

TECHNICAL NOTE TN-1016

TM8100 Selcall Tone Blanking Operation

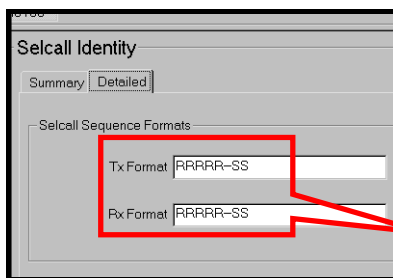
26 May 2005

Applicability

This Technical Note details the Selcall Tone Blanking fields in the TM8100 Programming Application v2.80 and how they function to provide muting of received Selcall audio.

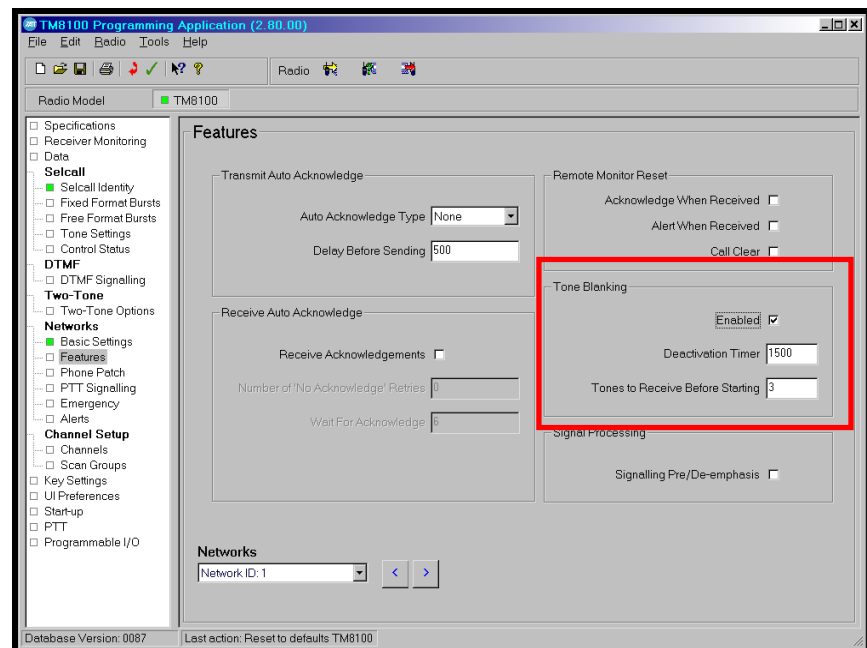
1. PC Application Change

Deactivation Timer



Sets a timer that, when elapsed, will prevent tone blanking from restarting for the duration of the carrier signal. The timer will start as soon as the carrier signal is detected, and can be used to prevent the radio blanking certain speech tones during a received transmission. Enter between 1 and 6000 milliseconds, or 0 to disable the tone blanking deactivation timer (default 0).

Enter a number based on the length of received sequences, taking into account any lead-in delays.



Tones to Receive Before Starting

Networks > Features

Sets the number of tones that must be received consecutively to start tone blanking. Enter a number of tones between 2 and 5. Three tones is recommended.

