



VesperExits
User Exits
For NCR 2127®

V 1.8xx

VesperExits

User Exits

for NCR 2127®

User and Technical Manual

Vesper Software, LLC
8072 Golden Primrose Circle
Neenah, WI 54956

© 2002, 2003, 2005, 2012 Vesper Software, LLC. All Rights Reserved. This documentation and the accompanying software are copyrighted materials. Making unauthorized copies is prohibited by law. No part of the software or documentation may be reproduced, transmitted, transcribed, stored in a retrieval system or translated into any human or computer language without prior written permission of Vesper Software, LLC. Vesper Software LLC asserts its "Moral Right" to be identified as the author of this work, in all jurisdictions which recognize the "Moral Right."

SOFTWARE LICENSE AGREEMENT AND LIMITED WARRANTY

NOTICE

FIRST, Read the *VesperExits: User Exits for NCR 2127@* Manual which accompanies the program; then, read the terms and conditions of this license agreement before using the User Exits software. By using the software, you are accepting and agreeing to the terms of this license agreement. You recognize that this is a legally binding contract. If you are not willing to be bound by the terms of this license agreement, you should return the package in its original form to the place of purchase within ten days from receipt and you will receive a full refund of any license fee paid for it.

This agreement is made by and between Vesper Software, LLC, a limited liability company duly authorized and existing pursuant to the laws of the State of Wisconsin and having its principal offices at 8072 Golden Primrose Circle, Neenah, WI 54956 (hereinafter referred to as "Vesper") and the company/organization using this computer program, (hereinafter referred to as "Licensee").

LICENSE

Vesper hereby grants to Licensee a non-exclusive, non-transferable license to use the package of computer software known as "VesperExits: User Exits for NCR 2127@" (hereinafter referred to as the "Licensed Program") subject to the following terms and conditions. This copyright and all other rights, title and interest in the Licensed Program and materials shall at all times remain with Vesper Software, LLC. Physical copies of the Licensed Program remain the property of Vesper Software, LLC, and such copies are deemed to be on loan during the term of this Agreement. You must fully reproduce any copyright or other notice marked on any part of the Licensed Program on all copies and must not alter or remove any such copyright or other notice on the original copy of the Licensed Program. Vesper Software, LLC reserves all rights not expressly granted to you.

PERMITTED USES

You may:

- a) use the Licensed Program on any single computer at a single location.
- b) make one copy of the program in machine-readable form, for backup purposes only.
- c) documentation may be copied and used at a single location as reasonably necessary in connection with Licensee's authorized internal use of the Licensed Program.

You may not:

- a) provide use of the Licensed Program to locations not individually licensed.
- b) translate, reverse engineer, decompile or disassemble any part of the Licensed Program.
- c) modify or adapt or create derivative works based on any part of the Licensed Program.
- d) allow any third party to use or have access to any Licensed Program or Documentation;
- e) transfer to a location other than the original licensed location, or sublicense to any third party, any Licensed Program or Documentation, or any part thereof.
- f) Licensee may not use, evaluate or view the Licensed Program or Documentation for purpose of designing, modifying, or otherwise creating any software program, or any portion thereof, which performs functions similar to the functions performed by the Licensed Program.
- g) Licensee may not provide externally or to third parties any oral or written communication that describes the features, functions or performance characteristics of the Licensed Program or that compares the Licensed Program with any other similar product of Licensee or any third party.

TERM

This license shall become effective upon Licensee's payment of the license fee, which is part of the price the Licensee paid for this Licensed Program, and shipment of the Licensed Program and shall continue until such time that Licensee breaches the terms of this Agreement. Upon termination, the Licensee agrees to return to Vesper Software, LLC all copies of the Licensed Program and materials.

SUPPORT AND SUPPORT/UPGRADE FEES

Vesper shall supply product support via telephone to the Licensee for program problems on the Licensed Program for a period of ninety (90) days beginning from the date of the invoice. Telephone support hours are business days from 8:00 am to 5:00 PM CST/CDT

Vesper shall also supply product upgrades for the Licensed Program for a period of six months beginning from the date of the invoice. The fee for support (for the first ninety days) and product upgrades (for the first six months) is included in the price you paid for the Licensed Program. Thereafter, when upgrades are made available, an upgrade fee of \$49.00 per License shall be invoiced to the Licensee, at Vesper's discretion. Failure to pay said upgrade fee will result in non-availability of software upgrades and support.

