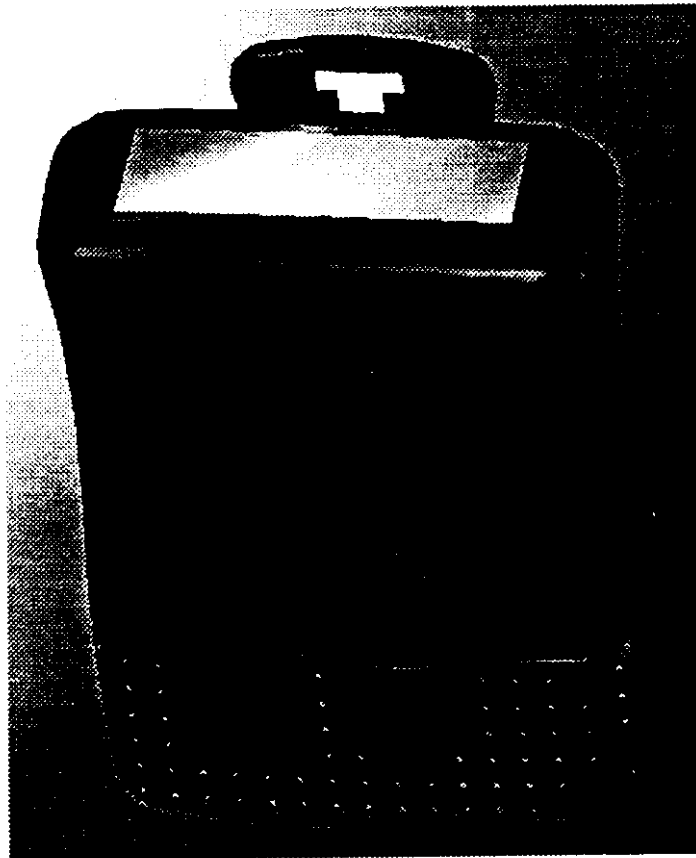


Product Specification

PN5FT-35B Crusoe Top Display Numeric FLEX Pager



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WMTD
NEC America, Inc.

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Product Specification for Crusoe

1. Introduction

1.1 Top Display Numeric Pager

The NEC Crusoe Top Display Numeric pager is design to appeal to both business users as well as the Youth and Young Adult markets.

1.2 External Features

The Crusoe pager has three function buttons and a single-line, 12-character display.

Approximate Size: H 2.76" X W 1.99" X D 1.18" W/CLIP

Approximate Weight: TBD

Function Buttons

The Top Display Numeric has 3 function buttons. The function of each button changes depending on the current state of the pager, i.e. the current display.

Button (M) (Main Button): Hold down (M) the main button to turn on the power of the pager. While setting functions, briefly press (M) to return to standby.

Buttons (Λ) and (V): With the pager in standby, briefly press (V) to view the latest stored message, or briefly press (Λ) to view the oldest message. Use (V) or (Λ) to scroll through messages and to change the selection of menu items. Use (V) to toggle on-off settings. Use (Λ) to confirm settings.

LCD

The LCD consists of a single row of up to twelve 7-segment message characters. Below the message is a series of sub-symbols. These sub symbols indicate:

- If a message was received more than once
- If a message has been protected
- the currently selected call alert mode
- If the alarm clock function is active
- If the countdown timer function is active
- If the low voltage alarm is active.
- An optional indicator shows if the pager is inside or outside the coverage area of the messaging service.

The display can show up to 12 digits at once. A message can be up to 20 digits long, in which case the message continues on the next screen.

Cabinet

The pager will be available in black ONLY.

The mechanical part consists mainly of the following components.

Front Case Assembly

- Front Case
- LCD Screen
- Function Buttons (3)

Rear Cover Assembly

- Rear Cover
- Latch for Battery Cover
- Clip

Battery Cover

Screw

Logo Label (applied to the Front Case)

FCC Label (applied to the Rear Cover)

2. Feature Sets

Code Protocol	FLEX
Address	User Address: 4 Temporary Address : 1
Display	Top Display with 12 Characters and Segments System Icons
Button Operation	3 Push
Battery Type/Life	AA, up to 3,600 hours depending on system parameters
Backlight	Auto (lamp)
Audible Beep Alert (single/dual)	Yes (user selectable)
Delete All	Yes
Password	Yes (optional)
Message Length	20 characters each
Repeat Call Inhibit	Yes (optional)
Battery Backup	Yes
Unread Message Alert	Yes
Low Battery Alarm	Yes
Frequency / Code Display	Yes

