



G1 White Papers

A Simplified G1 Programming Tutorial

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Unication USA, Inc. also hosts periodic Webinars that cover the basics of G1 Programming.
To view past Webinars via our YouTube channel click on the picture below:



G1 PPS QUICK START GUIDE

This section will provide an overview of loading and using the G1 PPS.

I. Loading the Pager Programming Software (PPS)

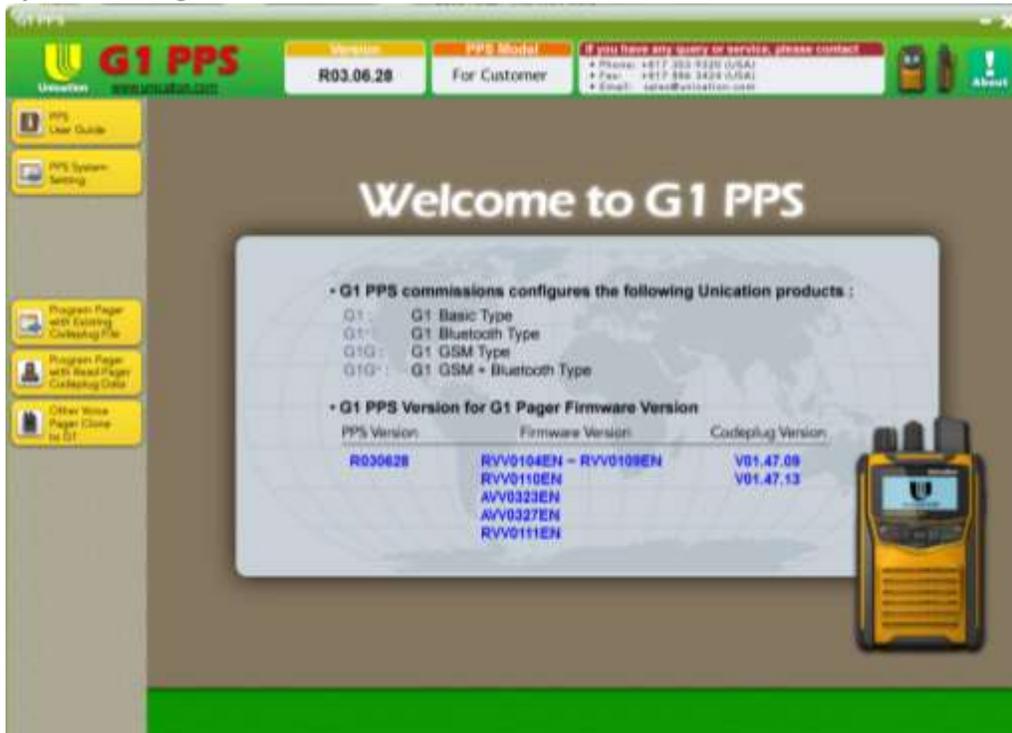
- a. The G1 PPS is compatible with Windows XP, Windows 7 (32 and 64 bit) and Windows 8 operating system environments. If you do not have the programming CD that was included with your G1 Programmer purchase, you may download the PPS from our web site at www.UnicationUSA.com. Current PPS is available under the “Downloads” section.
- b. Place the PPS to your Desktop and open the PPS application. A step by step process will lead you through the installation.

II. Reading the G1 Pager

- a. Place the G1 in the programmer and make sure the G1 Belt clip locks the pager securely into the programmer. Turn the G1 on and then launch the G1 PPS application.
NOTE: It is important that the G1 programmer be connected to the computer BEFORE the PPS application is launched.
- b. The below screen will be displayed and just click on “Login”



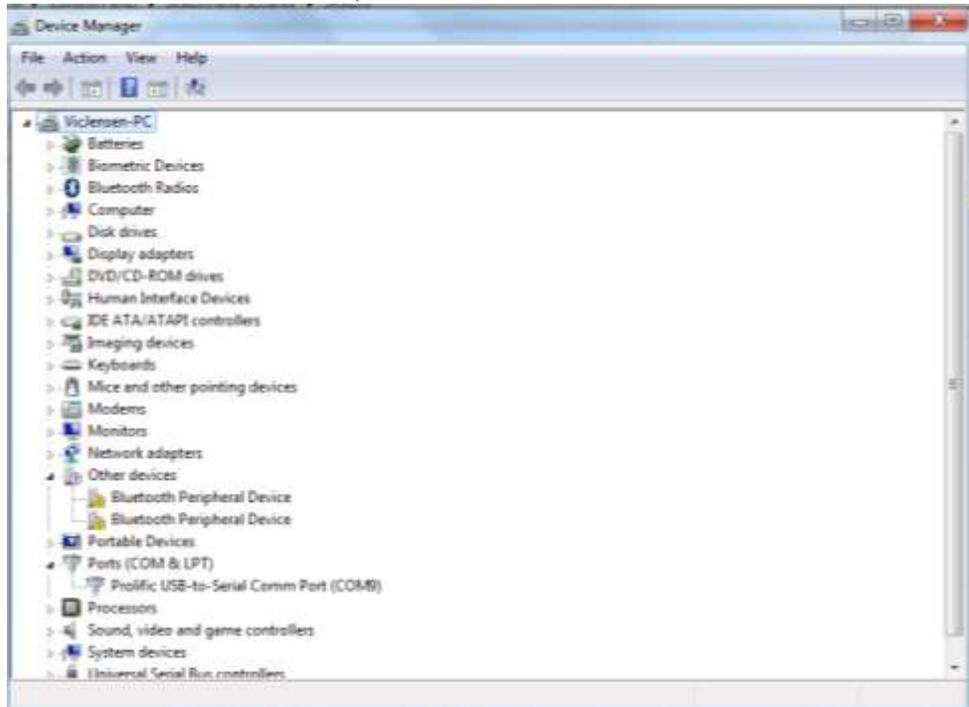
- c. After clicking on “Login” the below screen is displayed. A PPS User’s Guide is provided by clicking the top left hand tab. A more detailed installation process and description of G1 settings is provided than in this Quick Start Guide. **With the G1 programmer connected click on the “PPS System Setting” tab.**



- d. The below screen shows the “Com Port” the programmer is connected to. If no Com Port is shown in this field go to step i.



- i. If no Com Port is shown in the field above you will have to go to the Device Manager to determine which Com Port has the G1 Driver. To access the Device Manager right click on the computer icon on the Desktop for Windows XP environments or for Windows 7 environments click on the Start icon (Windows 7) , find Computer and then right click. Select Properties and find Device Manager. Click on it and you will see the below listing. Expand the Ports and look for the one labelled “Prolific USB-to-Serial Comm Port”. Note its port number.



