cirkisys Electronics Limited

a member of the VTECH group

8001N Alphanumeric Pager
Product Specifications

Version 0.0

(ENGINEERING DEPARTMENT)

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1. Introduction

This document defines the system specifications of the 8001N (single line alphanumeric pager). 8001N is designed to be a small size, light weight and user-friendly pager with the ability to display alphanumeric characters.

1.1 Basic Features

- The code format is in compliance with the CCIR Radio Paging Code No.1 standard.
- Capable of receiving and displaying POCSAG ASCII character set (please see Appendices A and B).
- The LCD is able to display one line of sixteen 14-segment alphanumeric characters.
- Audio tone, melody and silent alert mode. Vibration alert as a factory option.
- LCD back-lighting.

2. 8001N Main Features

The following table summarizes main features of 8001N.

Item	Feature	Description
1	Code format	31/21 POCSAG code (CCIR Paging Code No. 1), 512bps, 1200bps and 2400bps
2	ASCII transmission code	Limited ASCII code
3	Numeric transmission code	The pager can also handle numeric data. The operator can select between two character sets by setting the EEPROM option through the Address Programmer. *Standard character set:* 0,1,2,3,4,5,6,7,8,9,_,U,(space),-,],[*Optional character set:* 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,(space)
4	Language type	Standard ASCII, Bulgarian, U.K. English, U.S. English, French, Portuguese, Romanian, Russian and Spanish character sets (software programmable).
5	Radio address	2 radio addresses for user and group message reception (same frame), 1 radio address for news message reception
6	Data polarity	Normal or inverted polarity (programmable)
7	Display area	Sixteen 14-segment characters
8	Number of button keys	2 button keys - Read key (▶) and Func key(●)
9	Memory capacity	A maximum of 8 user messages can be stored in the user memory bank. Each message can have a maximum length of 378 ASCII characters; however, the total storage of this memory bank is limited to 1,008 ASCII characters. For news message storage, a maximum of 2 news messages can be stored in the news memory bank. Each message can have a maximum length of 126 ASCII characters.
10	Tone only message	1 tone-only message which occupies 1 of the 8 user message memory locations. It will be treated as a regular user message. Previously stored tone-only message will be overwritten by the new one.
11	Message scrolling	During message review, user has to press the Read key (▶) to toggle between scrolling and pausing viewing mode. Holding the Read key (▶) for 2 seconds or more will scroll the first page of all messages at the rate of 0.5 second per page.

Item	Feature	Description
12	Message delete function	Messages can be deleted individually.
13	Error message indication	Erroneous message contents will be displayed as system '▣'
14	Next page indication	The next page icon '▶' will be displayed at the upper right corner of the LCD screen if part of the message has to be displayed on next page during message viewing.
15	Audio alert	One single tone and 3 melodies can be selected by the user for incoming messages. The alert duration is 8 seconds.
16	Silent mode	The pager can be set to silent mode such that all alerting indications, except the power on alert, will be overwritten.
17	Vibration alert	Vibration will replace the alarm tone for all types of alarming function if the vibration mode is set. This function is a factory option.
18	User name	16 ASCII characters can be displayed in the initial power on screen. These characters are stored in the EEPROM through the Address Programmer setting or by user entry.
19	Back-lighting	Manual activated back - lighting
20	Unread message indication	The number of unread message stored in the pager will be shown in the status screen.
21	Low battery indication	A low battery prompt message will be displayed on the screen when the battery power is low. The low battery alarm will continue to sound in every one-hour interval until the user press a key. *Note: All stored messages will be lost after battery replacement.*
22	Service area indication	An antenna icon '⍑' will be displayed on the status screen while the pager is outside the service area (out of range indication). The turn on delay time depends on the setting in the EEPROM which is programmed by the Address Programmer (options: Always On, Always Off, Simultaneous, 1minute, 2 minutes, 4 minutes or 8 minutes delay).
23	Status screen	All status of the pager will be shown in one screen.
24	Power source	One 'AAA' size alkaline battery

3. Product Specifications

The RF, electrical and mechanical specifications of the 8001N pager are defined in this chapter.

3.1 RF Specifications

The 8001N pager should pass the OFTA approval test and conform to the RF specifications as shown in Table 0-1 to Table 0-4.

Item	Description	Specification
1	Radio frequency range	135MHz to 175MHz
2	Channel spacing	25kHz
3	Code format	POCSAG (CCIR Radio Paging Code No.1) non-return to zero
4	Baud rate	512/1200/2400bps
5	Deviation	±4.5kHz Mark carrier frequency, -4.5kHz Space carrier frequency, +4.5kHz
6	Paging sensitivity	< 11μV/m for 2400bps < 7μV/m for 1200bps < 5μV/m for 512bps (In front of human body) Note: In TEM cell, 24dBuv/m = -106dBm at 1200bps
7	Spurious response rejection	Better than 60dB
8	Image rejection	Better than 55dB
9	Selectivity	Better than 65dB at ±25kHz
10	Inter-modulation rejection	Better than 55dB
11	Digital modulation system	FSK
12	Frequency stability	=< 5ppm for 155MHz at 0 to +40°C (+25°C ref.)
13	Operating voltage	1.1V to 1.5V DC
14	Audio alert tone frequency	2700Hz
15	Sound level	80dBA average at 30cm
16	Dimension	78.8mm(L) x 41.0mm(W) x 16.5mm(H)
17	Battery	One AAA battery

Table 0-1 RF parameters for 135MHz to 175 MHz

Item	Description	Specification
1	Radio frequency range	278MHz to 284MHz
2	Channel spacing	25kHz
3	Code format	POCSAG (CCIR Radio Paging Code No.1) non-return to zero
4	Baud rate	512/1200/2400bps
5	Deviation	±4.5kHz Mark carrier frequency, -4.5kHz Space carrier frequency, +4.5kHz
6	Paging sensitivity	< 11μV/m for 2400bps < 7μV/m for 1200bps < 5μV/m for 512bps (In front of human body)
7	Spurious response rejection	Better than 60dB
8	Image rejection	Better than 55dB
9	Selectivity	Better than 65dB at ±25kHz
10	Inter-modulation rejection	Better than 55dB
11	Digital modulation system	FSK
12	Frequency stability	=< 5ppm for 280MHz at 0 to +40°C (+25°C ref.)
13	Operating voltage	1.1V to 1.5V DC
14	Audio alert tone frequency	2700Hz
15	Sound level	80dBA average at 30cm
16	Dimension	78.8mm(L) x 41.0mm(W) x 16.5mm(H)
17	Battery	One AAA battery

Table 0-2 RF parameters for 278MHz to 284MHz

Item	Description	Specification
1	Radio frequency range	444MHz to 468MHz
2	Channel spacing	25kHz
3	Code format	POCSAG (CCIR Radio Paging Code No.1) non-return to zero
4	Baud rate	512/1200/2400bps
5	Deviation	±4.5kHz Mark carrier frequency, -4.5kHz Space carrier frequency, +4.5kHz
6	Paging sensitivity	< 11μV/m for 2400bps < 7μV/m for 1200bps < 5μV/m for 512bps (In front of human body)
7	Spurious response rejection	Better than 50dB
8	Image rejection	Better than 45dB
9	Selectivity	Better than 60dB at ±25kHz
10	Inter-modulation rejection	Better than 50dB
11	Digital modulation system	FSK
12	Frequency stability	=< 5ppm for 450MHz at 0 to +40°C (+25°C ref.)
13	Operating voltage	1.1V to 1.5V DC
14	Audio alert tone frequency	2700Hz
15	Sound level	80dBA average at 30cm
16	Dimension	78.8mm(L) x 41.0mm(W) x 16.5mm(H)
17	Battery	One AAA battery

Table 0-3 RF parameters for 444MHz to 468MHz

Item	Description	Specification
1	Radio frequency range	928MHz to 932MHz
2	Channel spacing	25kHz
3	Code format	POCSAG (CCIR Radio Paging Code No.1) non-return to zero
4	Baud rate	512/1200/2400bps
5	Deviation	±4.5kHz Mark carrier frequency, -4.5kHz Space carrier frequency, +4.5kHz
6	Paging sensitivity	< 11μV/m for 2400bps < 7μV/m for 1200bps < 5μV/m for 512bps (In front of human body)
7	Spurious response rejection	Better than 40dB
8	Image rejection	Better than 40dB
9	Selectivity	Better than 60dB at ±25kHz
10	Inter-modulation rejection	Better than 45dB
11	Digital modulation system	FSK
12	Frequency stability	=< 5ppm for 930MHz at 0 to +40°C (+25°C ref.)
13	Operating voltage	1.1V to 1.5V DC
14	Audio alert tone frequency	2700Hz
15	Sound level	80dBA average at 30cm
16	Dimension	78.8mm(L) x 41.0mm(W) x 16.5mm(H)
17	Battery	One AAA battery

Table 0-4 RF parameters for 928MHz to 932MHz

3.2 Electrical Specifications

Base on the product features mentioned in Chapter 2, the pager I/O devices and electrical specifications are defined in Table 0-5.

