

May 7, 2004

Log #: AN-0363

## Interfacing Rauland Responder IV Nurse Call System (NCS) with Freeset DCT1900

### 1. OVERVIEW

The RS232/TAP interface on the radio exchange enables the Freeset DCT1900 system handsets to receive alphanumeric messages addressed to system user wireless handset numbers. The Freeset systems use TAP (Telocator Alphanumeric Protocol) version 1.8 for this interface.

To add enhanced SMS syntax to a NCS generated message string to enable simple, one-touch voice connection (and one-touch disconnect) of the wireless handset to the patient call station, Emergin Notification System or MicroLogic Systems' NetPage modules must be installed between the Responder IV NCS and the Freeset DCT1900.

Each MLS NetPage module is shipped with the appropriate firmware chips for the specific application, therefore, no setup or programming is required. This approach enables quick installation but does not provide any on-site programming flexibility. Refer to Ascom's Application Note, Micro Logic NetPage and Freeset (AN-0145), for further details and instructions. Contact Mark Grossman at MLS (262-251-9045) to determine the NetPage configuration and to obtain ordering information.

Emergin Notification System is a powerful application suite that requires some on-site configuration but it does provide unlimited on-site flexibility. Refer to Emergin's detailed Integration Note for further details and integration instructions. Contact Michael McNeal at Emergin (Office: 561- 361-6990 x201) to obtain ordering information.

The NCDATA module on the Responder IV Nurse Call System is directly connected to the PC running Emergin Notification System or to one of the MicroLogic NetPage modules. The PC running EmerginNotification System or the second MicroLogic NetPage module is then connected to DCT1900 Freeset SMS port at the bottom of the Radio Exchange cabinet or to the specified sms port on the MS platform. Paging messages sent by the Responder IV Nurse Call are delivered to the wireless telephone by way of Emergin or NetPage sending the messages to the radio exchange or MS depending on the configuration.

The Directed Dial Back feature available in the Rauland Responder IV release 7.03 enables quicker call back times to the patient room. This is possible by eliminating the hunt group number in the PBX and utilizing directed call pickup.

May 7, 2004

Log #: AN-0363

## 2. INTEGRATION DESCRIPTION

This section provides a detailed description of the recommended settings and configuration requirements for the components involved in this application.

### 2.1 RESPONDER IV REQUIREMENTS – CUSTOMER SITE SCENARIO

Note: Please contact Rauland Borg Tech Support for further details and information.

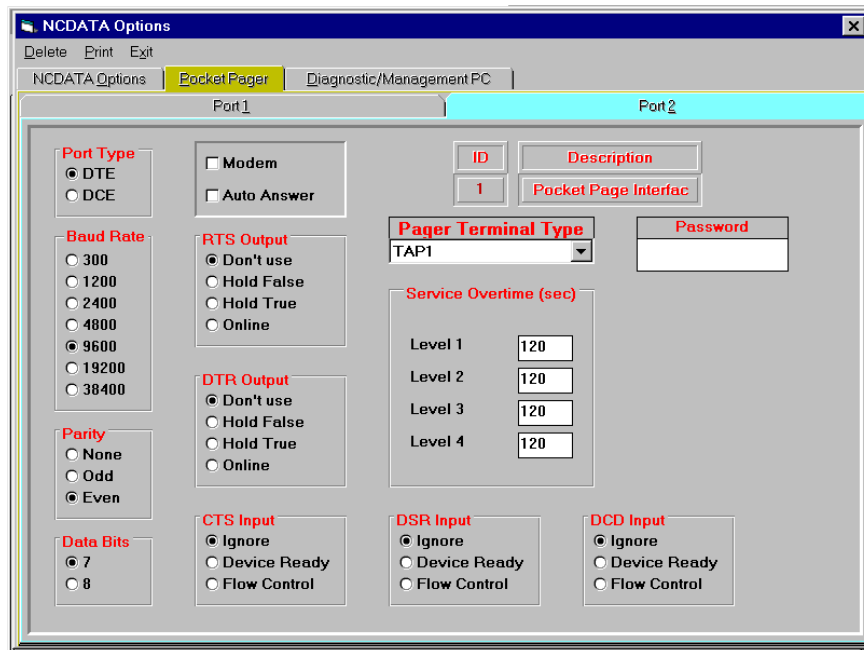
2.1.1. The Responder IV X-bus software and Nurse Call Command Center (i.e., Nurse Call Touch Screen Master [NCTSM] and/or Nurse Call LCD [NCLCD]) must be at revision 6.00 or higher. For the Directed-Dial Out feature, software must be revision 7.03 or higher.