3. Code Programming

Message Slots	22
Clock	12 Hour
Time Stamp	Yes
Clock Alarm	Yes
Countdown Timer	Yes
Protect	Yes
# of Protectable Message	21
Delete	
- all	Yes
- individual	Yes
Alert	
- beep	Yes
- accelerated	Yes
- vibe	Yes
- musical	Yes (4)
- reminder	Yes

4. Electrical Specifications

Radio Frequency	929 to 932 Mhz
Paging Sensitivity (Front, Tone Only)	18 dBuV/m (1600 bps) 20 dBuV/m (3200 bps) 22 dBuV/m (6400 bps)
Spurious Rejection	40 dB
Nominal Battery Life with type AA Alkaline Battery	up to 3,600 hours depending on system parameters
Digital Modulation System	Carrier Frequency Shift Keying (FSK)
Deviation	+/- 4.8 Khz, +/-1.6 Khz
Signal Format	FLEX
Channel Spacing	25 Khz
Selectivity	> 45 dB at 25 Khz
ID-ROM	Electrical Erasable Programmable Read Only Memory (EEPROM)
Detection	FLEX error correction

5. Character Set

Standard Character Set

<u>Character</u>	<u>4-Bit Numeric Code</u>
0	0000 (0h)
1	0001 (1h)
2	0010 (2h)
3	0011 (3h)
4	0100 (4h)
5	0101 (5h)
6	0110 (6h)
7	0111 (7h)
8	1000 (8h)
9	1001 (9h)
A	1010 (Ah)
U	1011 (Bh)
"space"	1100 (Ch)
-	1101 (Dh)
)	1110 (Eh)
(1111 (Fh)

Optional Character Set

<u>Character</u>	<u>4-Bit Numeric Code</u>
0	0000 (0h)
1	0001 (1h)
2	0010 (2h)
3	0011 (3h)
4	0100 (4h)
5	0101 (5h)
6	0110 (6h)
7	0111 (7h)
8	1000 (8h)
9	1001 (9h)
A	1010 (Ah)
B	1011 (Bh)
"space"	1100 (Ch)
C	1101 (Dh)
D	1110 (Eh)
E	1111 (Fh)

Note : In the United States, Canada, Mexico, and other Latin America counties, the standard character set should be used.

6. Operation

6.1 Power On, Stand-by, Power Off

To Turn Power On hold down (M) for more than 1 second. The pager will make the currently selected alert and the display shows all character segments and sub-symbols for the features activated.

Pager in Standby: After powering on, the pager enters standby mode. It is now waiting at low power for a message to come in. The display shows the time and the currently selected call alert mode.

To Turn Power Off press (M) while the pager is in standby, then press (V) several times until the "turn OFF" appears on the display. Press (Λ), then "OFF" appears with flashing. Again press (Λ) for turning off, or press (M) or (V) for cancel. Otherwise automatically canceled after 40 seconds.

6.2 Time Setting

To Adjust Time displayed on Pager press (M) while the pager is in standby, then press (V) 3 times. "SEt 4" appears on the display with clock mark flashing. Press (Λ) to enter the time setting mode. The hours flash on the display.

To change the hour digits press (V) to increase the hour setting by one, or hold down (V) to scroll through the digits in rapid succession, then release (V) to display the required hour setting. Press (Λ) to proceed to minutes setting mode.

To change the minutes press (V) to increase the minutes setting by one, or hold down (V) to scroll through the digits in rapid succession, then release (V) to display the required minute setting. With each press of (V) button, the minutes increase by 1. If the minute digits are 59, a press will change them to 00.

Press (M) to return to standby mode.

6.3 Alert Mode Setting

To Set Alert Mode press (M) while the pager is in standby, then "SEt 1" appears on the display with a speaker icon flashing. Press (Λ) to enter the alert selection mode then "beep 1 [*]" appears on the display with a speaker icon flashing. "*" shows the current selected beep tone, i.e.

- 1 : Single Tone
- 2 : Dual Tone
- 3 : New Alert (gradual shorten interim brief tone)

To Select Beep Alert press (Λ) to enter the beep selection mode then "*" flashes. For changing the beep tone among the above, press (V) to change "*" between 1 and 3. Press (Λ) or (M) to confirm the selection and return to standby.

or

Press (M) to return to standby.

or

Press (V) to proceed the alert selection mode to the musical alert selection then "beep 2 [**]" appears on the display with a speaker and note marks flashing. "***" shows the current selected musical alert number.

To Select Musical Alert press (Λ) to enter the musical alert selection mode then "***" flashes. For changing the musical alert, press (V) to increment "***". Press (M) or (Λ) to confirm the selection and return to standby.

or

Press (M) to return to standby.

or

Press (V) to proceed the alert selection mode to the chirp alert selection with vibration then "beep 3" appears on the display with a note and wave marks flashing.

