



Facsimile

To Ross Anderson

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From Alan Barrow  
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K01489

Subject COT Case

Date 29 October 1993

Ross,

The following pages are copies of my fax machines journal and the protocol printouts of failed calls.

On the date of 28-OCT-93 we were trying to create a line failure condition that would re-produce the same error on the transmitting machine and no record on the receiving Mitsubishi machine (055 267 230). The reason for this was to show that a sending fax machine could get to the point of transmitting a page to the Mitsubishi fax machine without the Mitsubishi machine having any record of the call.

The COT case call in question was the 27-10-93 at 10:46 on the journal (it is suspected that the clock in this machine is approx ~~1 Hour~~ <sup>45-46 min</sup> ~~and 15 minutes~~ in error). The duration of the transmitting machine page of 2:21 minutes suggests that the call failed at the end of the page, possibly when requesting a reply from the receiving end. The presence of the ID in the journal of "055 267230" indicates the call was connected to the Mitsubishi fax machine in question. The receiving Machine has no matching entry in its journal for this call.

A call was placed to 055 267230 and connectivity terminated at the beginning of the page but this resulted in an error of NG in the journal along with the ID of the calling fax machine. The only way to reproduce the conditions experienced above was to interrupt the power on the receiving Mitsubishi fax machine. This would result in an entry in the transmitting machine and no entry whatsoever in the receiving Mitsubishi machine.

During testing the Mitsubishi fax machine, some alarming patterns of behaviour were noted, these affecting both transmission and reception. Even on calls that were not tampered with the fax machine displayed signs of locking up and behaving in a manner not in accordance with the relevant CCITT Group 3 fax rules. A half A4 page being transmitted from this machine resulted in a blank piece of paper 4cm long. the relevant protocol printout in sample #2 shows that the machine sent the correct protocol at the end of the page. Even if the page was sent upside down the time and date and company name should have still appeared on the top of the page, it wasn't. During a received call the machine failed to respond at the end of the page even though it had received the entire page (sample #3). The Mitsubishi fax machine remained in the locked up state for a further 2 minutes after the call had terminated, eventually advancing the page out of the machine.

Regards  
Alan Barrow

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