2.1.2. The NCDATA pocket page port configuration must be set as follows (**PORT 2**):

- a) Run the Responder IV Database Config Editor. Click on System Options tab and then on the DATA button.
- b) Choose the appropriate NCDATA ID for the Emergin Notification System connection.
- c) Click in the appropriate Device on Port column for the DATA and from the drop down box click on Pocket Pager.
- d) Move off the line to save the DATA and move back to the line to continue.
- e) Click on Pocket Pager tab.
- f) The port tab set to Pocket Pager will be selected.
- g) Enter ALL settings as shown in the screenshot below.

May 7, 2004

Log #: AN-0363



**NOTE:** The exact settings may vary depending on the interface method. Using the MicroLogic NetPage modules requires that the baud rate be set to 2400. When using Emergin Notification System, simply ensure that the settings match those in the input port setting.

2.1.3 For Directed-Dial Out feature available in version 7.03 or higher, the NCTLI must be set as follows:

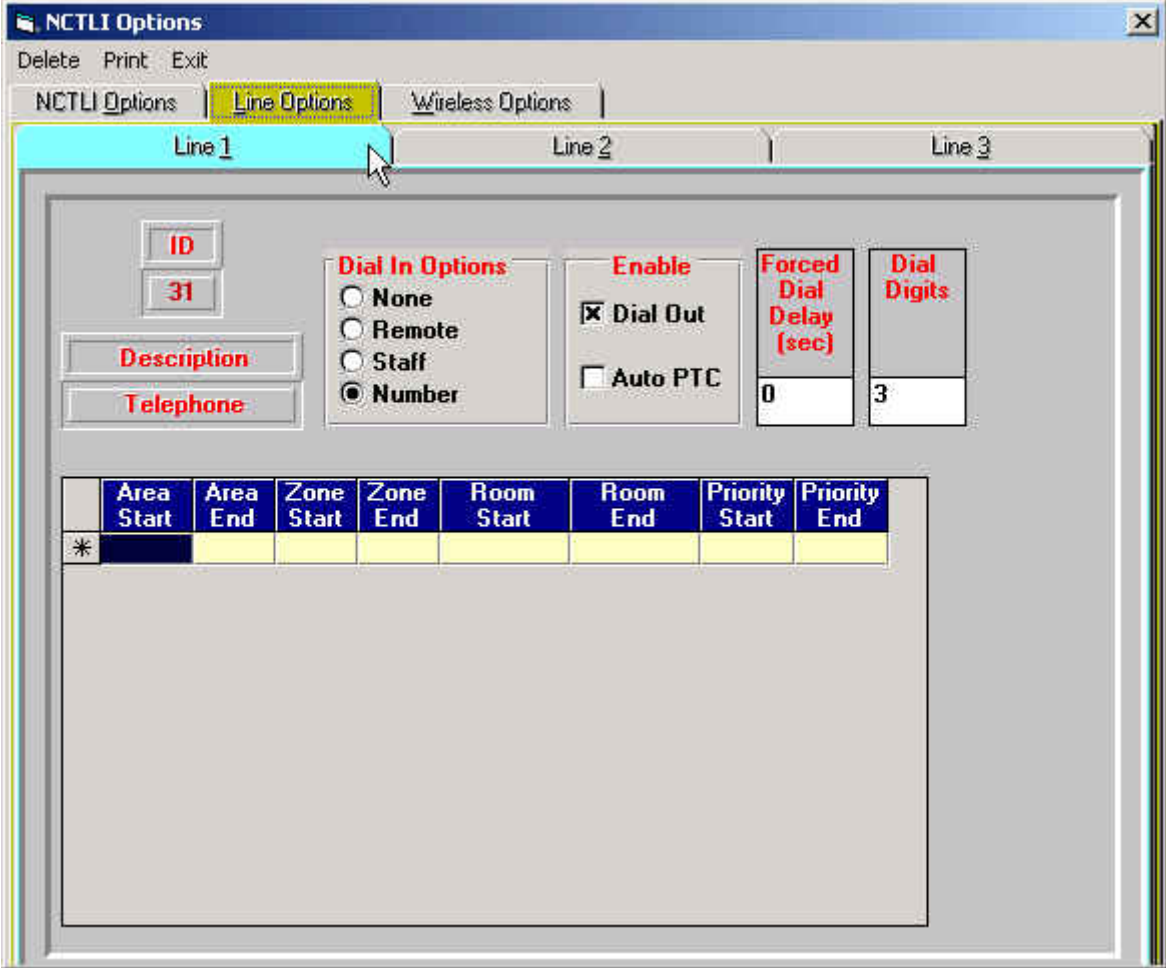
- a) Run the Responder IV Database Config Editor. Click on System Options tab and then on the NCTLI Options.
- b) Choose the Line Options Tab.
- c) Enable the Dial Out feature.
- d) Choose the Wireless option Tab.
- e) Choose Direct Dial Back Enabled.
- f)
- g) Enter extension(s) for PBX Direct Call Pickup.
- h) See snapshots below for example.