To Select Chirp with Vibe Alert press (M) or (Λ) to confirm the selection and return to standby.

or

Press (V) to proceed the alert selection mode to the vibration alert selection then the "-----" appears on the display with a wave icon flashing.

To Select Vibe Alert press (M) or (Λ) to confirm the selection and return to standby.

or

Press (V) to return the alert selection mode to the beep alert selection then "beep 1 [*]" appears on the display with a speaker icon flashing.

6.4 Receiving a Call

The pager should be turned on. When a call comes in, the following occur simultaneously.

- The pager makes the alert previously selected.
- The new message appears on the display.

Automatic Reset: After 8 seconds for the normal beep and the chirp alerts, or 32 seconds for the new alert, the alert stops, and the "CALL" display replaces the message on the display. "CALL" display remains on the display until you press any button, after which the new message returns to the display. "CALL" display means that the pager has stored one or more unread messages. In this case, the reminder alert activates with alert mode for the oldest unread message at the time after 1 minute, 2 minutes, 5 minutes, 10 minutes, and 30 minutes.

Manual Reset: To cancel the call alert and read the message, press any button during the call alert. The alert stops but the new message remains on the display for a further 40 seconds.

New Messages: Note the message number in the last screen. The newest message is always 1. If the display shows the "message continued" sub-symbol "V", press (V) to read the next screen of the message. After 40 seconds, the message disappears and the display returns to standby automatically. However, press (M) within the 40 seconds to clear the message and return to standby. The pager retains the new message in its memory as message number 1.

Tone Only Messages: A "tone only" message is indicated on the display by the words "Tone Only". The pager treats the tone only message in the same way as a numeric message. Tone only messages are stored in the memory of the pager in the normal way.

6.5 Reviewing Stored Messages

The pager can store up to 22 which you can review one after the other, beginning with the latest.

To Review the Latest Message the pager should be turned on and in standby. Press (V) to display the latest message. Press (V) to read the next screen of the message within the 40 seconds. The next screen of the message appears on the display for 40 seconds. The message number and the time stamp are displayed in the last screen if those features are active.

To Review the Oldest Message the pager should be turned on and in standby. Press (Λ) to display the latest message. Press (V) to read the next screen of the message within the 40 seconds. The next screen of the message appears on the display for 40 seconds. The message number and the time stamp are displayed in the last screen if those features are active.

To Scroll Through the Stored Messages: During the 40 seconds that the last screen for the latest message appears on the display, press (V) to review the 2nd latest message. Or during the 40 seconds that the last screen for the oldest message appears on the display, press the (Λ) button to review the 2nd oldest message. Repeat this procedure for all the messages until there are no more messages. Press (M) at any time to return to standby. Or with any message on the display, if you do nothing the display automatically returns to standby after 40 seconds.

6.6 Protection of Individual Messages

When the memory capacity has been reached, receipt of a new message causes the automatic deletion of the oldest unprotected message in the memory.

To Protect a Message use (V) or (Λ) to display the message you want to protect. Press (M) then "ProtEct ?" appears on the display.

Press (Λ) to execute protection of the message. After (Λ) is pressed, the protect symbol is displayed with the message.

or

Press (M) to cancel the protection and return to standby.

To Unprotect a Message use (V) or (Λ) to display the protected message you want to unprotect. Press (M) then "UnProtEct ?" appears on the display.

Press (Λ) to unprotect the message. After (Λ) is pressed, the display returns to the message display automatically

Or

Press (M) to cancel unprotect and return to standby.

Message Protection Capacity: The maximum number of messages which can be protected is the number of the message slots minus one. If (Λ) is pressed in an attempt to protect an extra message, the pager displays the warning "FULL" with two prompt tones. "FULL" appears for 1 second, after which the display automatically returns to the message display.

6.7 Deletion of Individual Messages

The user can delete unwanted messages, protected or unprotected, from the memory of the pager.

To Delete a Message use (V) or (Λ) to display the required message. Press (M) and press (V) then "dELEtE ?" appears on the display.

Press (Λ) to execute deletion of the message. "dELEtEd" appears for 1 second, after which the display automatically returns to the message display.

or

Press (M) to cancel the deletion and return to standby.

6.8 Deletion of All Stored Messages

Use (V) or (Λ) to display any message. Press (M) and press (V) twice. "dELEtE ALL ?" appears on the display.