- ii. Go back to paragraph d. and click on the pull down to determine if this port is displayed. If so, click on it and it will now be displayed in the Com Port field. Click on the Save tab.

CLONING A MINITOR V .DAT FILE

The G1 PPS (Pager Programming Software) allows you to take a Minitor V dat file and create a representative cp file to be used by the G1. This document will describe the process to perform this translation.

1. Gather the correct files

To perform this translation you will need the Minitor V dat file and the G1's default cp file for the band split desired. It is important to note that this translation only works for Minitor V pagers and not with previous models (Minitor 1-4).

2. Launch the G1 PPS Application

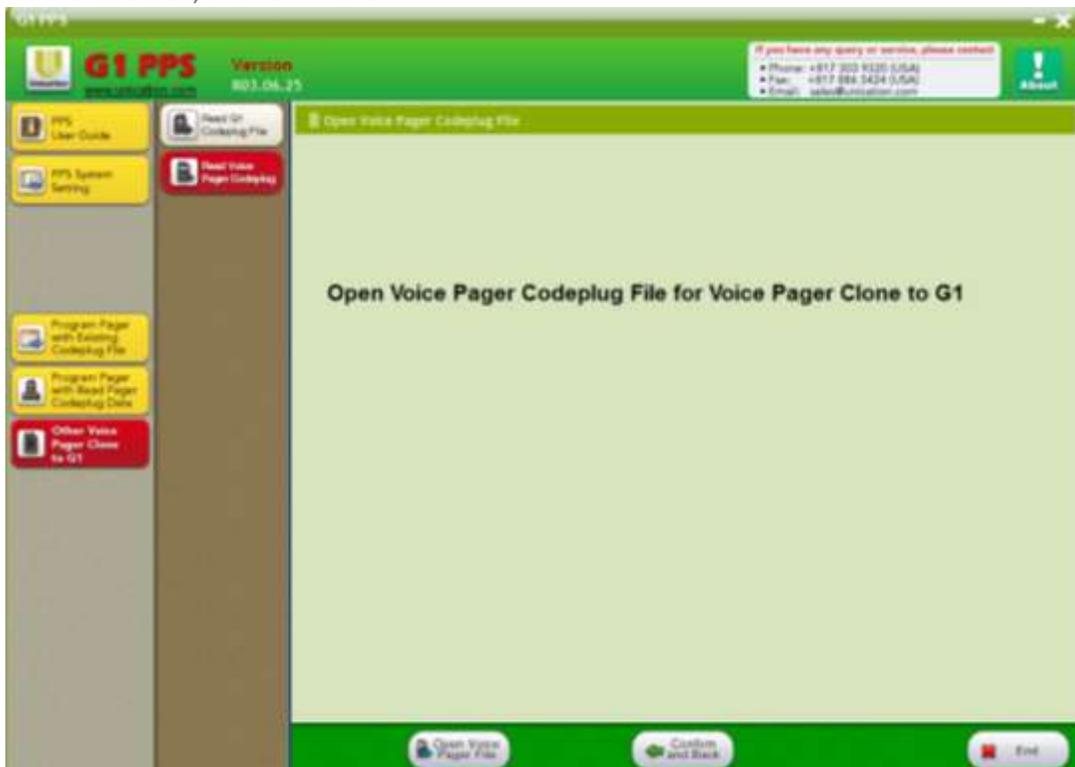
- a. After launching and logging into the G1 PPS, you will note on the left hand column "The Other Voice Pager Clone to G1" tab.



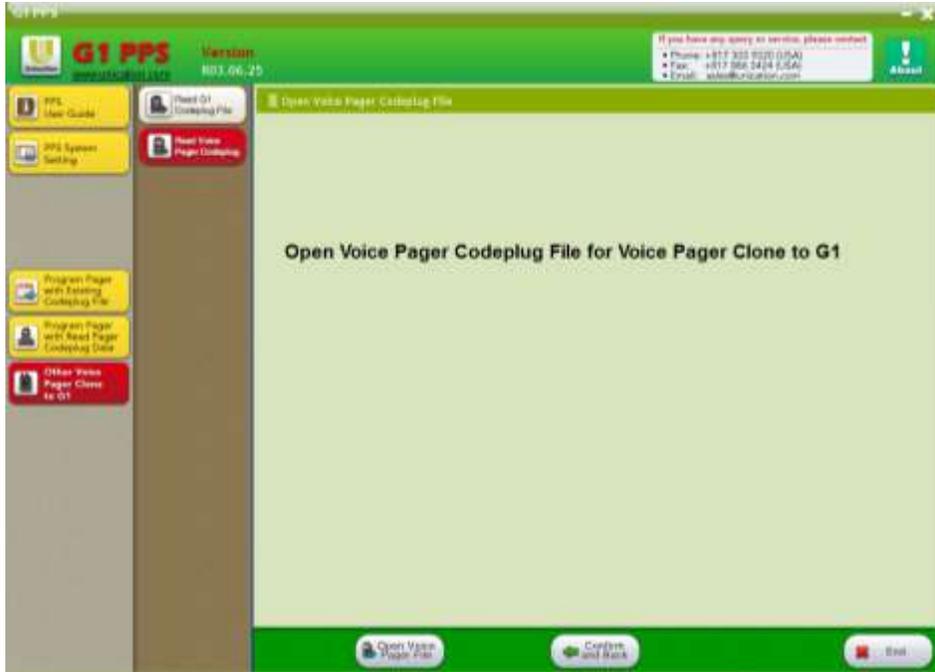
- b. Click on this tab and you will be asked to select the default G1 cp file.



- c. Once selected, click on "Next".



- d. Select the appropriate Minitor dat file by clicking on “Open Voice Pager File”.



- e. Find the Minitor V dat file to be translated and once found click on “Open”. The translated G1 cp file will be displayed. The Minitor’s settings that have been converted to G1 settings are highlighted in the color red (note the “Band Split” below).



- f. It is recommended that you verify all critical parameters to ensure no mistakes occurred in the translation process.

II. Finishing Up

Once all settings are verified it is suggested that you create Source and Channel Alias’s. Also, if more frequencies (Minitor V is limited to 2) are desired, add them and assign the desired alias. Selector Knob positions 5-8 can be programmed for additional functionality.

