PSB: 663 APC: 632 DEADLINE: N/A

Subject: 800Mhz MSF 5000 Trunking System Access Time, and Audio Level.

Models Affected: C65CLB5103AT, C85CLB5103AT

ACCESS TIME

There have been instances of longer than usual access times on Type I trunked systems using MSF5000 base stations. Often, an out of range "Honk" precedes the 3 talk permit beeps when accessing the system.

The problem is that there is a noise burst present during the high speed handshake sent by the base station. The subscriber units cannot decode the handshake during the noise burst, and therefore access time is delayed.

The first MSF5000 800Mhz stations were shipped with the RX audio bit programmed a "C". This means that a connect tone detect will open the receiver squelch, and the squelch pot on the front of the station has no effect. The central controller applies a connect tone detect signal to the station when it is keyed to speed the unsquelching process. The problem is that this opens the squelch, and causes unsquelched receiver noise to be transmitted, which interferes with the high speed handshake data.

The solution to the problem is to set the RX audio to "SC". This requires an RF SIGNAL (S) to be present as well as connect tone (C) to open the squelch, or in other words, "AND" squelch. This will keep the receiver muted during the high speed handshake, and also allow the squelch pot on the station to be operational. Note that MICRO TRUNKING STATIONS were all jumpered for "AND" Squelch.

Regarding Type II trunking systems: 900Mhz trunking and "Fast Access" systems do not have a high speed handshake. Instead, the subscriber unit unsquelches immediately when it is assigned a voice channel. In these systems, the noise burst will not delay the access time. In fact, setting the RX audio bit to "C" will improve the access time by approximately 20 ms. The reason is that the base station unsquelches before the RF from the subscriber unit gets into the receiver. The drawback is that the squelch pot is disabled.