Item	Input / Output	Description
1	'AAA' battery x 1	Input power source
2	Buzzer	Tone alarm (2.7kHz)
3	Vibrator (factory optional)	Vibration alarm
4	2-key keypiece	User input interface for viewing message and pager set up
5	Miniature light bulb	For LCD back lighting (a light bulb is used instead of EL in order to cut the product cost and ease product assembly)
6	LCD	An output device to display the received message and pager menu
7	Low battery detection	Alert generation when battery voltage drops to 1.1V or below

Table 0-5 Electrical specifications for 8001N

3.3 LCD Pattern

The following diagram shows the full display pattern of 8001N pager LCD.

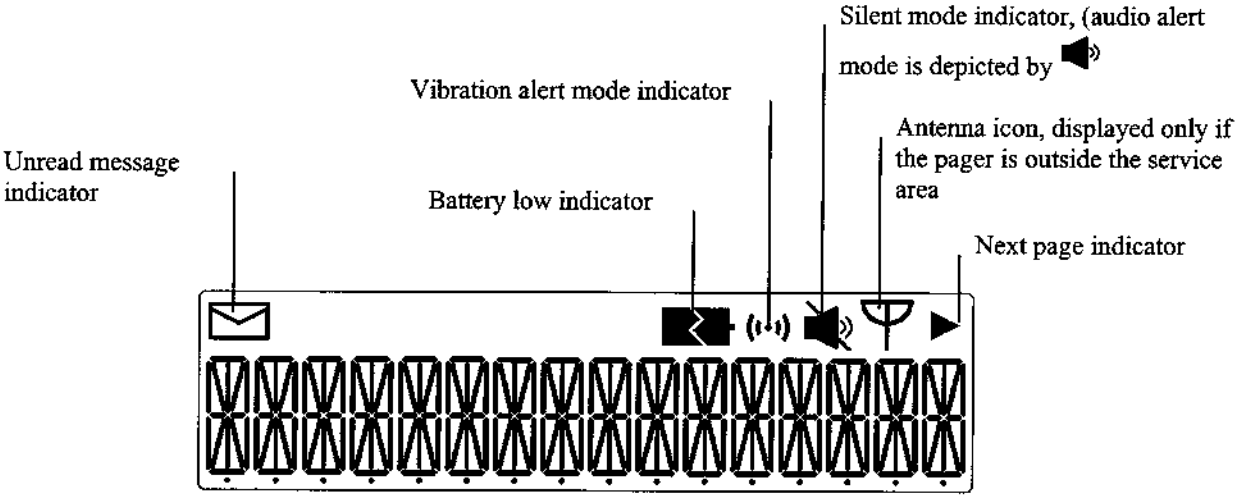


Figure 0-1 8001N LCD full display pattern

3.4 Mechanical Specifications

The dimensions of 8001N pager are 74.0mm(L) x 41.5mm(W) x 23.6mm(H). Its two dimensional drawing is shown below.

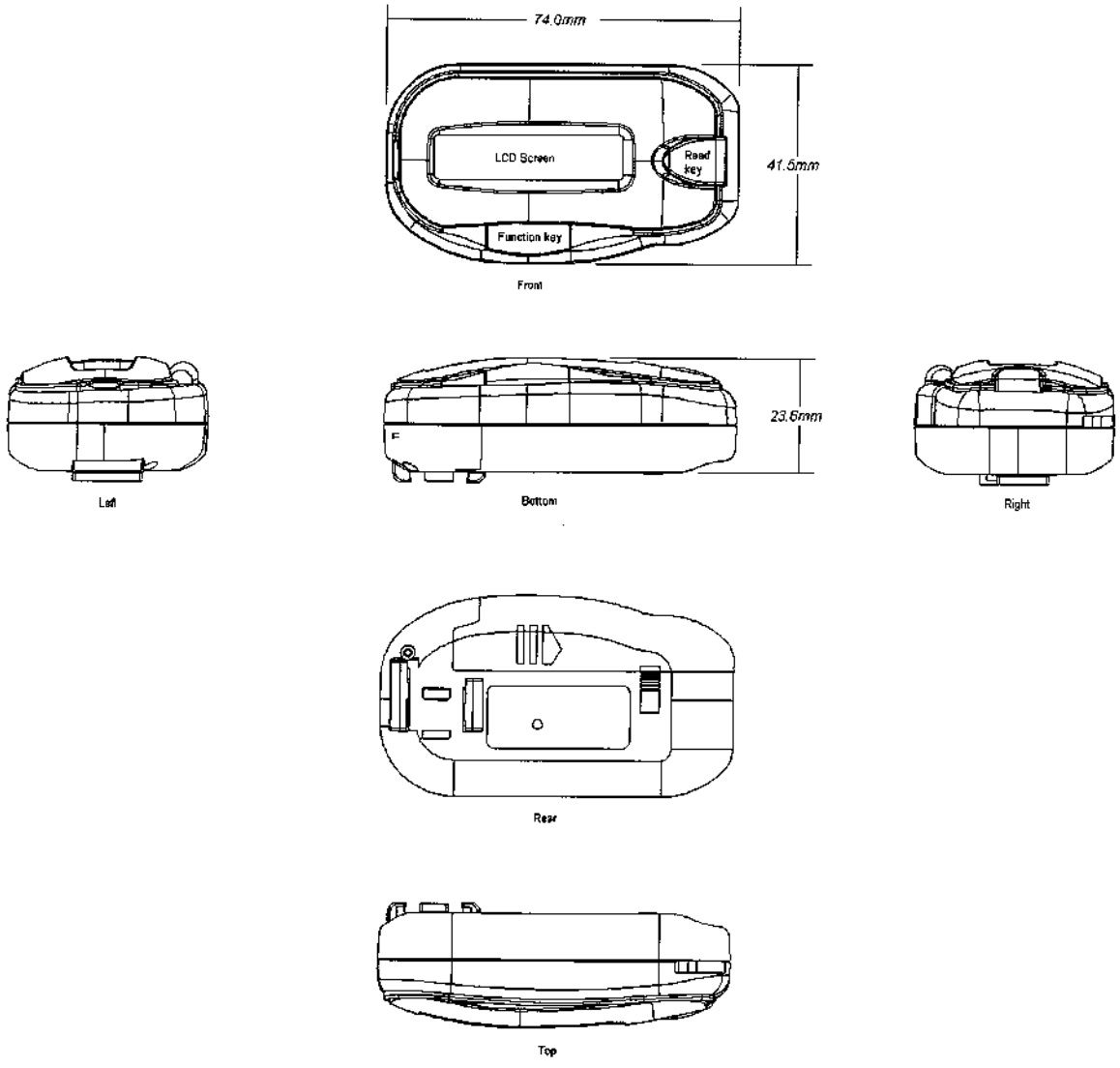


Figure 0-2 Overview of 8001N pager

3.5 Keys Overview

A. Read key - ▶

- To read messages
- To confirm pager function setting

B. Function (Func) key - ●

- To activate the back-light by pressing and holding the key for 2 seconds
- To toggle among available options for pager function setting
- To toggle among available options for alert mode setting
- To initialize pager function setting

3.6 List of Icons

	The pager is outside the service area
	Audio alert mode
	Silent alert mode
	Vibration alert mode
	Unread message indicator
	Low battery indicator
	Next page indicator