PROGRAMMING WAV FILES IN THE G1 VOICE PAGER

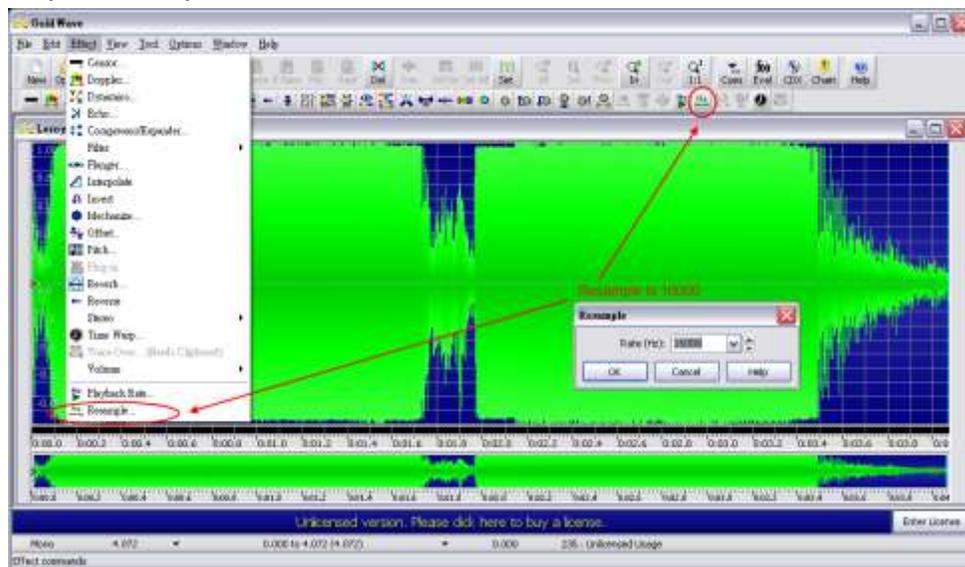
With device software RVV0114EN the G1 can now be configured to use customized wav files along with the standard and pleasing alert selections. In addition, wav files can be substituted for the standard voice prompts (Selective Call, Monitor, etc.).

Creating wav files and programming the G1 will be covered in the following sections.

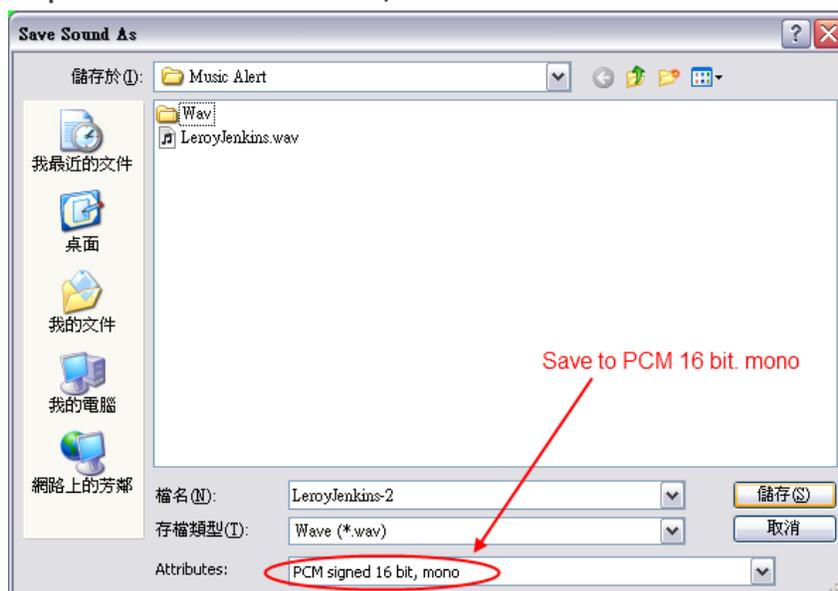
I. Creating Compatible wav Files

The wav file format used by the G1 is 16 bit PCM Mono format. If your desired wav files are not in this format they can be converted using GoldWave, <http://www.goldwave.com/>, which is an audio editing application. See the below screen shots.

i. Step 1- Resample to 16000 Hz



ii. Step 2- Save File as PCM 16 bit, mono



II. Programming the G1 with wav Files

Programming the G1 with wav files is a two (2) step process. Described in this section is the first step which is programming wav files in the G1. The second step is enabling these wav files when programming the G1 and this is covered in section III.

- i. With the G1 connected to one's computer launch PPS (Pager Programming Software) version R03.07.01-R01. Read the G1 and click on the new tab labeled "Music Alert/Voice Prompt Programming". The screen shot below is displayed and click on "Yes".



- ii. After clicking on "Yes" the below screen is displayed. There are two sections; one for 16 Music Alerts and another for 64 Voice Prompts.



- iii. Select “Read Voice Pager” and below is what is preprogrammed as Voice Prompts.



- iv. Now one can add optional wav file choices to either the Music Alerts or Voice Prompts lists by clicking on “Browse” to select the desired wav files stored on your computer. Below is an example where a wav file was added to the Music Alerts. One can listen to the selected wav file by clicking on the “Play File” and listening to it on the computer’s speakers.

NOTE: the “Play Pager” feature does not work at this time since the new wav file has not been programmed in the G1.



- v. Once all the wav file selections have been made you can click on “Write Pager”. Programming the G1 may take a few minutes and once programming is completed the “Play Pager” feature will work and you can hear the new wav files played back on the G1.
- vi. Click on the “Program Pager with Read Pager Codeplug Data” tab to begin the final steps in programming the G1.

III. Enabling the wav Files in the G1

- i. Music Alert Wav files can be assigned in Tab F as an “Alert Tone” and in the Zone settings of Tab H. Refer to the below two screen shots. Once assigned they can be played back clicking on “Play Pager”.



- ii. Voice Prompt wav files are assigned in Tab H in the new “Voice Prompt Index”. With earlier version G1s, once the Function Mode was selected the associated Voice Prompt was automatic and could not be changed by the User. Now one has to choose the appropriate “Voice Prompt Index” setting for the desired Function Mode.



IV. Potential Errors

When programming the G1 with wav files the following has to be taken into consideration.

- i. When reprogramming a G1 the wav files have to set and programmed to the G1 first (refer to Section II above).
- ii. Saving one’s cp file and sending it to another associate using a different computer will not transfer the wav files. The other associate will have to build his Music Alert and Voice Prompt lists from scratch using wav files stored on their computer.
- iii. If in the process of programming wav files one loses the standard set of Voice Prompt wav files (i.e., Selective Call, Monitor, etc.) they are located on one’s C Drive. Go to Program Files and then open the file named “G1 PPS R030701(R01)_20140919”.

CONFIGURING THE G1 FOR TWO TONE CODING

I. Overview

Two tone coding has been used in paging devices since the 1960s. It is a very simple, reliable, signaling method and it continues to be used in Public Safety and Industrial applications.

It consists of two (2) tones sent sequentially usually followed by a voice message. The pager decodes the tone pair, Tone A and B, and begins alerting shortly after decoding Tone B. Alerting continues for the duration of Tone B. The timing of Tone A and B will vary depending on the Paging System. For example, for Motorola Systems the timing is 1 second/3 seconds while for Fast Reach Systems it is 0.15 seconds/0.15 seconds.