Press (Λ) then "dELEtE ALL ?" flashes. Press (Λ) again to execute the all deletion of the message. "NO INFO" appears on the display and return to standby after 1 second

or

Press (M) to cancel the all deletion and return to standby.

6.9 No Message Stored

If the pager is turned on and in standby, but there are no messages stored, "NO INFO" appears on the display for 40 seconds when you press (V) or (Λ). After the 40 seconds, the display automatically returns to standby. Within 40 seconds, press (M), (V), or (Λ) to clear "NO INFO" and return to standby.

6.10 Timer Functions

The pager has 2 timer functions:

- Alarm Clock
- Countdown Timer

Alarm Clock

You can set the pager alarm to sound at the same time each day. If you have selected the beep or the musical alert mode, the pager will generate a special alarm tone for the preset period. If you have selected the chirp with vibrate or the vibrate mode, the pager will produce the current call alert.

To Set the Alarm press (M) while the pager is in standby. Press (V), then "SEt 2" appears on the display with a bell mark flashing. Press (Λ) to enter the alarm setting mode then, time preset for the alarm appears on the display. Press (V) to alter ON and OFF.

Press (Λ) to enter the alarm time setting mode, then press (V) to increase the hour setting by one, or hold down (V) to scroll through the digits in rapid succession. Release (V) to display the required hour setting. Press (Λ) to proceed to minutes setting mode. Press (V) to increase the minutes setting by one, or hold down (V) to scroll through the digits in rapid succession. Release (V) to display the required minute setting. With each press of (V) button, the minutes increase by 1. If the minute digits are 59, a press will change them to 00.

Then press (Λ) to confirm. The hour digits flash. Press (M) to return to standby.

If the power of the pager is on, the pager will make an alarm at the same time every day until this function is turned off or adjusted. After the alarm sounds, the pager will return to standby.

During the Alarm: While the pager is sounding the alarm, the bell mark flashes. Press any button to stop the alarm. Then press (M) to return to standby.

Countdown Timer

You can use the pager as a stopwatch or "egg timer". You can do this in 2 steps.

- Set the duration of the timer;
- Set the timer to ON or OFF.

To Set the Duration of the Countdown Timer press (M) while the pager is in standby, then press (V) twice. "SEt 3" appears on the display with egg timer mark flashing. Press (Λ) to enter the countdown timer setting mode. If the countdown timer is OFF, press (V) to adjust the minutes, press (Λ) to confirm.

To Set the Countdown Timer to RUN or STOP press (V) to toggle between the ON and OFF setting. If you have selected ON, press (Λ) to start the countdown timer. If you have selected OFF, press (M) to return to standby.

If more than 1 minute remains, the timer starts to decrease the digits on the display by 1 minute. After the remaining time is less than 1 minute, the timer decreases the digits on the display by 1 second. To cancel the timer, repeat the procedures given above and set the countdown timer to OFF. When the timer reaches 0, the pager makes alert for 8 seconds.

While the pager is sounding the alarm, the egg timer mark flashes. Press any button to stop the alarm. Then press (M) to return to standby. After the alert, the pager returns to standby, with the countdown timer set to OFF. The countdown timer duration remains as you last set it.

6.11 Low Battery Alarm

The pager operates on an Alkaline "AA" battery. When the battery gets low, the pager sounds a short double beep and the message "LO bAtt" appears on the display with a battery mark flashing. The double beep tone is repeated every 10 seconds. To silence the low battery alarm, press any button. The alarm tone stops, but the message "LO bAtt" remains on the display. Replace the battery as soon as possible.

6.12 Display for CAP Codes and Frequency

Press (M) twice while the pager is OFF, then the 1st CAP code registered in the pager appears on the display. Press (V) to display the next CAP code, if any, or the frequency. Press (M) or (V) to clear the display. If no button is pressed for 40 seconds, the display is automatically off.

6.13 Memory Backup

Even when you turn off the pager or replace the battery, the pager keeps all stored messages, the time and the last call alert setting.

3. Electrical Specifications

900 MHz FLEX

Radio Frequency	929 to 932 Mhz
Paging Sensitivity	1600 bps - 8.0 μ V/m 3200 bps - 10.0 μ V/m 6400 bps - 12.0 μ V/m
Spurious Rejection	40 dB
Power Supply	One AA alkaline battery No less than 3120 hours at system collapse value of 4
Digital Modulation System	Carrier Frequency Shift Keying (FSK)
Deviation	+/- 4.8 kHz +/-1.6 kHz
Signal Format	FLEX
Channel Spacing	25 kHz
Selectivity	50 dB Adjacent channel
ID-ROM	Electrical Erasable Programmable Read Only Memory (EEPROM)
Temperature	+5° C to 40° C