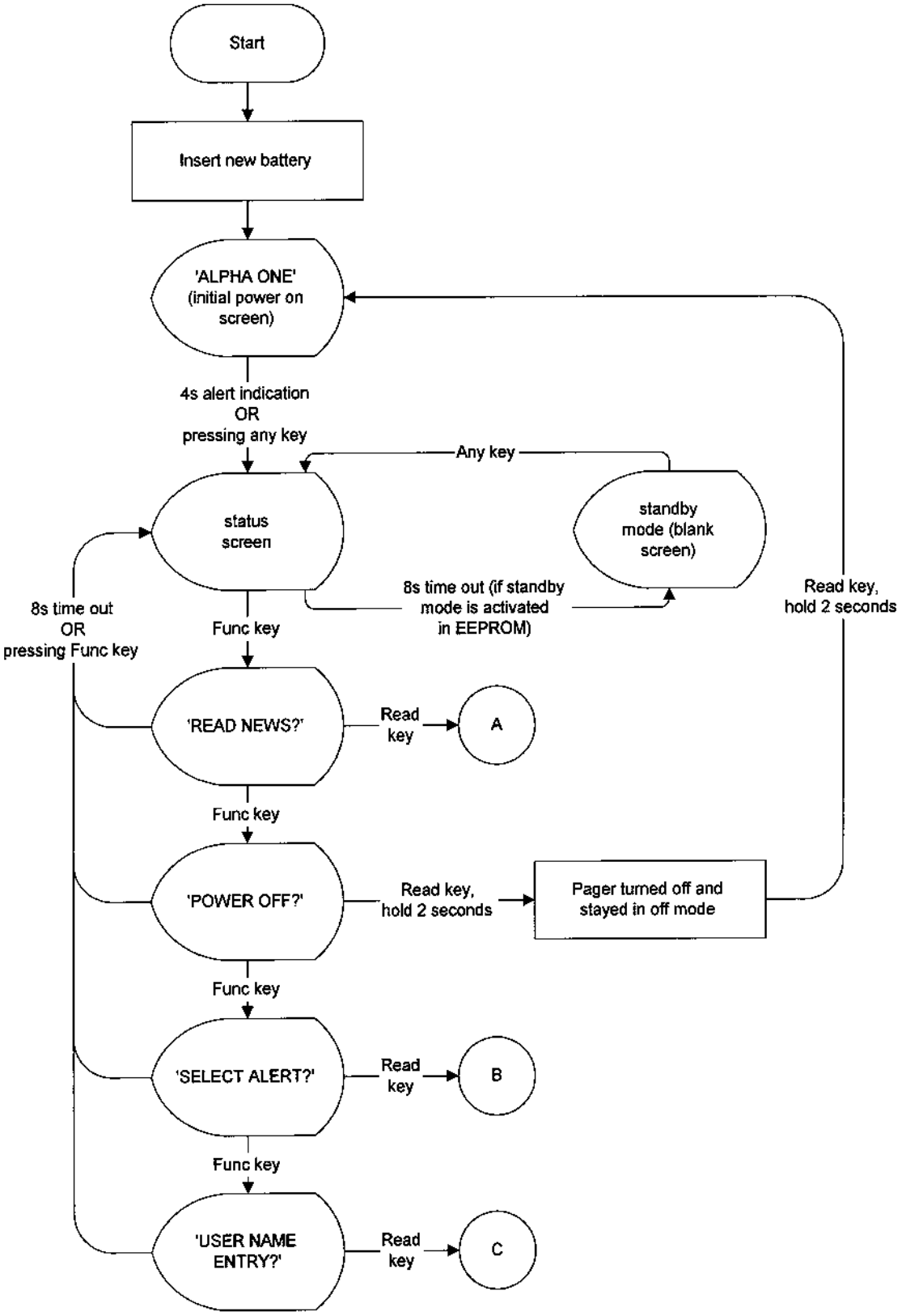
4. Operation Flow Charts

The operation flow charts of the 8001N pager are given in this chapter.

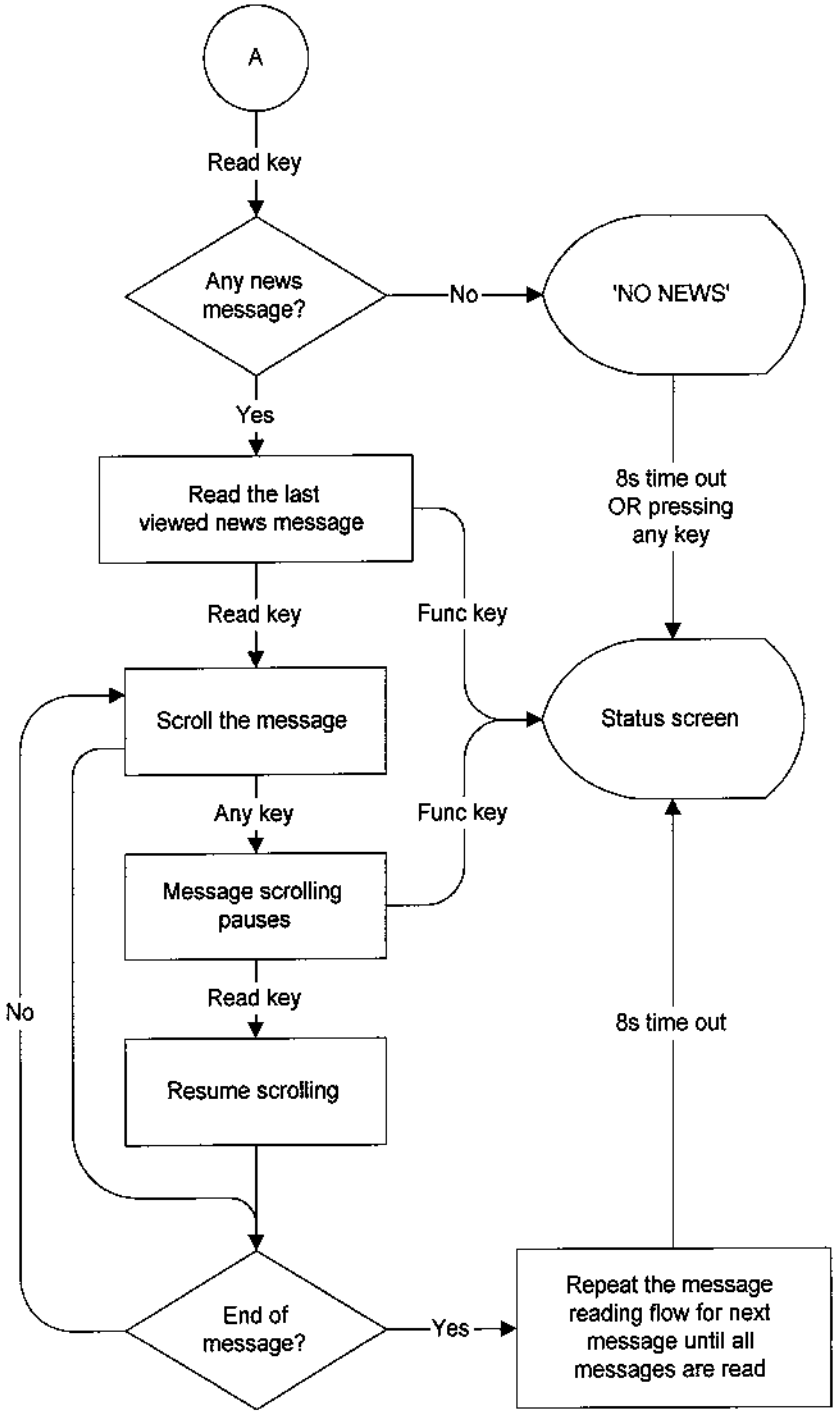
The flow charts describe the operational flows and inter-relationships among the entities within a specific function or sub-system.

Flow Chart	Description
4.1	Main flow
4.2	News message reading
4.3	Alert mode setting
4.4	User name entry
4.5	Message reading
4.6	Message deleting and fast scrolling
4.7	Self-testing