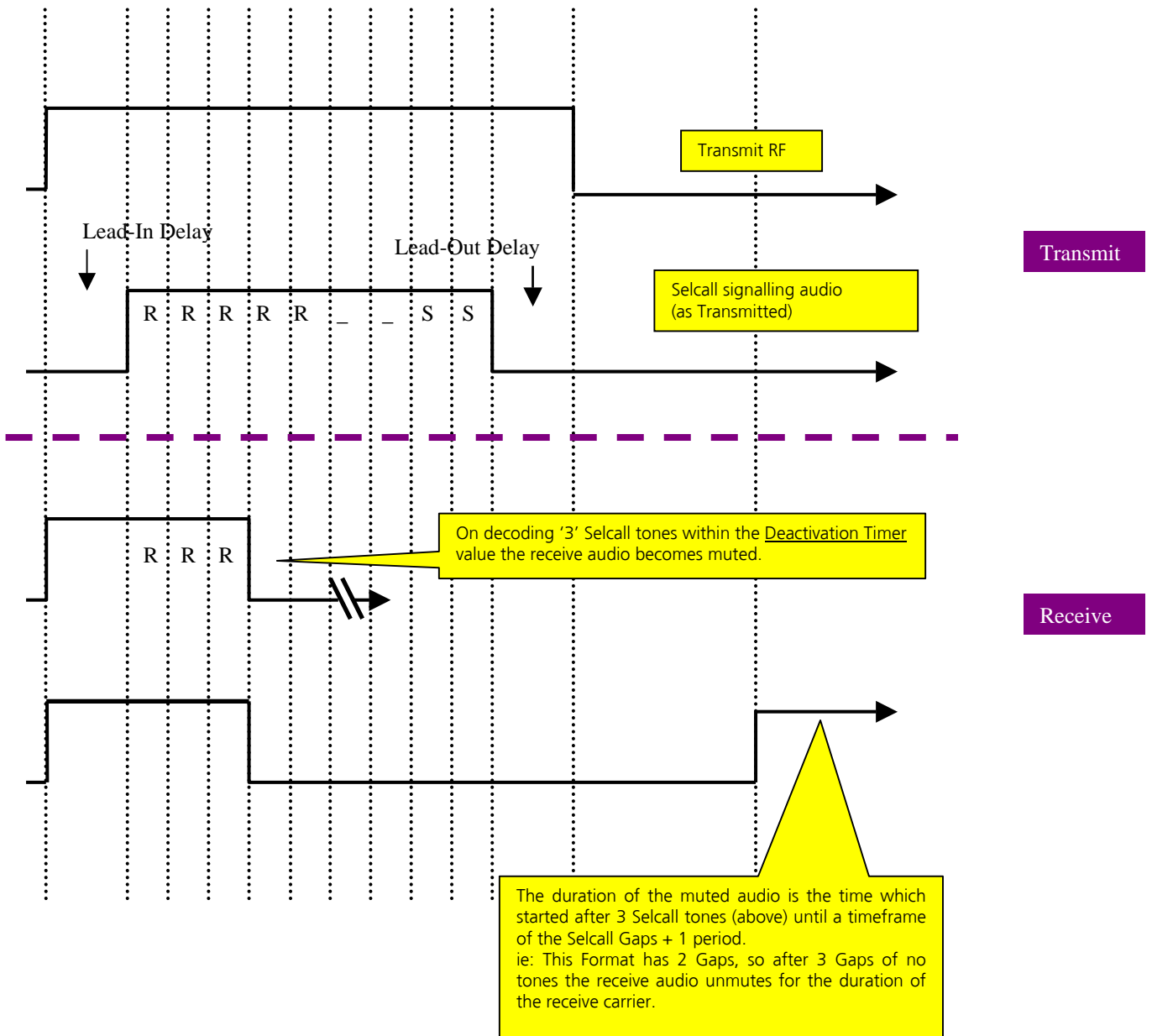
Note: If '2' is entered, certain speech tones may be blanked out during a call, especially if using 20ms Tone Periods and Tone Gaps.

2. Graphic of Selcall

The graphic below shows a breakdown of timings expected in a standard Selcall transmission.

The Selcall Format used below is RRRRR (Gap) (Gap) SS.

Where R's are the Identity and the S's are the Status. This is the default format when adding a Selcall system to a TM8100.



The Deactivation Timer value defines the duration from receive activation that the TM8100 will verify whether Selcall tones are present in each carrier in order to be blanked.

Once either the timer has elapsed, or the blanking period of defined Gaps (+ 1) have elapsed Tone Blanking will not restart for the duration of the receive carrier.

Tone Blanking Uses

The purpose of Tone Blanking in the TM8100 is to mute Selcall tones, lowering the annoyance factor to users, from the beginning of received signals.

The prime use of this would be *Leading ANI* where a sequence is always expected at beginning of each transmission.

Another common use is a Selcall sequence from a dispatcher to a mobile where that is the only transmission signal sent.

Points to Note: Auto ACK and Bench Testing

Once the Tone Blanking timer has elapsed, further blanking will not occur for the duration of that carrier, so *Trailing ANI* cannot be muted with this feature.

Note also that if the Selcall Acknowledge occurs within the first carrier ie: the repeater hasn't yet shutdown, the reply will not be muted as this will occur after the blanking period and gaps have elapsed.

If the Acknowledge occurs in a new carrier it will be muted. To ensure this occurs the Networks > Features > Transmit Auto Acknowledge > Delay Before Sending will have to be long enough to allow the repeater to shutdown first.

If Tone Blanking is enabled, radio's tested on the bench with a test-set will not open the receive mute if a 1KHz or similar tone is present when the radio starts receiving the on-carrier RF signal. This depends on the Selcall Tone-set used, for instance CCIR 'D' is 991Hz.

Solutions to this can be either disabling Tone Blanking before testing or ensuring the 1KHz tone is not present on the carrier until the Tone Blanking period has elapsed (eg: 1500ms).

Compliance Issues

None.

CSO Instruction

CSO's – Please inform all technical staff, and dealers of this information.

3. Issuing Authority

Name and Position of Issuing Officer

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Distribution Level

Associate.

Document History

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