Licensee, when seeking support, must identify itself in a manner to be set forth by Vesper, which Vesper may, upon reasonable notice to Licensee, from time to time change.

VESPER'S OBLIGATIONS OF DELIVERY

Vesper shall deliver to Licensee, at Licensee's location:

- a) "Licensed Program" via electronic delivery (email)
- b) VesperExits: User Exits for NCR 2127® Manual in PDF format via electronic delivery (email)

LICENSEE'S OBLIGATIONS

For addition to any obligations of Licensee as set forth elsewhere in this Agreement:

- a) Licensee shall be responsible for obtaining the hardware and software needed to use the VesperExits: User Exits for NCR 2127® software as set forth in the manual.
- b) Licensee shall verify the "Licensed Program" and any Program settings and Action Code settings have been fully tested on the NCR 2127® store system and meet all requirements, including financial reporting. It is the Licensee's responsibility to verify that all existing software applications run correctly with the "Licensed Program" installed and active. Vesper does not support problems with the NCR 2127® store system.

Licensee shall not alter, change, modify or enhance the Licensed Program without the written authorization of Vesper.

PROPRIETARY PROTECTION OF LICENSED PROGRAMS

Vesper shall have the sole and exclusive ownership of all right, title and interest in and to the Licensed Program and all modifications and enhancements thereof, including all trade secrets, patents and copyrights pertaining thereto. Licensee shall keep the Licensed Program free and clear of all claims, liens and encumbrances.

Licensee recognized that the Licensed Program is a commercially valuable, proprietary product of Vesper, the design and development of which reflect the effort of skilled experts and the investment of considerable time and money. Licensee acknowledges that the Licensed Program is a trade secret of Vesper and agrees to treat the Licensed Program as confidential. Vesper claims and reserves all rights and benefits provided under the federal copyright law in the Licensed Program.

Licensee hereby acknowledges that, in the event of Licensee's breach of any of the foregoing provisions, Vesper will not have an adequate remedy at law for money damages and that, therefore, Vesper shall be entitled to obtain an injunction without limiting any other right or remedy available to Vesper.

LIMITED WARRANTY

Vesper warrants to the Licensee alone that the Licensed Program will substantially conform in all material respects to the specifications for the Licensed Program as set forth in the version of the Manual which accompanies the delivery of the Licensed Program. This warranty is expressly conditioned on the Licensee performing all of its obligations pursuant to this Agreement and Licensee's providing all hardware and software necessary to use the Licensed Program as set forth in the Manual.

Except as set forth above, Vesper disclaims any and all promises, representations and warranties with respect to the Licensed Program, including its condition, its conformity to any particular representations or description, warranty of merchantability or fitness for a particular purpose, whether expressed or implied.

LIMITATION OF LIABILITY

Licensee's sole and exclusive remedy for any material nonconformity or defect in the Licensed Program is, upon reasonable notice to Vesper, to have Vesper attempt to correct any or cure such non-conformity or defect, or at Vesper's option to replace the Licensed Program with a new copy of the Licensed Program.

The cumulative liability of Vesper to Licensee for all claims related to the Licensed Program and this agreement, including any cause of action sounding in contract, tort, or strict inability, shall not exceed the total amount of the license fee paid for the licensed software pursuant to this agreement. Vesper does not warrant that the Licensed Program will be error-free or that its operation will be uninterrupted. The entire risk as to the results and performance of the Licensed Program and use of the materials is assumed by the Licensee. Vesper shall not have any liability to the Licensee or any other person or entity from any indirect, incidental, special or consequential damages whatsoever, including but not limited to loss of revenue or profit, lost or damaged data, or other commercial or economic loss, even if Vesper has been advised of the possibility of such damages; nor shall Vesper's agents or representatives have such liability. Vesper's maximum aggregate liability to you shall not exceed the license fee paid by you for this copy of the Licensed Program.

The parties hereto have weighed the risks associated with the use of the Licensed Program and the license fee paid by Licensee and Licensee agrees and asserts that the foregoing limitation of liability is fair, conscionable and reasonable under all the circumstances including the consideration paid for the license.