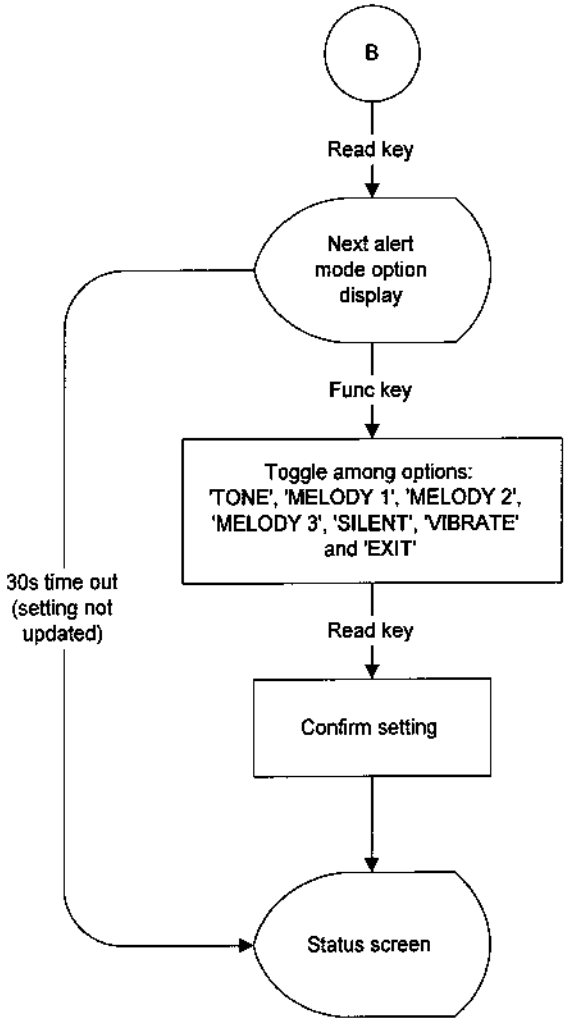
4.1 Main Flow


Start
Insert new battery
'ALPHA ONE' (initial power on screen)
4s alert indication OR pressing any key
Any key
status screen
standby mode (blank screen)
8s time out (if standby mode is activated in EEPROM)
Read key, hold 2 seconds
8s time out OR pressing Func key
Func key
'READ NEWS?'
Read key
A
Func key
'POWER OFF?'
Read key, hold 2 seconds
Pager turned off and stayed in off mode
Func key
'SELECT ALERT?'
Read key
B
Func key
'USER NAME ENTRY?'
Read key
C