Another method of tone signaling consists of sending a Single Tone for predetermined length of time. This Single Tone is more commonly referred to as “Long” Tone.

In the following sections I will review how to configure the G1 for different two tone codes and review the optional settings for each code.

II. Two Tone Capabilities of the G1

The G1 has eight (8) Tone Tables each consisting of twelve (12) Two Tone pairs and Four (4) Long Tones. Each Tone Table can be set for a different “Paging System” which defines the tone timing and the tone frequencies.

The G1 supports the below Paging Systems.

Paging System	2 Tone		Long Tone (sec)
	Tone 1 (sec)	Tone 2 (sec)	
Motorola	1	3	8
GE	1	1.5	8
Plectron	3	0.25	3
Fast Plectron	0.75	0.25	3
Reach	2	0.7	5
Fast Reach	0.15	0.15	5

The choice of which “Paging System” to select will depend on the tone frequencies and timing used in a specific application. By far the most common “Paging System” in use is Motorola.

As one can see by the above table, if the application supports Plectron, Fast Plectron, Reach or Fast Reach tone timing that the G1’s alert duration, which depends on the Tone B duration, will be very short. There are settings in the G1 that will allow for a longer alert duration and this will be reviewed in a later section.

In the following paragraphs a review of Paging Systems and other Tone Table settings are provided.

a. Tone Tables

Below is a screen shot of a Tone table and each variable will be reviewed.



i. Tone Type

The G1 supports two (2) Tone Types; 2tone and 5tone. Five (5) Tone signaling is more commonly encountered in European applications and will not be reviewed in this document. In almost every application in North America the Tone Type should be set for 2tone.

ii. Paging System

The Choices are Motorola, GE, Plectron, Fast Plectron, Reach, Fast Reach or none. Obviously “none” means the Tone Table is not enabled.

iii. Configuring the Tone Frequencies

By selecting (clicking) on a row in the table the below information is displayed.

The screenshot displays the G1 PPS software interface. At the top, the title bar reads "G1 PPS - [Vic's G1 20140110.CP]". The main header features the "G1 PPS" logo and "Unication www.unication.com". To the right of the logo, there are three boxes: "Version R03.06.28", "PPS Model For Customer", and "If you have any query or service, please contact" with contact details: Phone: +817 303 9320 (USA), Fax: +817 886 3424 (USA), and Email: sales@unication.com. There are also icons for a mobile phone and an "About" button.

The left sidebar contains several navigation buttons: "PPS User Guide", "PPS System Setting", "Program Pager with Existing Codeplug File", "Program Pager with Read Pager Codeplug Data", "Other Voice Pager Clone to G1", and a vertical list of buttons labeled A through J: "Pager Information Display", "Pager Configuration Setting", "Call Source Text Prompt Setting", "MDC Contact Book Setting", "Call ID Capcodes Setting", "Channel Parameter Setting", "Manual Scan Relative Parameter Setting", "Scan List Parameter Setting", "Receiving Portfolio Setting", "OTA Control Setting", and "Pager Program Table".

The main configuration area is titled "Call ID Capcodes Setting / Tone Setting / Table 1 / Call ID 1". It is divided into two sections: "Tone System Setting" and "Call ID Setting".

Tone System Setting:

- Tone Type: 2Tone
- Paging System: Motorola

Call ID Setting:

- Tone 1: 330.5
- Tone 2: 539
- Source Prompt: Fire
- Alert Tone: Pts T 1
- Backlight: Cyan
- Storage Voice: Yes

On the right side, there is a yellow panel titled "Call ID Capcodes Setting" with a "Function Description" section: "2 Tone, 5 Tone, MDC Call ID setting".

At the bottom of the interface, there are four buttons: "Write Pager", "Save as", "Confirm and Back", and "End".

1. Tone Settings

Call IDs 1-12 are where the two tone frequencies are entered. Call IDs 13-16 are where the single, “Long”, tone frequency is entered. There are two ways to enter a tone frequency.

The first way is to use the frequency tone tables for the Paging System selected. Each Paging System setting has specific tone frequency tables. By clicking on the “+” symbol to the right of the Tone frequency field this table is displayed, below are the Tone frequencies for Motorola Paging Systems. Click on the desired frequency click on “OK” and it will be automatically entered in the Tone field. Do this for both Tone 1, Tone 2 and for the “Long” tone (if applicable).

Signaling Setting Motorola

Group 1	Group 2	Group 3	Group 4
<input type="radio"/> 330.5	<input type="radio"/> 569.1	<input type="radio"/> 288.5	<input type="radio"/> 321.7
<input type="radio"/> 349.0	<input type="radio"/> 600.9	<input type="radio"/> 296.5	<input type="radio"/> 339.6
<input type="radio"/> 368.5	<input type="radio"/> 634.5	<input type="radio"/> 304.7	<input type="radio"/> 358.6
<input type="radio"/> 389.0	<input type="radio"/> 669.9	<input type="radio"/> 313.0	<input type="radio"/> 378.6
<input type="radio"/> 410.8	<input type="radio"/> 707.3	<input type="radio"/> 953.7	<input type="radio"/> 399.8
<input type="radio"/> 433.7	<input type="radio"/> 746.8	<input type="radio"/> 979.9	<input type="radio"/> 422.1
<input type="radio"/> 457.9	<input type="radio"/> 788.5	<input type="radio"/> 1006.9	<input type="radio"/> 445.7
<input type="radio"/> 483.5	<input type="radio"/> 832.5	<input type="radio"/> 1034.7	<input type="radio"/> 470.5
<input type="radio"/> 510.5	<input type="radio"/> 879.0	<input type="radio"/> 1063.2	<input type="radio"/> 496.8
<input type="radio"/> 539.0	<input type="radio"/> 928.1	<input type="radio"/> 1092.4	<input type="radio"/> 524.6

Group 5	Group 6	Group 10	Group 11
<input type="radio"/> 553.9	<input type="radio"/> 1122.5	<input type="radio"/> 1472.9	<input type="radio"/> 1930.2
<input type="radio"/> 584.8	<input type="radio"/> 1153.4	<input type="radio"/> 1513.5	<input type="radio"/> 1989.0
<input type="radio"/> 617.4	<input type="radio"/> 1185.2	<input type="radio"/> 1555.2	<input type="radio"/> 2043.8
<input type="radio"/> 651.9	<input type="radio"/> 1217.8	<input type="radio"/> 1598.0	<input type="radio"/> 2094.5
<input type="radio"/> 688.3	<input type="radio"/> 1251.4	<input type="radio"/> 1642.0	<input type="radio"/> 2155.6
<input type="radio"/> 726.8	<input type="radio"/> 1285.8	<input type="radio"/> 1687.2	<input type="radio"/> 2212.2
<input type="radio"/> 767.4	<input type="radio"/> 1321.2	<input type="radio"/> 1733.7	<input type="radio"/> 2271.7
<input type="radio"/> 810.2	<input type="radio"/> 1357.6	<input type="radio"/> 1781.5	<input type="radio"/> 2334.6
<input type="radio"/> 855.5	<input type="radio"/> 1395.0	<input type="radio"/> 1830.5	<input type="radio"/> 2401.0
<input type="radio"/> 903.2	<input type="radio"/> 1433.4	<input type="radio"/> 1881.0	<input type="radio"/> 2468.2

Buttons: OK, Cancel

Call ID Capcodes Setting

Function Description
2 Tone, 5 Tone, MDC Call ID setting

Write Pager Save as Confirm and Back End

The second way is to just manually enter the desired frequency.