# Application Note

ascom

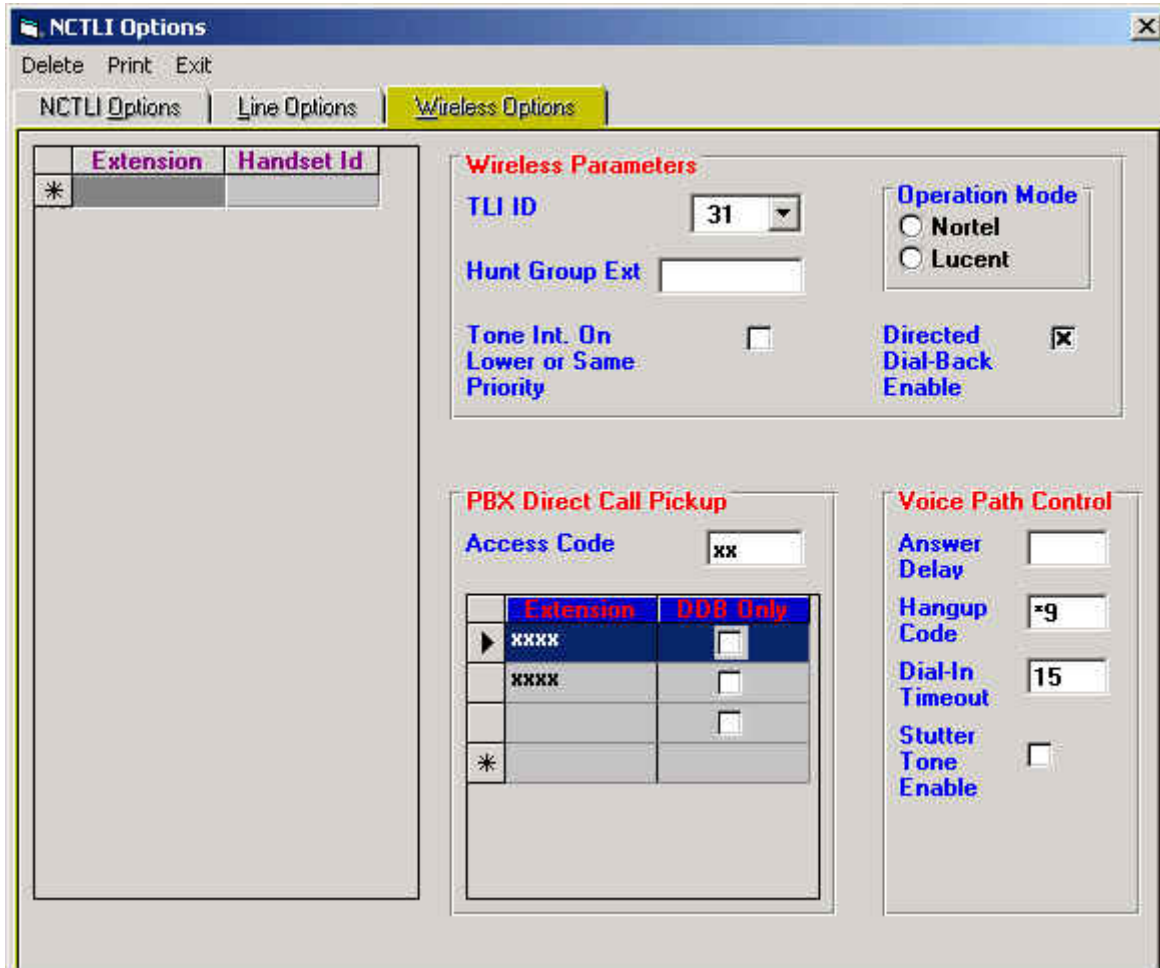
May 7, 2004

Log #: AN-0363



May 7, 2004

Log #: AN-0363



2.1.3 As for the cabling requirements, there are two different set-ups depending on whether you are using MLS NetPage or Emergin Notification System for the integration.

- MLS NetPage – MLS provides the exact cables required for connecting to the Freetest System and the Responder IV NCDATA module.
- Emergin Notification System – The Emergin application requires the use of null modem cables between the NCDATA port on the NCS and the input com port on the Emergin Notification System PC and another cable between the output com port on the Emergin Notification System and the sms com port on

May 7, 2004

Log #: AN-0363

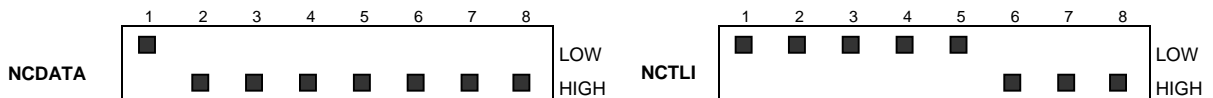
the Freetset Radio Exchange or the specified sms com port on the MS platform. Given known com port genders on all devices, the NCDATA port will require a gender changer if you are using the standard Ascom provided SMS null modem cable (PN - TSRNB10122-D).