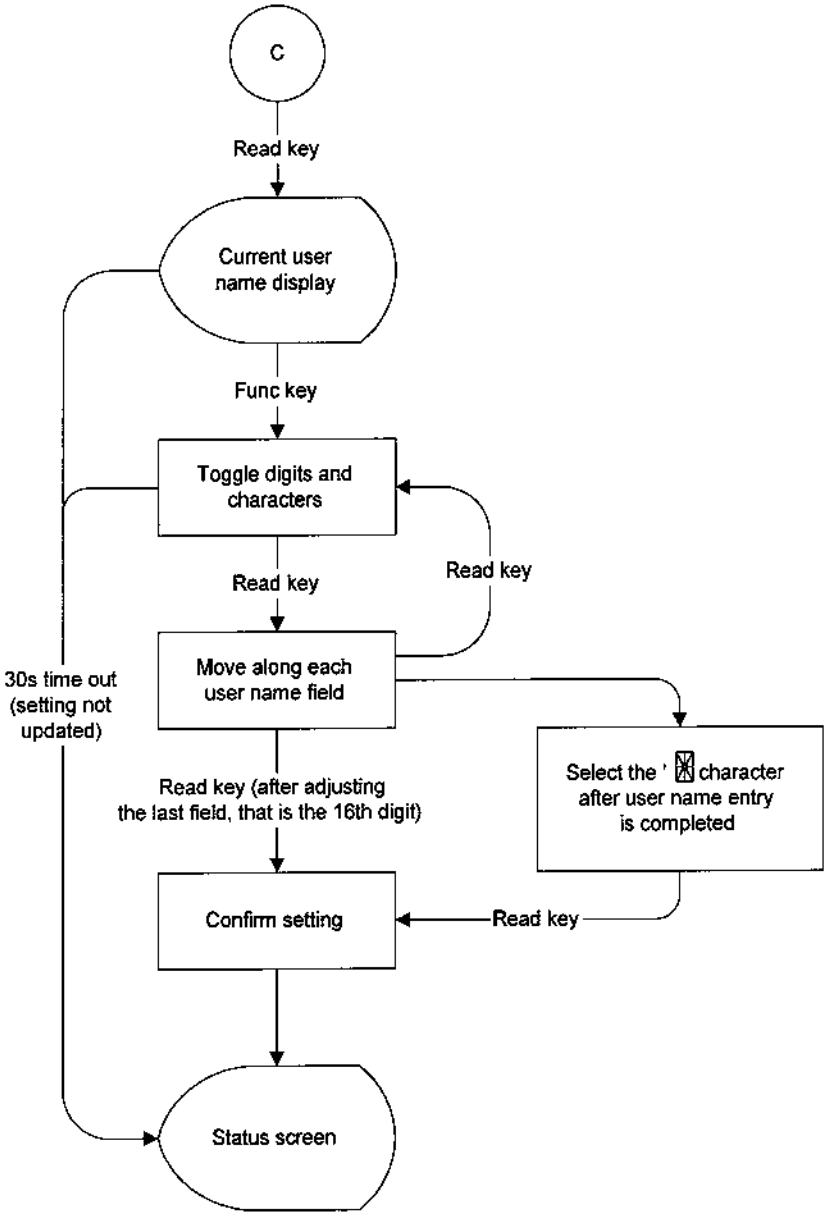
4.2 News Message Reading



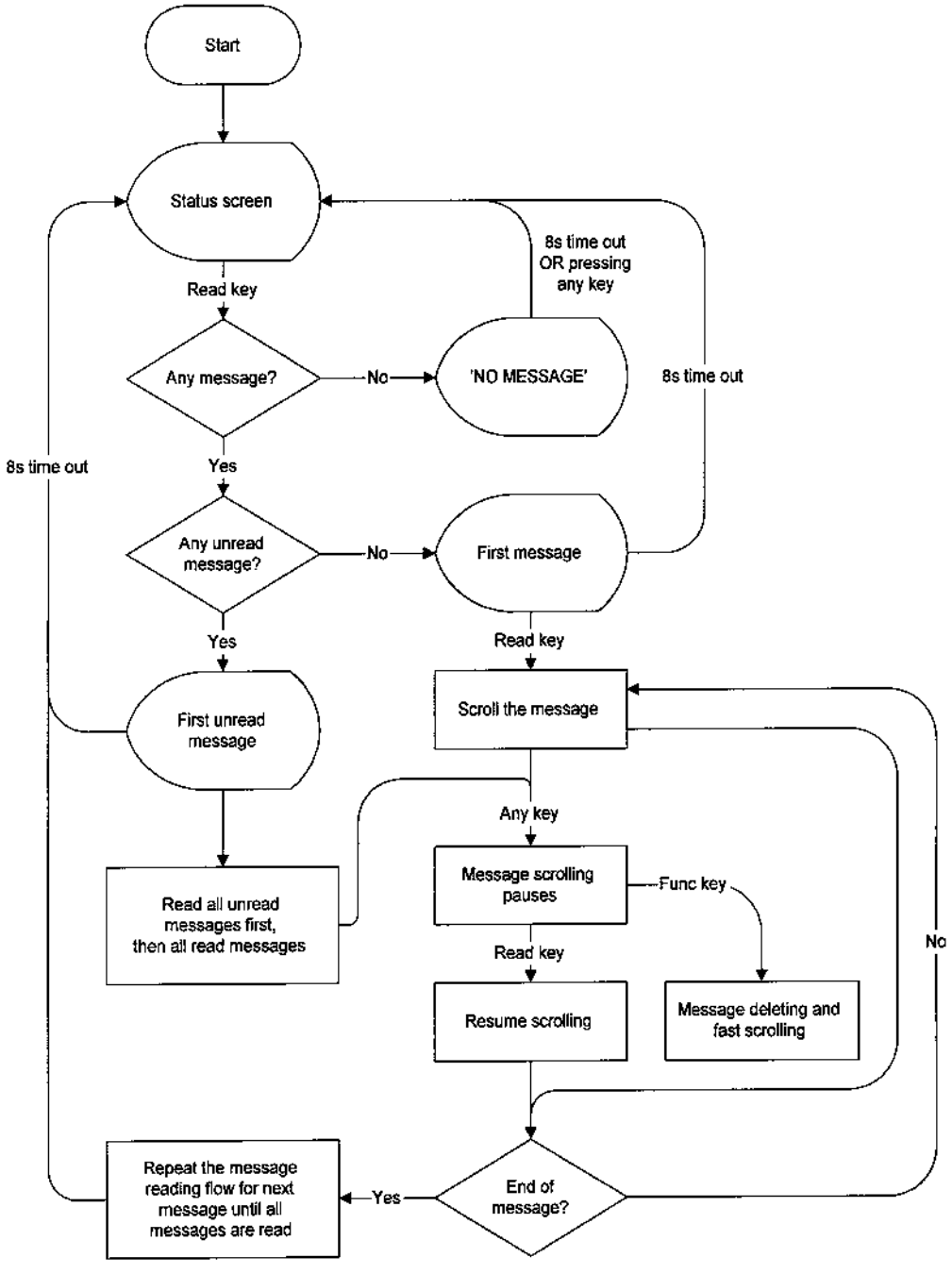
4.3 Alert Mode Setting



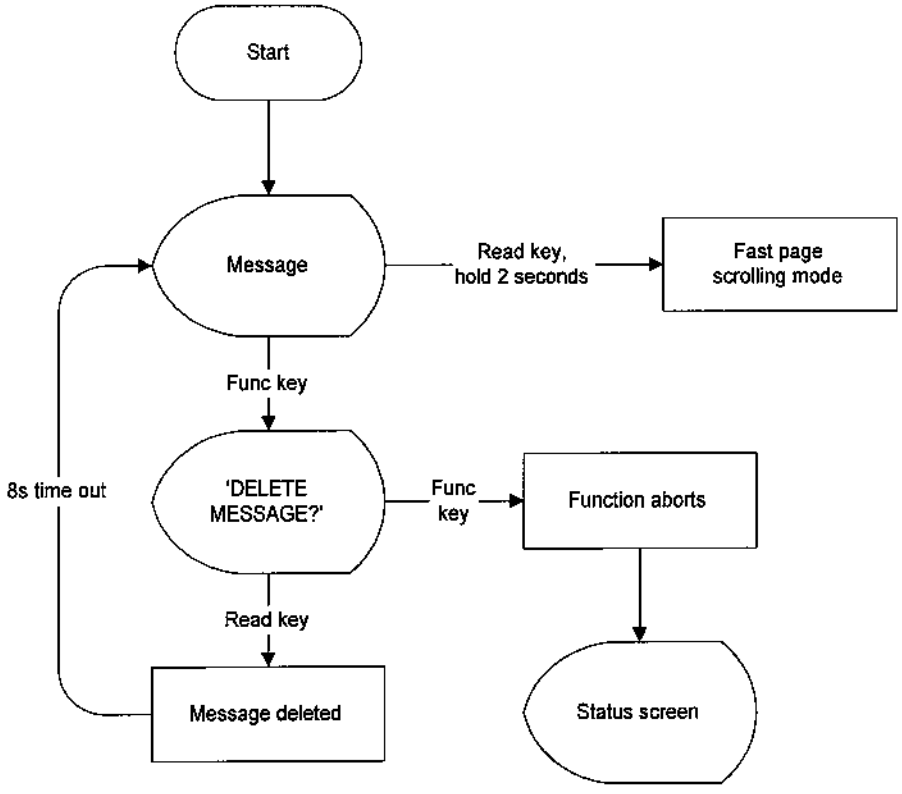
4.4 User Name Entry



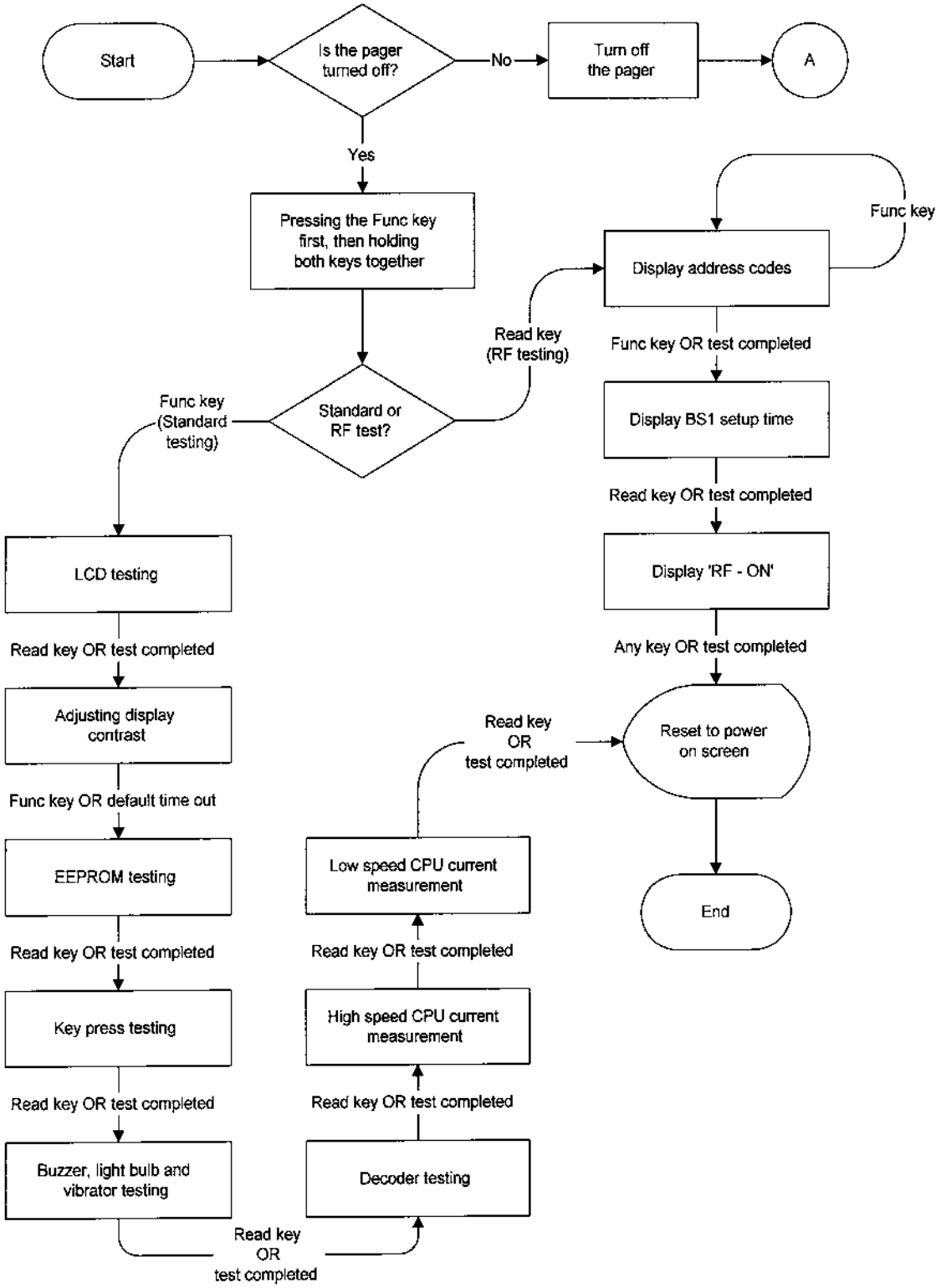
4.5 Message Reading



4.6 Message Deleting and Fast Scrolling



4.7 Self-test Mode



5. Operation Procedures

This chapter describes the operating procedures of the 8001N pager with illustrations of screen displays.

5.1 To Power On the Pager

The pager can be turned on by pressing and holding the Read key (▶) for 2 seconds or more. Depending on the factory option, either a 4-second audio beeping tone or 4-second vibration will be generated as the power on signal. The user name is displayed on the screen.

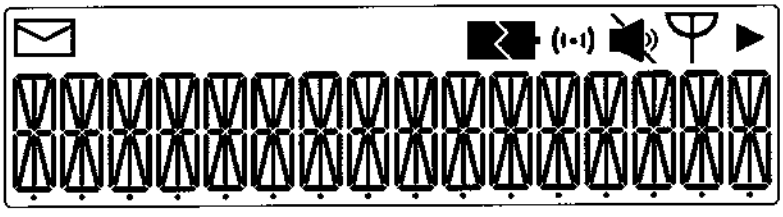


Figure 0-1 The initial power on screen showing all segments and icons on

The power on signal can be stopped by pressing any key, the pager will then display the status screen.

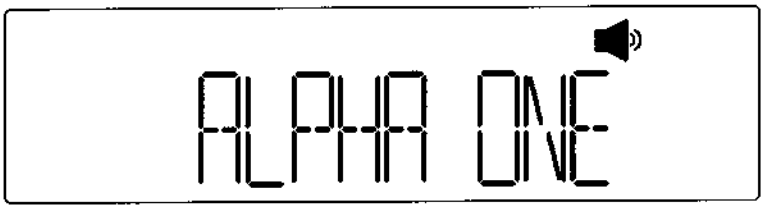


Figure 0-2 Status screen

The pager will enter the standby mode in which the screen will be blanked after the time out period of 8 seconds has been reached. The status screen can be displayed again by pressing any key. The standby mode is activated through EEPROM setting, the pager will continue displaying the status screen if the standby mode option is not set.

Note: The time out period is a default setting of the pager and usually it is set to 8 seconds. In any screen display, the pager will automatically return to the status screen if no key press is detected after the time out period is reached.

5.2 To Power Off the Pager

Press the Func key (●) to evoke the following screen from the status screen.