NOTE: If the desired tone frequency is not a frequency associated with the tone tables of the Paging System setting, the programming software may change the entered value to one that is within 0.2% of the desired frequency. You will observe this change after you enter the frequency and then click on another field. For example, refer to the below where for Paging System Motorola a tone of 727.5 is manually entered. As you can see 727.5 is shown. This is not a standard Motorola tone frequency (it is a GE frequency).



Now, when one goes to enter Tone 2's frequency note below what happens to Tone 1's value, it changed to 726.9 (see below screen shot). This adjusted value is well within the tone frequency generation accuracy of any current paging encoder (e.g., Zetron) and should not be a problem. However, if one needs to manually enter the frequency 727.5 for another tone pair or Long tone they will have to enter the 726.9 value or the programming software will display a "Tone Frequency Error"



It is important to note that a Tone Table is not limited to just the tone frequencies of the selected Paging System (e.g., Motorola, GE, etc.), but when doing this it is possible the tone frequency entered may be adjusted. It is this adjusted value that needs to be manually entered for other tone pairs (or Long tones) that use this tone frequency.

2. Source Prompt

Use the Pull Down to select the appropriate Source Prompt (Source Prompts are programmed in another section of the G1 programming software). The benefits of having a Source Prompt are; it is displayed on the G1's display when the paging tones are decoded allowing for easy determination of the paging source and when the voice message is stored it is stored with the Source Label (along with the date and time stamp) allowing for easy retrieval from voice memory.

3. Alert Tone

Use the Pull Down to select the desired alert pattern to be played upon detection of the tone pair or Long tone. There are four (4) Standard and eight (8) Pleasing alert patterns. The Pleasing alert patterns are programmed in another section of the G1 programming software and can be customized.

4. Backlight

Use the Pull Down to select the desired backlight, there are seven (7) color choices. The backlight is illuminated upon detection of the tone pair or long tone.

5. Storage Voice

Set to “Yes” if the received voice message is to be stored in voice memory.

b. Extending the Alerting Duration

If the application calls for a page alerting duration in excess of Tone B or Long Tone alert timing (e.g., Plectron’s Tone B is only 0.25 seconds and consequently the alert duration would be very short) the G1 can be configured for a number of different alert durations.

The screen shot below shows the settings that need to be configured. In the Zone screen, set the “2 Tone Alert Duration” setting to by “Alert Length”. Then, in the “Alert Length setting use the Pull Down and select the desired alerting duration.



NOTE: By extending the alert duration it is possible that part of the voice message may not be heard or stored. Verify with System Administrator on the correct value.

SETTING UP CHANNELS AND ENABLING 2 TONE CODES

I. Overview

In the following sections a review of how to configure RF Channels and the enabling 2 Tone paging will be covered.

II. RF Channel Configuration

The Channel Parameter Setting tab (G1) is where RF channels are configured. When this tab is selected the following is displayed.

The screenshot shows the G1 PPS software interface. The main window is titled "Channel Parameter Setting" and displays a table of channel parameters. The table has the following columns: Channel, Channel Alias, Status, Band Width, Frequency, Type, Tone Table, and M. The first row (Channel 1) is highlighted in blue and shows "Channel 1", "Enable", "12.5 KHz", "155.0125 MHz", "2Tone", and "2 Tone Table 1". The remaining rows (Channels 2-20) are disabled and have "None" for Type and Tone Table.

Channel	Channel Alias	Status	Band Width	Frequency	Type	Tone Table	M
1	Channel 1	Enable	12.5 KHz	155.0125 MHz	2Tone	2 Tone Table 1	
2		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
3		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
4		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
5		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
6		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
7		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
8		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
9		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
10		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
11		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
12		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
13		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
14		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
15		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
16		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
17		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
18		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
19		Disable	12.5 KHz	150.0000 MHz	None	Null	FA
20		Disable	12.5 KHz	150.0000 MHz	None	Null	FA

Highlight and select Channel 1 and the below is displayed. If one scrolls down additional settings are viewed (three screen shots are shown below). Each setting will be reviewed in the following sections.





a. Channel Enable

This has to be set for “Yes” in order to proceed.

b. Channel Alias

This is an eighteen (18) character entry that will be displayed on the G1’s display when this channel is selected or active (when scanning) using the Eight (8) Position Selector Switch (refer to tab H).

c. Channel Bandwidth

The choices are 12.5 kHz (narrowband) or 25 kHz (wideband).

d. Channel Frequency

The specific channel frequency is entered in this field.

e. Squelch Type

The choices are CSQ (Carrier Squelch), CTCSS (PL) or CDCSS (DPL).

f. CTCSS Clone

If CTCSS is selected as the Squelch Type then this field is highlighted. The G1 can support up to four (4) different CTCSS Tones and if more than one Tone is desired then enter “Yes”. If only one Tone is desired set this to “No”.

g. CDCSS Code

If CDCSS is selected as the Squelch Type then this field is highlighted and the specific code can be selected using the Pull Down.

h. CDCSS Invert

This setting depends on how the transmitter sends the CDCSS code.

i. CTCSS Frequency

If CTCSS is selected as the Squelch Type, up to four (4) different CTCSS Tones can be entered in these fields.

j. Expander and De-emphasis

These are related to transmitter settings and should be left in their default settings unless a change is necessary.

k. Signaling Tone Type

If paging is transmitted on this channel then select 2 Tone or 5 Tone.

l. Reference Tone Table

Depending on the signaling selected, its associated Tone Table can be selected. All the Tone Tables configured in Tab F are viewed, select the appropriate one for this channel.

m. Call 1-16

i. Enable

For the G1 to alert and store a voice message Call 1-16, depending on the number of Call IDs in the Tone Table, must be enabled.

ii. Off Duty

This identifies the Calls that will be affected by the On/Off Duty status of the G1.

iii. Priority

If a Call is designated as Priority, the G1 will alert regardless of the alert settings set using the Main Menu or set in the H Tab. The desired Priority Alert Tone is selected in the Zone Setting (H) Tab.