## 2.2 RESPONDER IV REQUIREMENTS

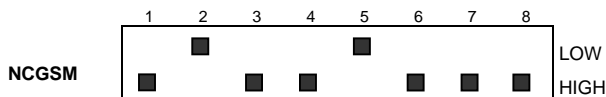
2.2.1. The Responder IV X-bus software and Nurse Call Command Center must be at version 6.00 or higher.

2.2.2. If you are using MLS NetPage you will need to change the NCDATA Pocket Page baud rate to 2400. The Ascom provided database will set the baud rate to 9600 which is commonly used when integrating with Emergin Notification System.

2.2.3. Ensure that the NCDATA and NCTLI dipswitches are set correctly (see below).



2.2.4. Ensure that the NCGSM dipswitches are set correctly (see below).



a) 2.2.5.

## 2.3 EMERGIN REQUIREMENTS – CUSTOMER SITE SCENARIO

See Emergin's detailed [Rauland Notification System Integration Note](#) for complete installation instructions.

An example of the Enhanced SMS syntax used in the Directed Dial Out feature goes as follows:

```
<6,50> <<3<<![*991<7,9>][ ][1][2][3][4][ ][ ][*9-X]!>
```

In the above example, \*99 is equal to the Feature Access Code for Directed Group Pickup and the number 1 is equal to the Pickup Group Number(Dialout Ext.)