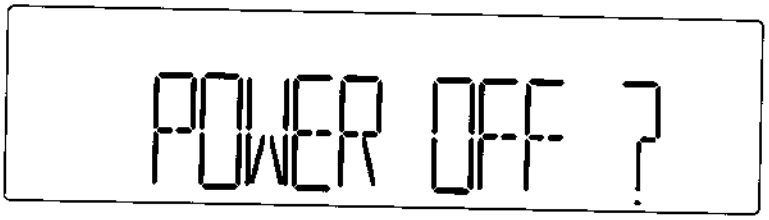


Figure 0-3 The power off confirmation screen

Then hold the Read key (▶) for 2 seconds to power off the pager. If no key press is detected by the pager, then the pager will return to the status screen after the 8-second time out period has been reached.

5.3 Messages Handling

5.3.1 Receiving and Reading User/Group Messages

Depending on the alert mode setting, the pager will generate an audio alert, a vibration alert (factory optional) or remain silent if a message call is being received. The following screen will be displayed simultaneously. This alert can be stopped by pressing any key.

Figure 0-4 The message receiving notification screen

Press the Read key (▶) to read the latest message from the status screen. If there is any unread message stored in the memory, then the pager would first display all the unread messages sequentially and followed by the old messages. A '▶' icon will be displayed at the top right hand corner of the screen if the message is too long to be displayed in one screen.

By pressing the Read key (▶), each message will keep on scrolling character by character until the end of the message is reached. Character scrolling is a factory option, the scrolling rate can be set to 0.5, 0.6 (default setting) or 0.7 second per character.

Message scrolling can be stopped by pressing the Read key (▶) and the screen will be 'frozen' at once. Press the Read key (▶) again to resume message scrolling.

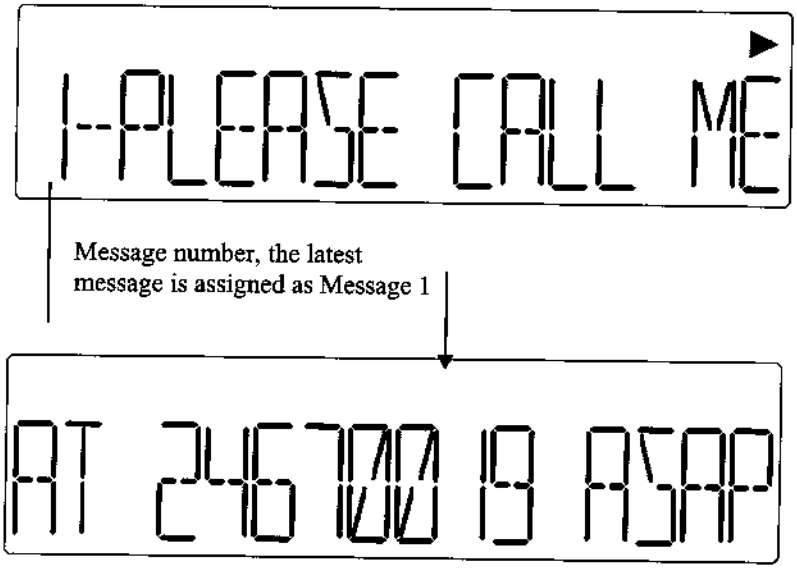


Figure 0-5 Message scrolling

If no key press is detected by the pager during message viewing, then the pager will return to the status screen after the 8-second time out period has been reached.

User can hold the Read key (▶) for 2 seconds or more for fast scrolling. The screen will display the **first page** of each message sequentially at the rate of 0.5 second per page. The following prompt message will be displayed if no message is in the memory.

Figure 0-6 The 'NO MESSAGE' prompt

5.3.2 Erroneous Messages

For any message containing transmission error, the erroneous contents will be displayed by '▯' as shown in the following diagram.

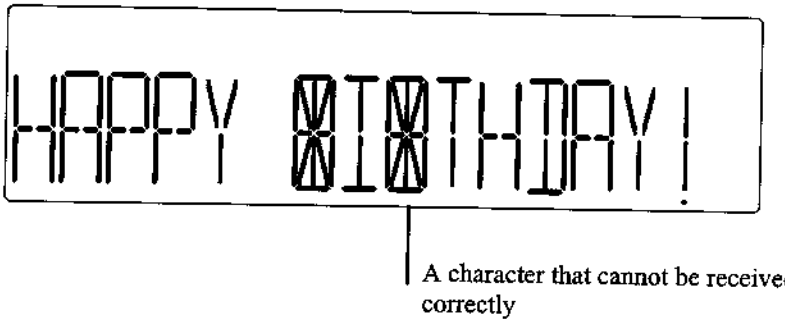


Figure 0-7 An erroneous message

5.3.3 Message Removal

Press the Func key (●) during message viewing to evoke the following screen.

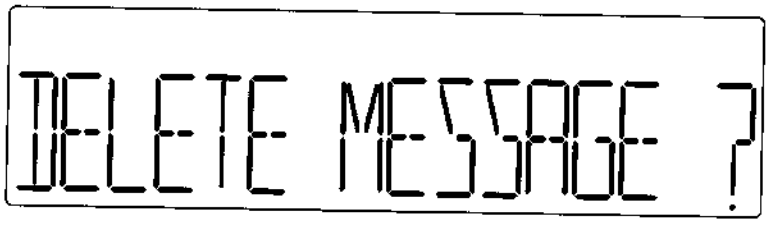


Figure 0-8 The message removal confirmation screen

Then press the Read key (►) to delete the current message. The pager will return to the message screen (showing the succeeding message) after the operation. Press the Func key (●) to abort the function and return to the status screen.

Again if no key press is detected by the pager, the pager will return to the status screen after the 8-second time out period has been reached.

5.3.4 Accessing News Messages

Press the Func key (●) to evoke the following screen from the status screen.

Figure 0-9 The news reading initiation screen

The pager would display the last viewed news message before displaying any other messages. The following prompt message will be displayed if no news message is in the memory.

Figure 0-10 The 'NO NEWS' prompt

Similar to user/group messages reading, a '▶' icon will be displayed at the top right hand corner of the screen if the news message is too long to be displayed in one screen.

Also, by pressing the Read key (▶), each news message will keep on scrolling character by character at a rate of 0.25 second per character until the end of the message is reached.

Message scrolling can be stopped by pressing the Read key (▶) and the screen will be 'frozen' at once. Press the Read key (▶) again to resume message scrolling.

User can also hold the Read key (▶) for 2 seconds or more for fast scrolling. The screen will display the **first page** of each message sequentially at the rate of 0.5 second per page.

5.4 Alert Mode Setting

Press the Func key (●) a number of times to evoke the following screen from the status screen.

Figure 0-11 The alert mode setting screen

The current alert mode will be displayed by pressing the Read key (►). User can press the Func key (●) to toggle among all available options for alert mode setting - 'TONE', 'MELODY 1', 'MELODY 2', 'MELODY 3', 'SILENT', 'VIBRATE' (optional) and 'EXIT' (The option 'VIBRATE' will not appear for the product without this option).

Once an alert mode is selected, the user can press the Read key (►) to confirm the setting and return to the status screen. The pager will generate the corresponding alerting effect according to the selected alert mode.

A 30-second time out period is set to this function.

5.5 User Name Entry

Press the Func key (●) until the following screen is displayed.

Figure 0-12 The user name entry initiation screen

The user can then press the Read key (►) to evoke the user name adjustment screen.

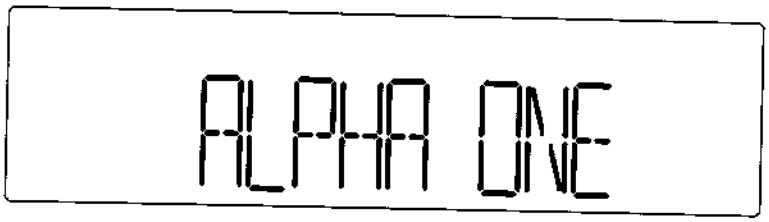


Figure 0-13 An example of user name

The first alphanumeric character is blinking once the user name adjustment screen is displayed. Press the Read key (▶) to move along the user name fields and press the Func key (●) to toggle among characters as well as digits. The user name field being adjusted will be blinking to notify the user. After adjustment is finished on the last field, press the Read key (▶) to confirm the setting and return to the status screen.

The user can also toggle to select the special character '⊠' after user name adjustment has been finished. The special character allows the user to complete the setting procedure and jump to the status screen immediately without having to enter all sixteen characters. A 30-second time out period is set to this function.

Note: The 'User Name Entry' function would be unavailable if the pager is in the low battery state.

