of the circuit, or if the E&M signaling is not detected. There are many possible causes why the card may not receive a signal. The following is a list of causes:

- Faulty receiving CPE at the near end (where the problem was first noticed)
- Faulty transmitting CPE at the far (opposite) end
- Faulty cabling between the CPE and E&M card at either end
- Faulty E&M card at either end
- T1 or E1 network failure
- Improper card configurations at either end (e.g., time slot and/or WAN assignments)

Troubleshooting Steps

1. Verify the T1/E1 Network has not failed

1a. First verify that the T1/E1 network has not failed. Check CGA –Red alarm on the associated WAN port at the end where the incoming VF signal loss is first noticed. The CGA indicates that the incoming network signal was lost (or that the receiving WAN port is out frame). During the CGA, all voice ports with time slots on that WAN port will also be disabled, and the associated far-end WAN port will be in a CGA-Yellow alarm state. If the network is faulty, you must clear that trouble to restore circuits.

2. Verify WAN ports and time slots are correct

2a. If the network is okay, verify that the proper WAN ports and time slots are assigned to the associated E&M voice ports at both ends. In order to confirm WAN ports and time slots initiate the following procedure:

- Log into IMACS via Term port on Interface card. Make sure VT-100 Terminal Emulation is set for 9600bps, 8, N, 1.

- At main screen, highlight E&M card and press `<enter>`.

- View E&M configuration screen and verify WAN ports and timeslots are correct.

- If they are not, change as needed.

If E&M card port parameters are correct at both ends, and if the network is okay, the trouble is isolated to the E&M card or associated port. Proceed to step 3.

3. Verify E&M Card is functioning properly

3a. At the far end, activate an analog loop back on the E&M card port.

3b. Send a 0dBm (digital milliwatt) test signal toward the CPE at that end. That signal will be substituted for the normal signal coming from the far-end CPE; it will be sent back to the CPE at your end via a loop back path.

3c. Check your CPE for this signal. If it is present, the far end CPE or cabling to the far-end E&M is probably faulty. Disable the loop back and test signal there and fix problem. If you still don't receive a signal proceed to step 3d.

3d. At your end, go to the E&M Card's main screen and send a digital milliwatt test tone (0 dBm) toward the CPE. If you still don't receive a signal, check the cabling from the E&M card to your CPE, and check the CPE itself. If those are okay, replace E&M card on your end.

3e. If the E&M card is determined to be faulty, replace it and return the faulty unit for repair to the location specified by your distributor.