Note: MDC Settings will not be covered in this document

ON/OFF DUTY CONTROL IN THE G1 VOICE PAGER

On/Off Duty is a feature of the G1 messaging device and allows for select Call IDs to alert or not to alert depending on the status of the On/Off Duty Menu setting. In the following paragraphs a description on how to configure the G1 for On/Off Duty Control is provided.

I. Programming the G1 for On/Off Duty Control

One first has to determine which Call IDs are to be affected by the On/Off Duty control. This is easily done in the Channel Parameter Setting (Tab G1, see below screen shot). Click on the “Off Duty” setting associated with the desired Call IDs. Call IDs not selected will not be affected by the On/Off Duty control.



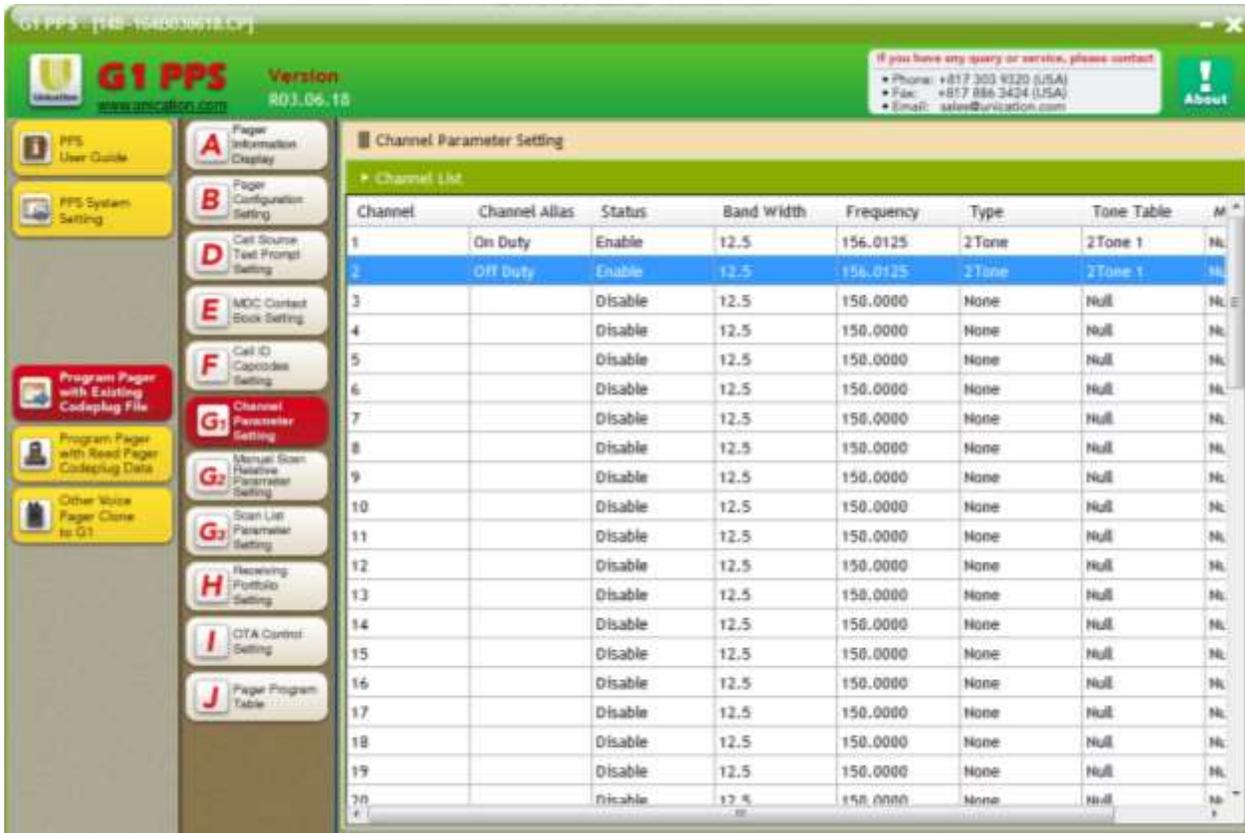
After programming the G1, On/Off Duty status can be changed by accessing the “Function Status” or “Settings” menu settings.

II. Using the 8 Position Selector Switch to Select On/Off Duty Status

An alternative to using the Main Menu to select On/Off Duty status is to configure the Selector Switch, similar to the Minitor. The steps are provided below.

Step 1- In Tab B, set the “Default On/Off Duty State” setting to “Off State”

Step 2- In Tab G1 create 2 channels (same Frequency) and label, for the purpose of this example, one On Duty and the other Off Duty, see below screen shot.



The screenshot shows the G1 PPS software interface. The main window is titled "Channel Parameter Setting" and contains a "Channel List" table. The table has the following columns: Channel, Channel Alias, Status, Band Width, Frequency, Type, Tone Table, and M. The data in the table is as follows:

Channel	Channel Alias	Status	Band Width	Frequency	Type	Tone Table	M
1	On Duty	Enable	12.5	156.0125	2Tone	2Tone 1	NL
2	Off Duty	Enable	12.5	156.0125	2Tone	2Tone 1	NL
3		Disable	12.5	150.0000	None	Null	NL
4		Disable	12.5	150.0000	None	Null	NL
5		Disable	12.5	150.0000	None	Null	NL
6		Disable	12.5	150.0000	None	Null	NL
7		Disable	12.5	150.0000	None	Null	NL
8		Disable	12.5	150.0000	None	Null	NL
9		Disable	12.5	150.0000	None	Null	NL
10		Disable	12.5	150.0000	None	Null	NL
11		Disable	12.5	150.0000	None	Null	NL
12		Disable	12.5	150.0000	None	Null	NL
13		Disable	12.5	150.0000	None	Null	NL
14		Disable	12.5	150.0000	None	Null	NL
15		Disable	12.5	150.0000	None	Null	NL
16		Disable	12.5	150.0000	None	Null	NL
17		Disable	12.5	150.0000	None	Null	NL
18		Disable	12.5	150.0000	None	Null	NL
19		Disable	12.5	150.0000	None	Null	NL
20		Disable	12.5	150.0000	None	Null	NL

Step 3- In the On Duty channel do not click on the “Off Duty” setting for the desired Call ID.

Step 4- In the Off Duty channel, click the “Off Duty” setting for the desired Call ID.

Step 5- In Tab H , for this example, assign Knob 1 to the On Duty Channel and set Knob 2 to the Off Duty Channel per the below screen shot.



With this configuration when Selector Switch knob is set to position 1 any received message will alert (because the Call ID on this channel did not have the “Off Duty” clicked). In knob position 2, the Call ID on this channel has “Off Duty” selected and since in Step 1 the Default Setting for the G1 was set to “Off State” any messages will be received and stored **without** an alert.