5.6 Low Battery Alert

When the battery voltage of the pager drops to 1.1V or below, the pager will generate an alert together with the display of the following screen to notify the user.

Figure 0-14 The low battery notification screen

The alert will be generated for every hour until the user acknowledges the alert by pressing any key to stop it. The user should first power off the pager before replacing the battery.

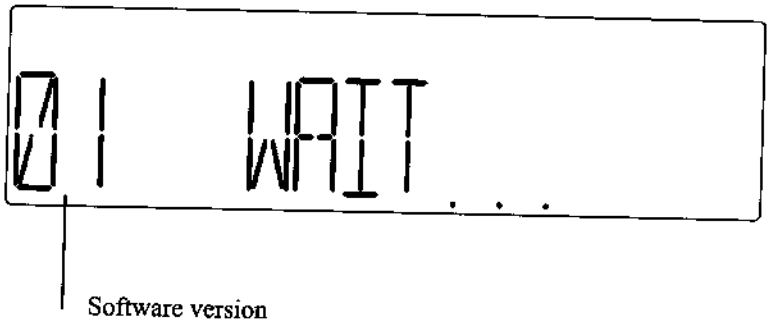
6. Self-test Mode

This section describes the standard testing and RF testing procedures for the 8001N pager.

6.1 Invoking Self-test Mode

Since all test modes are not to be used by the ordinary users, special procedures are required to invoke this mode. The steps are,

- Turn off the pager.
- Press and hold the Read key and the Func key together for 2 seconds or more. The following screen will be displayed while initializing the self-test procedure.



Software version

- The main test menu shown as below is displayed.

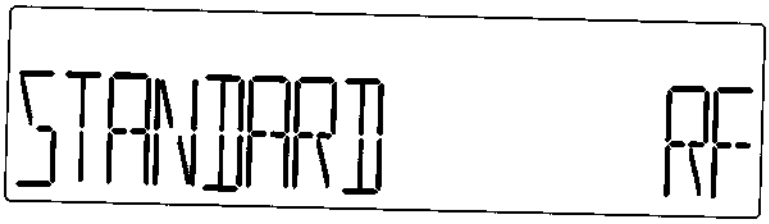


Figure 0-1 The main test menu

- Press the Func key (●) to evoke standard testing or press the Read key (▶) to evoke RF testing.
- If no key press is detected within 8 seconds after the test menu was displayed, the pager will enter the normal operation mode. It is necessary to turn off the pager and perform the invoking procedures again to re-enter the test mode.

6.2 RF Testing

RF testing is invoked by pressing the Read key (▶) at the main test menu. The screen showing the first address capcode used by the pager is displayed, press the Func key (●) to display the second address capcode.

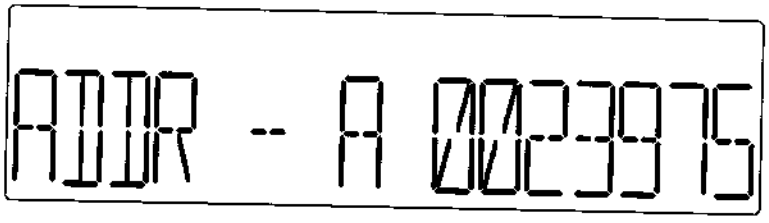


Figure 0-2 Screen illustration showing an address capcode

Following the display of all address capcodes, BS1 timing will be displayed if user press the Func key (●) again.

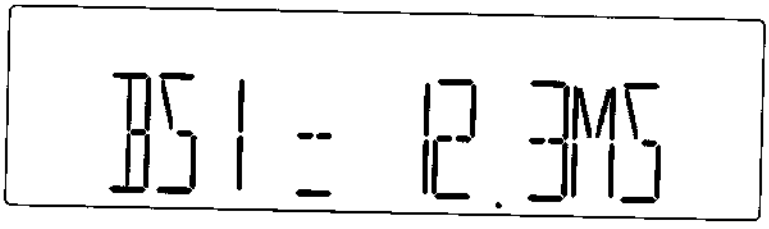


Figure 0-3 BS1 timing display screen

The following screen will be displayed after the BS1 timing screen has been displayed, or when the user press the Read key (▶) during address capcode display.

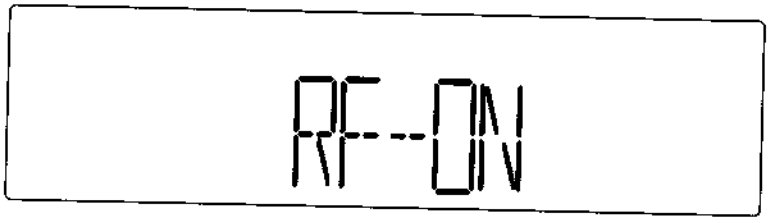


Figure 0-4 The 'RF-ON' screen

The screen notifies the user that the RF circuit has been activated for testing. Press any key to terminate the test and reset the pager to normal operation.

A 3-second interval is set between each test item. If any key is pressed at this interval, the next test item will be invoked immediately.

6.3 Standard Testing

Standard testing consists of a series of automated test procedures which goes through all the components of the pager. The test covers the LCD, memory components and electrical devices. The testing sequence is,

- LCD test, with 3 different patterns
- LCD Contrast adjustment
- EEPROM test
- Key press test
- Buzzer test
- Light bulb test
- Motor test (optional)
- Decoder test
- CPU test

Similarly, a 3-second interval is set between each test item. If any key is pressed at this interval, the next test item will be invoked immediately.

6.3.1 LCD Test

LCD test shows 3 different patterns of all the sixteen 14-segment characters - all segments on, odd segments on and even segments on.

The odd segments testing and the even segments testing complement each other. It is important to check at this stage whether the segments stay 'on' or 'off' all the time.

Each pattern is set to be displayed for 3 seconds but next pattern can be displayed immediately if user presses any key during testing. User can also press the Read key (►) to skip the test.

6.3.2 LCD Contrast Adjustment

At this stage user is allowed to adjust the LCD contrast by pressing the Read key (►) continuously, each time the contrast level will be increased by one unit.

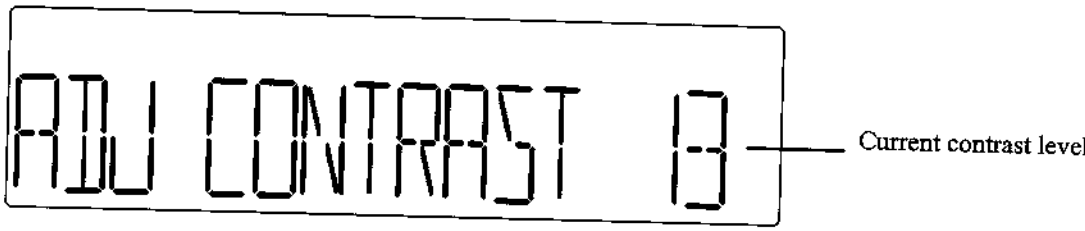


Figure 0-5 The LCD contrast adjustment screen

The default contrast level is set to '13' and a total of 6 levels (from 10 to 15) are available for adjustment. Press the Func key (●) to skip adjustment and evoke the next test.

6.3.3 EEPROM Test

EEPROM test performs comprehensive diagnosis to the EEPROM in the pager. The pager will notify the user whether the test is passed or not.

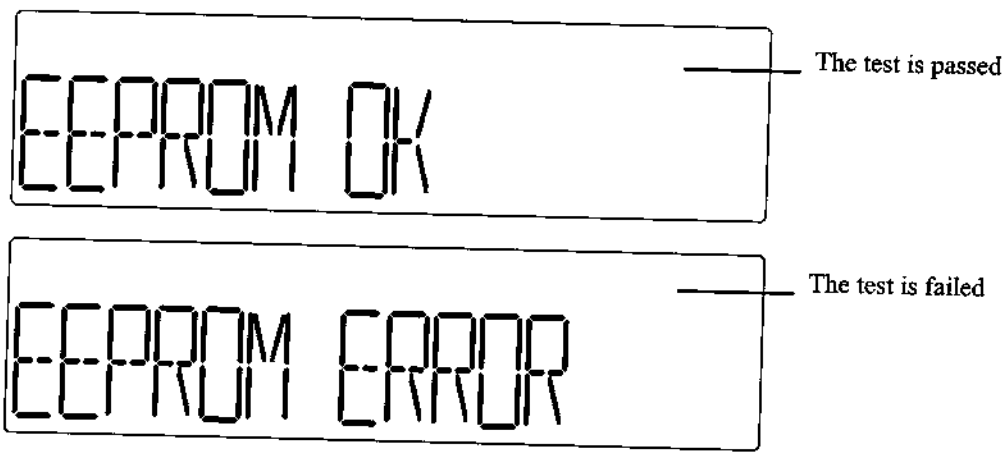


Figure 0-6 Prompt message showing the EEPROM test result

User can press the Read key (▶) to skip the test.