MISCELLANEOUS

This Agreement shall be governed by and construed in accordance with the laws of the State of Wisconsin. The Uniform Commercial Code as adopted in the State of Wisconsin shall apply to all aspects of this Agreement and the underlying transaction.

Any notice sent pursuant to this Agreement shall be sent to the principal place of business of the Vesper and the Licensee Site of the Licensee.

No modification of this Agreement shall be binding unless it is in writing and is signed by an authorized representative of the party against whom enforcement is sought.

If any portion of this manual, including, but limited to the "NOTICE" section above, is held to be unenforceable, then that portion shall be deleted, and the remaining language shall be given its broadest legal effect.

NCR 2127® is a registered trademark of NCR Corporation.

Signature/Title

Date

Authorized store personnel must sign and return this sheet to Vesper Software, LLC indicating receipt and acceptance of this Software License Agreement and Limited Warranty.

Table of Contents

Introduction	1
About Vesper Software, LLC	1
Why Did Vesper Software Create VesperExits?	1
Installing VesperExits	2
Technical Specifications	2
NCR 2127®	2
Installing the User Exit	2
VesperExits Functionality	3
Available Functions in VesperExits	3
Determining Version Number & User Exit Modules	3
Tag Line	3
Require Date of Birth Entry for Age Audit Items	4
Capture Date of Birth Entry in the IDC File	5
Require Supervisor Intervention on Specified Tender “Over Sales Limit” Warnings	6
All Transactions are Frequent Buyer	7
Display Name from Negative Check File	8
Hold Drawer Closed	9
Replace Second Digit of Frequent Buyer Card	10
Use Frequent Buyer ID as Check Cashing Account Number	11
Frequent Buyer Discounts on Scaleable or Random Weight Items	12
Double or Triple Coupon BOGO Correction	13
Total Savings	14
Simple Savings	15
BOGO Savings on Random Weight Items	16
Require a Minimum Purchase Amount on BOGO and LQD Items	17
Type 99 Coupons	18
Duplicate EFT Transactions	19
Signature Receipt, Duplicate Receipt & Account Number Truncation	20
MICR Readers	23
WIC	24
Gift Card (First Data/Concord)	27
Check Authorization (First Data/Concord)	29
CVV (Cash Value Voucher)	31
Additional User Exit Modules	34
14-digit PLUs (EAN-14, RSS-14, UPC-A+2, GTIN)	34
DUKPT	36
S&H Interface for greenpoints	37
Summary of Action Code 260 Settings	39
Summary of Action Code 261 Settings	41
Appendix A – Action Code 261 Tender Values	43
Appendix B – Account Number Truncation	44
Appendix C – WINEPS Integration	46

Introduction

About Vesper Software, LLC

Vesper Software, LLC was established to provide software solutions that fill the gaps in existing retail point-of-sale applications. Our "**Gap Technology**" focus allows retailers to leverage their current systems, while still being able to add leading edge capabilities to their in-store operations.

Why Did Vesper Software Create VesperExits?

Grocery stores are operating on tighter margins than ever; therefore retailers need to be even more creative in finding ways to cut costs. One method is to try to leverage existing technology, such as NCR 2127® registers, as much as possible. However, with the advent of DUKPT and 14-digit PLUs, many grocers worried that their investment in their NCR 2127® registers had reached the end of its life and they were now facing a major capital investment to replace their front-end systems while in the midst of a flat economy. Vesper Software began receiving requests to find a way to enable DUKPT and 14-digit PLU (GTIN) compliance for the NCR 2127®, as a way to bolster a grocer's bottom line in a difficult economy. Because Vesper Software's technical staff has spent a number of years working with the NCR 2127® and has built a network of highly knowledgeable resources, they were able to develop a solution for these grocers from within the NCR 2127®'s inherent capabilities. Therefore, d-PIN+ (Vesper Software's DUKPT and 14-digit PLU solution) was created.

DUKPT and 14-digit PLU support are not the only "add-in" functions that grocers need as part of their User Exit package. Grocers also need signature receipts, account number truncation, enhancements to Frequent Buyer, etc. Therefore, Vesper Software created a standard User Exit suite of functions known as VesperExits so that grocers could maintain their current capabilities and add support for DUKPT and 14-digit PLUs.