SCAN LISTS IN THE G1 PAGER

I. Overview

The G1 supports two (2) types of scan lists and scanning behaviors; Manual Relative Parameter Setting (G2) and Scan List Parameter Setting (G3). In the following sections each will be described.

II. Manual Relative Parameter Setting (G2)

This scan list works in conjunction with Function Mode settings (refer to tab H) Channel Scan and Free Scan. Both of these Function Modes allow the User to **manually or automatically** increment a list of frequencies or across a frequency band. There are eight (8) scan lists that can be configured and assigned for channel scanning or scanning across a band. Below is a screen shot of such a list and each parameter will be described in detail.



To enable a scan list set **Manual Scan Enable** to **Yes**. Then select in the **Scan Mode** field either **Channel Scan** or **Free Scan**. Each mode is reviewed below.

a. Channel Scan

When this Mode is selected the Channel Scan Function Setting is highlighted. In the “Channel Enable List” are the Aliases of all the channels programmed in the pager. Select the desired channels to scan by setting the cursor on the specific channels and clicking on “Add”. This will move the selected channel to the “Channel Scan List”. Populate the “Channel Scan List” by selecting and adding the desired channels. To delete a channel from the “Channel Scan List” select the channel and click on “Delete”.

b. Free Scan

When this Mode is selected the Free Scan Function Setting is highlighted. Select the Start, Stop and Default frequency. The Start and Stop frequencies define the band across which the G1 will scan. The Default frequency is the where in the band the G1 begins scanning.

c. Manual Scan Option

These settings (see below) apply to both Channel and Free Scan Modes.



i. Busy Channel Option

There are three options; Stop, Auto Reset with CSQ and Auto Reset without CSQ.

1. Stop

If selected, the G1 will scan and upon detecting channel activity it will stop scanning.

2. Auto Reset with CSQ

Works with the Hang Time setting and the G1 will stay on an active channel for the duration of the hang time after loss of carrier and then begin scanning.

3. Auto Reset without CSQ

Works with the Hang Time setting and the G1 will stay on an active channel for the duration of the hang time and then begin scanning, **regardless of any channel activity.**

ii. Hang Time

Determines the duration the G1 will stay on the channel if “Auto Reset with CSQ” or “Auto Reset without CSQ” is selected.

iii. Tuning Step

Works only in the Free Scan Mode and sets the channel frequency increments.

iv. Band Width

Works only in the Free Scan Mode and the choices are 12.5 kHz or 25 kHz band widths.

III. Scan List Parameter Setting (G3)

The G1 supports sixteen (16) scan lists that work in conjunction with the Scan Modes (Priority, Normal, Silent and Dual Channel). Each Scan List can be populated with up to eight (8) frequencies programmed in the G1 using the Channel Parameter Setting (G1).



The below screen shot displays the parameters programmed for each Scan List and in the following sections each will be described



a. Scan List Enable

This must be set to “Yes” in order to be enabled.

b. Scan Channel Member 1-8

Up to eight (8) channels can be selected using the pull down arrow at the right of the frequency field. The choices shown reflect the Aliases assigned to each channel in the Channel Parameter Setting (G1).

The first channel assigned is where the automatic scanning process begins. In the Priority Scan Mode, this channel is the one the G1 will periodically scan back to check for activity.

c. Busy Channel Option

There are three options; Stop, Auto Reset with CSQ and Auto Reset without CSQ.

i. Stop

If selected, the G1 will scan and upon detecting channel activity it will stop scanning.

ii. Auto Reset with CSQ

Works with the Hang Time setting and the G1 will stay on an active channel for the duration of the hang time after loss of carrier and then begin scanning.

iii. Auto Reset without CSQ

Works with the Hang Time setting and the G1 will stay on an active channel for the duration of the hang time and then begin scanning, **regardless of any channel activity.**

iv. Hang Time

Determines the duration the G1 will stay on the channel if “Auto Reset with CSQ” or “Auto Reset without CSQ” is selected.

v. Priority Channel Check Interval

Determines how frequently the G1 scans back to the Priority Channel when the G1 is set for Priority Scan Mode. To ensure that a 2 tone page is not missed on the Priority Channel this interval should be set short (less than 875ms if the 2 tone timing is 1 second for Tone A). However, setting this interval too short reduces significantly the intelligibility of messages received on the non-priority channels.

CONFIGURING ZONES AND SELECTOR SWITCH POSITIONS

The G1 supports eight (8) Zones with each Zone having eight (8) position selector switch settings. The “H” tab (Receiving Portfolio Setting) is where the Zone and the zone’s Selector Switch settings are made. In the following sections a review of Zone and Selector Switch settings are provided.

I. Zone

In the “H” tab the top table shows the Zones and the bottom tables shows the Function Switch List (Selector Switch) settings for the selected Zone.

The screenshot displays the G1 PPS software interface. The top status bar shows the version R03.06.28 and the model For Customer. The sidebar on the left contains navigation options, with the 'H' tab (Receiving Portfolio Setting) selected. The main content area is titled 'Receiving Portfolio Setting / Zone and Knob List' and contains two tables.

Zone List

Zone	Status	Zone Name
1	Enable	Zone 1
2	Disable	Zone 2
3	Disable	Zone 3
4	Disable	Zone 4
5	Disable	Zone 5
6	Disable	Zone 6
7	Disable	Zone 7
8	Disable	Zone 8

Function Switch List

Knob	Function Mode	Reference Info
1	Selective Call	Channel 1
2	None	None
3	None	None
4	None	None
5	None	None
6	None	None
7	None	None
8	None	None

By selecting and clicking on a Zone the below screen is displayed. Each setting is described below.



a. Zone Enable

For a Zone to be active it has to be enabled.

b. Zone Name

Each Zone can have an eighteen (18) character identifier. This identifier is displayed on the G1's display in the Zone settings to allow for ease of selection.

c. Alert Length

This setting works in conjunction with the "2 Tone Alert Duration" setting and provides for a fixed alert duration (i.e., not dependent on the duration of Tone B). There are eight (8) choices ranging from a chirp up to 30 seconds.

d. Voice Message Alert

This is the default setting for all 2 tone pages. The alert setting selected in the “Call ID Capcodes Setting” will supersede this selection.

e. Text Message Alert

This is the default setting for MDC or GSM text messages.

f. Priority Message Alert

If a Call ID has been identified as a Priority (refer to “Channel Parameter Setting”) this will be its alert regardless of what was selected in the “Call ID Capcodes Setting”.

g. Clock Alarm Alert

This is the default alert for the Clock Alarm.

h. Message Alarm Alert

This is the default alert for message reminder alerts (if enabled in the “Pager Configuration Setting”).

i. 2 Tone Alert Duration

Determines if the 2 tone message alert duration follows Tone B or is a pre-defined length.

j. 5 Tone/ MDC Alert Duration

This setting determines the alert duration for 5 Tone or MDC pages. A variety of options fewer than 1 second are available or for longer alerts the “Alert Length” setting can be selected.

k. Voice Message Backlight

This is the default backlight setting for voice messages. The backlight settings made in the “Call ID Capcodes Setting” will supersede this selection.

l. Text Message Backlight

This is the default setting for MDC or GSM text messages.

m. Priority Message Backlight

If a Call ID has been identified as a Priority (refer to “Channel Parameter Setting”) this will be its backlight regardless of what was selected in the “Call ID Capcodes Setting”.

n. Default Backlight

This configures the backlight for all Menu operations for this Zone.