6.3.4 Key Test

Key test aims to notify the user whether the 2 button keys are functioning properly. The screen will display the corresponding key label when a key is pressed. Otherwise the test is failed.

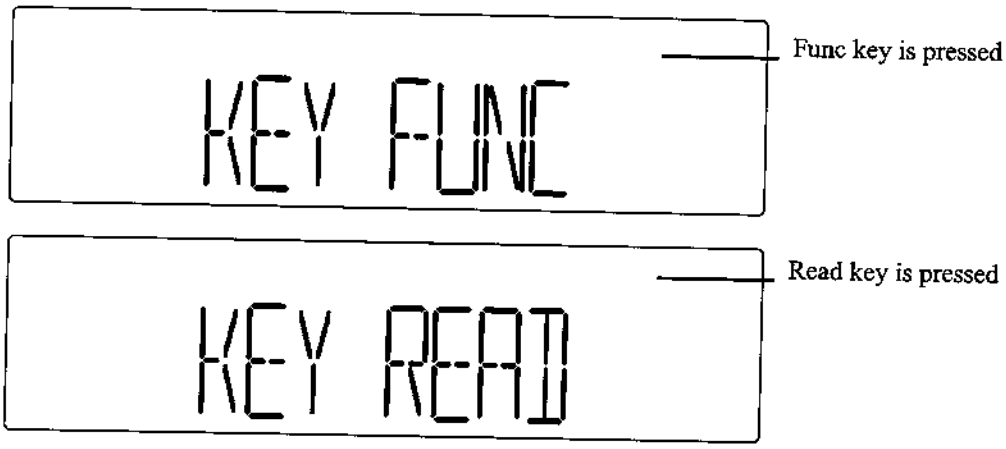


Figure 0-7 Prompt message showing the key labels

User can press the Read key (▶) **twice** to skip the test.

6.3.5 Buzzer, Light Bulb and Motor Tests

Buzzer test is performed by turning on the buzzer to generate a long beeping tone for 3 seconds. The test is failed if no beeping tone is generated.

Light bulb test is performed by turning on the back lighting for 3 seconds. The test is failed if the light bulb fails to light up.

Motor test is performed by turning on the motor to vibrate for 3 seconds. The test is failed if the motor does not vibrate. The test is optional as motors may not be installed into the pagers.

Similar to the EPROM test, user can press the Read key (▶) to skip each test.

6.3.6 Decoder Test

Decoder test initializes the POCSAG decoder and checks if the paging signal rises at a predefined instant. The test is failed if the signal cannot rise as expected.

Prompt messages will be displayed to notify the user about the test result. User can press the Read key (▶) to skip the test.

6.3.7 CPU Test

CPU test involves two stages - high speed test and low speed test.

High speed test sets the pager to operate at full speed and the LCD is turned on for current measurement to ensure that there is no open circuit nor short circuit. Low speed test measures the current consumption rate at the standby mode.

Prompt messages will be displayed to notify the user which test is being proceeded.

User can press the Read key (▶) to skip the test. The pager will reset to normal operation after the CPU test is completed or skipped.

Appendix A - ASCII Character Set

	2	3	4	5	6	7
0		0	@	P	`	p
1	!	1	A	Q	a	q
2	"	2	B	R	b	r
3	#	3	C	S	c	s
4	$	4	D	T	d	t
5	%	5	E	U	e	u
6	&	6	F	V	f	v
7	'	7	G	W	g	w
8	(	8	H	X	h	x
9	)	9	I	Y	i	y
A	*	:	J	Z	j	z
B	+	;	K	[	k	{
C	,	<	L	\	l	|
D	-	=	M	]	m	}
E	.	>	N	^	n	~
F	/	?	O	_	o	

Appendix B - ASCII Character Set with Cyrillic Characters

	2	3	4	5	6	7
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
A						
B						
C						
D						
E						
F						

Appendix C - French, Portuguese, Romanian and Spanish Prompt Messages

English	French	Portuguese
READ NEWS?	LECTURE INFOS?	INFORMATIVO?
POWER OFF?	ARRET?	DESLIGADO?
SELECT ALERT?	SELECTION ALARM?	ALERTA?
USER NAME ENTRY	NOM UTILISATEUR	USUARIO NOME
TONE	TONALITE	TOM
MELODY 1	MELODIE 1	MELODIA 1
MELODY 2	MELODIE 2	MELODIA 2
MELODY 3	MELODIE 3	MELODIA 3
SILENT	SILENCE	SILENCIOSO
VIBRATE	VIBRATION	VIBRADOR
EXIT	SORTIE	SAIDA
NO MESSAGE	PAS DE MESSAGE	SEM MENSAGEM
NO NEWS	PAS INFOS	SEM NOTICIAS
MESSAGE RECEIVED	MESSAGE RECU	NOVA MENSAGEM
LOW BATTERY	PILES FAIBLES	PILHA FRACA
TONE ONLY	SON SEULEMENT	APENAS TOM
DELETE MESSAGE?	EFFACER MESSAGE?	APAGAR MENSAGEM?
English	**Romanian**	**Spanish**
READ NEWS?	CITESTE STIRILE?	INFORMACION?
POWER OFF?	INCHIS?	APAGADO?
SELECT ALERT?	ALEGE MOD ALERTA	PROGR ALERTA?
USER NAME ENTRY	SCRIE-TI NUMELE?	USUARIO NOMBRE
TONE	TON	TONO
MELODY 1	MELODIE 1	MELODIA 1
MELODY 2	MELODIE 2	MELODIA 2
MELODY 3	MELODIE 3	MELODIA 3
SILENT	SUNET OPRIT	SILENCIOSO
VIBRATE	VIBRATIE	VIBRADOR
EXIT	LESIRE	SALIR
NO MESSAGE	NU SUNT MESAJE	SIN MENSAJES
NO NEWS	NU SUNT STIRI	SIN INFORMATIVOS
MESSAGE RECEIVED	MESAJ PRIMIT	MESAJE RECEBIDA
LOW BATTERY	BATERIE SLABA	BATERIA BAJA
TONE ONLY	NUMAI TON	SOLO TONO
DELETE MESSAGE?	STERGE MESAJE?	BORRAR MENSAJE?

Note: All messages should be within 16 characters including any spaces.

Appendix D - Bulgarian and Russian Prompt Messages

English	Bulgarian	Russian
READ NEWS?	ЧЕТЕНЕ НОВИНИ?	ЧИТАТЬ НОВОСТИ ?
POWER OFF?	ИЗКЛЮЧВАНЕ?	ВЫКЛЮЧИТЬ ?
SELECT ALERT?	ИЗБОР НА СИГНАЛ?	ВЫБРАТЬ СИГНАЛ ?
USER NAME ENTRY	ВЪВЕЖДАНЕ НА ИМЕ	ПРИВЕТСТВИЕ
TONE	ТОНАЛНО	ТОН
MELODY 1	МЕЛОДИЯ 1	МЕЛОДИЯ 1
MELODY 2	МЕЛОДИЯ 2	МЕЛОДИЯ 2
MELODY 3	МЕЛОДИЯ 3	МЕЛОДИЯ 3
SILENT	БЕЗШУМНО	РЕЖИМ МОЛЧАНИЯ
VIBRATE	ВИБРАЦИЯ	РЕЖИМ ВИБРАЦИИ
EXIT	ИЗХОД	ВЫХОД
NO MESSAGE	НЯМА СЪОБЩЕНИЯ	НЕТ СООБЩЕНИЙ
NO NEWS	НЯМА НОВИНИ	НЕТ НОВОСТЕЙ
MESSAGE RECEIVED	НОВО СЪОБЩЕНИЕ	СООБЩЕНИЕ
LOW BATTERY	СМЕНЕТЕ БАТЕРИЯ	СМЕНИТЬ БАТАРЕЮ
TONE ONLY	САМО ТОНАЛНО	ТОЛЬКО ТОН
DELETE MESSAGE?	ИЗТРИВАНЕ?	УДАЛИТЬ ?

Note: All messages should be within 16 characters including any spaces.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio/TV technician for help.

This device compiles with Part 15 of the FCC Rules. Operation is subject to the following two conditions. (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.