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## ARCO SOLAR CHATTERBOX<sup>®</sup> APPLICATION ARTICLE

Recently I helped the Facility Engineer at ARCO SOLAR get his first Chatterbox<sup>®</sup> on line. I am writing this report on some of the details because, although different from the usual installations, there may be other related applications which can be handled in a similar way.

Upon activation of the general alarm system in either of two buildings at the ARCO SOLAR Chatsworth facility, both require evacuation and the alarm condition requires immediate emergency attention. The alarm systems are independent of one another and a general alarm sounds only in the building where its alarm system is located. One CB-4 is located in each building. These units have the UPS-425 vocabulary option with "goodbye" eliminated and a few words added. The most significant and unusual additions were DTMF "#" and DTMF "\*". The DTMF # tone is vital to one of the customer required alarm functions as noted below, DTMF "\*" is not used in this application.

Each CB-4 performs two alarm functions. It acts as a voice annunciator only through the building public address system where its "twin" is located. Secondly, if not acknowledged, it will successively place a call to four different individuals through their respective pagers. The word "goodbye" was omitted from the vocabulary at the customer's request because it had a certain ring of finality considered inappropriate to an emergency public address statement.

The public address system of each building is separately accessed by dialing a single digit which is the first phone number programmed into each Chatterbox<sup>®</sup>. Reaching the individual pagers is more complex and may vary at other potential installations according to the pager system employed.

At the ARCO SOLAR facility, the pager access format is as follows:

9+(7 digits) + (11 second time delay+  
(4 digits) + (DTMF)

Dialing "9" gets an outside line with no delay, then the 7-digit number accesses the pager computer with the seventh digit specifying the individual pager. After about 10 seconds, the

accept a numeric message which is terminated by a DTMF # tone. Time Delay was checked several times by stopwatch and we concluded that 11 seconds would be safe to use. The four digit numeric message is transmitted by the paging system radio and is displayed on the receiving beeper. This 4-digit message corresponds to the CB-4's centrex extension number.

There is a 6 second delay between the Chatterbox<sup>®</sup> dialout and the station I.D. announcement. The second and each succeeding phone number (P.A. system is first) is "9" followed by one of the 7-digit individual pager numbers followed by five delays of one second duration each. Note that each one second delay occupies one of the phone digit locations and it would therefore require a 24 digit entry to successfully dial the paging system. Up to this point we have used 13 of the available 16 phone number digits, which leaves only 3 remaining phone number digits in each phone number "cell". The 5 seconds programmed after the phone number plus the built-in 6 second delay at the completion of dialout will provide the necessary 11 second delay, assuming that we enter the remaining "message" digits at the station ID location.

We solve the problem by entering the last five digits (4-digits + DTMF #) in the station ID location using DTMF tone coding. This procedure would be necessary (at least for DTMF #) for this type of paging system even if memory space were available in the phone number location, because the message-terminating DTMF # cannot be entered as a number, but is available as a coded word only.

The lack of a "real" station ID is no problem since each channel message contains a reference to the site by mentioning the building number where the Chatterbox<sup>®</sup> is located. The five dial tones preceding the alarm message are not particularly noticeable and may actually be an enhancement!

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