May 7, 2004

Log #: AN-0363

## 2.5 ASCOM SYSTEM REQUIREMENTS – CUSTOMER SITE

The Ascom Freeset DCT1900 must meet minimum requirements to support messaging.

### 2.5.1 Minimum requirements

- CPU Firmware R4A
- Base Station SW R3A
- Ascom MS Application Release 2.3 (with SMS patches)
- CSM Application R4A
- DT600 Handset SW R2A (does NOT support adv NCS functionality)
- DT620 Handset SW R3C (does not support priority ringing)
- 9p23 Handset SW R1A (without priority ringing and queuing)
- 9p23 Handset SW R2A (for priority ringing and queuing)

2.5.2. Ascom Configuration – The TAP port must be set to 9600, even, 1, and the dial tone detection set to 300 ms.

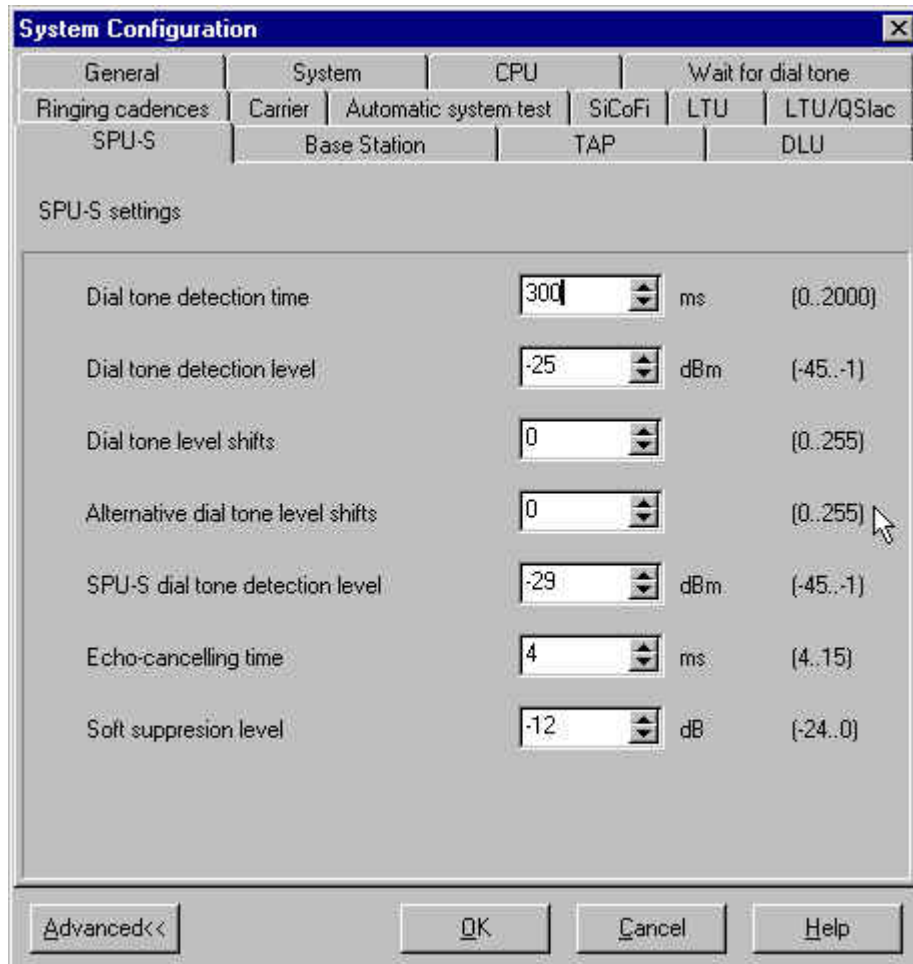
2.5.3 SPU Parameter – The Dial Tone Detection Time must be set to 300ms. The default setting is 800ms. Use the Cordless System Manager (CSM) to change this setting. See below.

**Menu Path:** System-Configuration

**TABS:** Advanced-SPU-s

May 7, 2004

Log #: AN-0363



**NOTE:** If you do not set this SPU Parameter properly, the system will dial the NCS patient station before the NCTLI produces clean/acceptable dial tone.