II. Function Switch List

There are eight (8) Selector Switch positions that can be configured. The below screen shot displays the settings available for each switch position.



a. Function Mode

There are eight (8) Functions Modes available in the G1.

- i. **Selective Call**- Used when one wants to the pager to alert upon receipt of a valid 2 tone message.
- ii. **Monitor Mode** – Allows monitoring of the selected channel and the G1 will alert upon receiving a valid 2 tone message.
- iii. **Normal Scan** – Works in concert with Scan List Parameter Setting (G3) to allow automatic scanning of up to eight channels. The G1 will un-squelch upon detection of signal on a channel .Upon loss of signal the G1 will begin scanning the other channels in the Scan List.

- iv. **Priority Scan**- Works in concert with Scan List Parameter Setting (G3) to allow automatic scanning of up to eight channels. The G1 will un-squelch upon detection of signal on a channel, but will periodically scan back to the “Priority Channel” checking for signal. If no Priority Channel activity is detected the G1 will continue to play audio until loss of signal on the non-Priority channel. Upon loss of signal the G1 will begin scanning the other non-priority channels in the Scan List.

There is a Priority Channel Check Interval setting in the Scan List Parameter Settings (G3) that can be adjusted for improved, non-priority channel, intelligibility. The setting can be made larger; however too large a time could mean a 2 tone message on the Priority Channel may be missed or not stored.

- v. **Silent Scan** - Works in concert with Scan List Parameter Setting (G3) to allow automatic scanning of up to eight channels. The G1 will un-squelch only upon detection of a valid 2 tone message. Upon loss of signal the G1 will begin scanning the other channels in the Scan List. The assumption is that only paging channels are assigned to the Scan List associated with this Function Mode.
- vi. **Dual Channel Scan** – This Mode allows for Priority or Normal scanning of 2 channels. It also works in concert with Scan List Parameter Setting (G3).
- vii. **Channel Scan**- A feature unique to the G1 that works in concert with the Manual Scan Relative Parameter Setting (G2). It allows manual monitoring of any of the channels selected in the Channel Scan List. Up to 64 channels can be monitored.
- viii. **Free Scan**- A feature unique to the G1 that works in concert with the Manual Scan Relative Parameter Setting (G2). It allows the manual selection of channels across a frequency band. Channel bandwidth increments are selectable in the Manual Scan Relative Parameter Setting (G2).

b. Reference Info

The pull down allows the selection of all frequencies (by Channel Alias) programmed in the “Channel Parameter Setting” tab (G1), and the scan lists from the G2 and G3 tabs. Individual frequencies are selected for Selective Call and Monitor Function Modes. Scan Lists are selected for Priority, Normal, Dual Channel, Free and Channel Scan Function Modes.

NOTE: When assigning a scan list to Silent Scan Function Mode all channels in this scan list MUST be assigned 2 Tone IDs or a “Call Error” message will be displayed.

c. Dual Channel Scan Mode

This is only highlighted if Dual Channel is the Function Mode selection. The options are Priority or Normal which are identical to the behaviors described in the Function Mode section.

d. Signal Detect Wait Time

This is only highlighted in the Silent Scan Function Mode and it sets the wait time on a channel (125ms is recommended).

e. Reset Mode

- i. **Automatic** – With this setting any loss of carrier less than 500ms ensures the pager will stay active and store the received message. If the loss of carrier exceeds 500ms, then Delayed N Auto, Delayed N Revert or Timeout would be the preferred choice.
- ii. **Delay N Auto** – Works in concert with the Delay Timer setting to ensure the G1 stays active and records the incoming voice message. If this mode is chosen for the Selective Call Function mode, once the voice message is recorded the G1 goes back to standby awaiting the next valid 2 tone message. If chosen for the Monitor and Scan Function Modes, the pager will stay active for the Delay Timer set value and then resume either monitoring the channel or scanning channels.
- iii. **Revert** – If selected with either the Selective Call or Silent Scan Mode, the G1 will automatically begin monitoring the channel upon receipt of a voice page. If the received voice message is to be stored, use this selection only if the loss of carrier during the page does not exceed 500ms.
- iv. **Time Out** – Sets the duration the G1 will stay active and store messages. It is possible with this setting that the G1 will go into the Standby mode before the voice message is completed.
- v. **Manual** – *The G1 will continue to record until the Reset keybutton is depressed.*
- vi. **Delay N Revert** Works in concert with the Delay Timer setting to ensure the G1 stays active and records the incoming voice message. This is only available for the Selective Call and Silent Scan Function Modes and upon loss of carrier the G1 begins monitoring the channel.
- vii. **None**-Default setting only.

f. Delay Timer

This setting works with Delayed Auto, Delayed N and Time Out Reset Modes. The value selected ensures the G1 stays active and continues to store the 2 Tone voice message.

NOTE: If a voice message is not being stored the selected N value may be too small.

g. Push To Listen

When Function Mode is set to Selective Call or Silent Scan Mode and Push to Listen is set to “Yes” then upon receiving a paging message the G1 will alert , but only play the voice message upon depressing the RESET KEY.

h. Privacy

When Function Mode is set to Selective Call or Silent Scan Mode and Privacy is set to “Yes” monitoring the channel is prohibited when depressing the RESET KEY.

i. Voice Storage

This setting has to be set to “Yes” for the 2 Tone voice message to be stored.

j. Request for CTCSS / CDCSS

If set to “Yes”, the G1 expects to detect the CTCSS or CDCSS settings for the channels or Scan Lists chosen with the Reference Info setting.

k. Signaling Squelch

This setting works in concert with the Request for CTCSS/CDCSS setting. The normal setting is “AND” meaning CTCSS/CDCSS is required on channels configured for CTCSS/CDCSS. The “OR” setting allows 2/5 tone message detection with or without CTCSS/CDCSS tones/codes being transmitted on the channel(s).

l. Alert Mode

This setting determines the alert mode for the Selector Switch knob setting. There are five (5) choices.