2.5.4 TAP Port Settings - The TAP port must be activated and the parameters should be set at; baud rate 9600, parity even, stop bit 1. This must match the settings when you create the Ascom Carrier in Emergin Notification System.

2.5.5 Handset Capabilities and Settings

- The Ericsson DT600 handsets do not support Advanced NCS Integration.
- The Ascom DT620 handsets will support ANCSI using the YES and NO key but Ascom strongly recommends using the 9p23 (Medic or Messenger),

May 7, 2004

Log #: AN-0363

which far better supports Advanced NCS Integration. When using the DT620, please confirm that AutoDelete is ON (Default OFF).

- c) The 9p23 Medic and Messenger offer the most enhanced capabilities as it relates to Advanced NCS Integration. Specifically, the 9p23 handsets series offers the following features/capabilities:

- Soft keys for intuitive NCS interaction
- Unique tones for 3 call priority levels
- Message queue prioritization

NOTE: Ensure that Message Reminder is set to OFF position. Handsets with R1C or earlier were factory set with Message Reminder - 1 Minute.

## 2.6 PBX – CUSTOMER SITE

### 2.6.1 Rauland Responder IV version 7.03 or higher

2.6.1.1 The Ascom portables integrated with the Rauland Responder IV must be assigned in their own pickup group.

2.6.1.2 The Dial Out Extensions defined in the Rauland RIV Database must be assigned to their own pickup group.

### 2.6.2 Rauland Responder IV version 6.00 or higher

2.6.2.1 The TLI Extensions must be defined in a Hunt Group

## 3. SYSTEM INSTALLATION - CAUTIONS AND TIPS

The following areas warrant special attention during system installation:

- If upgrading 9p23 handsets that have R1C or lower SW to R2A or greater SW, please confirm that the Message Reminder feature is set to OFF after upgrading the handsets.
- With R2A handset SW from the factory, the Message Reminder feature will be set to OFF.
- Ensure that the number of dashes are optimized for the time delay between the hunt group being dialed and the TLI ready to receive the room digits.. This will require some thought and planning on a per site basis.
- Ensure that the Staff Assist button is set to the desired number for each floor. This may be a central code desk for the entire facility or the NCSC for a given floor.
- Set all handsets that will be used for 24x7 patient care and consequently NCS integration to an optimal ringer and speaker volume. We recommend 1 step from full

**May 7, 2004**

**Log #: AN-0363**

volume for the speaker and full volume for the ringer. Keep in mind that these handsets will be set to the "LIMITED" menu prior to end user training and that end users will not be able to adjust these volumes.

**NOTE:** Once handsets are properly configured, set ALL handsets that are allocated for 24x7 patient care use to the LIMITED menu mode. This will prevent caregivers from unintentionally impacting NCS integration functionality.

#### **4. INSERVICE TRAINING - CAUTIONS AND TIPS**

While delivering the standard end-user/handset training course to caregivers, ensure that the following points are highlighted when using the 9p23 with R2A software:

- Review 3 call priorities and explain how the system has been configured for their hospital (e.g., priority 1 = code ONLY, priority 2 = pull cord, stat, etc., and priority 3 = normal call, bed pan, etc., etc., etc.).
- Review the Invert Menu feature, which can be activated or deactivated in the limited menu mode.

Given that all 24x7 patient care related handsets will be set to the limited menu mode, please ensure that caregivers fully understand the following points:

Given that the handsets will all be in the limited menu mode, end users **MUST** be instructed on how to mute the handset for night shift operations to avoid disturbing patients. Explain that a handset can be muted in the middle of a ring sequence by simply pressing the side mute button. Moreover, show ALL end users that they can mute ALL calls by pressing the "MENU" soft key (left ▼ key) followed immediately by the # key. This action would be appropriate for all handsets during the night shift. Simply press the "MENU" soft key then the # key to return to normal ring volumes and key click sounds in the morning. Also show users the 2 icons (ringer and keys) that illuminate when mute is activated by the MENU # key sequence.