Installing VesperExits

Technical Specifications

NCR 2127®

NCR 2127® – version 3.51+ is supported.

MFPs (multi-function printers) with or without knife is supported, as are thermal printers. The 21-column printers will not be able to correctly print items requiring 42 columns such as signature lines.

Full support for NCR 2127® version 3.2(Y2K) may be added in the future.

The official name of the operating system is “NCR 2127® – 3000/4000”.

Installing the User Exit

Install the VesperExits ULF files provided using the instructions provided in the NCR 2127 manuals.

VesperExits Functionality

Available Functions in VesperExits

The following lists the available User Exit functions. This list will be growing as users request new capabilities. Please visit our website (www.vespersoftware.com) for an up-to-date list.

All of the functions listed below can be activated or inactivated via settings in Action Code 260 and 261. Some functions also work in conjunction with other Action Code or Program settings, which are also noted.

Determining Version Number & User Exit Modules

There are two methods by which one can determine which version of VesperExits is running on the register and what functionality is included in the User Exit. The first method is to program a key on the keyboard (for use in register mode) to be FSC-86. Pressing this key while signed on as a checker will print out the version number on the register tape, which modules are included (such as DUKPT) and the Action Code 260 and 261 settings. The second method to get this information is to enter Vesper's toll-free number, 8774782127, and press the PLU key while logged in as a checker. This will generate the same printout. Press Clear after the printout finishes.

Tag Line

As a security precaution, Vesper Software prints a line on all receipts indicating the store name and location. This information is provided by the customer at the time that the VesperExits program (ULF) file is generated for that customer.

Require Date of Birth Entry for Age Audit Items

The Checker is required to enter a valid date of birth on age audit items. Attempting to press ENTER with no value or to enter all 0s will generate an error. The date of birth is only required for the first age audit item in the order.

If an invalid entry is made, a W005 warning (HALO warning) is issued. This is the same warning that appears if an invalid date of birth is entered (e.g., 555555).

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
12	B	1	Force entry of date of birth on age audit items
		0	Allow checker to bypass entry of date of birth on age audit items (standard processing)

Capture Date of Birth Entry in the IDC File

Standard 2127 processing does not capture the date of birth entry for age audit items in the Item Data Capture file. With this setting, that information is captured, making it available for later review with electronic journal software.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
12	C	1	Capture date of birth entry for age audit items in the Item Data Capture file
		0	Do not capture the data of birth entry in the IDC file

Require Supervisor Intervention on Specified Tender “Over Sales Limit” Warnings

Most stores choose to allow a checker to just press the HALO key when an “Over Sales Limit” warning (W0023) is displayed. However, the store may want supervisor intervention when this warning is displayed for certain tenders, without having to activate supervisor intervention for all HALO overrides.

Transaction limits for tenders are defined in Action Code 123.

The setting to determine if a HALO warning requires just pressing the HALO key or requires supervisor intervention is defined in **Program 1**, Address 133, Bit A, where a value of 1 indicates that “supervisor intervention is required for the high amount lockout (HALO) override operation.”

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
36	This is the cumulative value of those tenders where a HALO event requires supervisor intervention. See Appendix A for how to calculate this value.

All Transactions are Frequent Buyer

The store can select to treat all transactions as Frequent Buyer transactions, without a FB card entry required. This functionality activates the Consumer Panel flag for each sale (the C/Pnl light on the display will be lit).

Program 1, Address 121 affects how Frequent Buyer works. Refer to the MDC manual for further details.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
12	A	1	All transactions are treated Frequent Buyer transactions
		0	Do not activate Frequent Buyer for all transactions

Display Name from Negative Check File

The store can choose to display a name from the Negative Check file for the account number entered during the transaction. The store can select the length of time the name is displayed.

After the name is displayed for the specified time, the "Invalid Check" warning (W0096) is displayed. The checker can either enter their checker ID to accept the check anyway, or press E/C to cancel the check tender operation and try to complete the transaction with a different tender.

PLEASE NOTE: If the account number in the Negative Check File is identified with a status code of 6 (Action Code 72 or 67) then a W0096 message will be displayed when that account number is entered. The user will need to press Error Correct to clear this and either tender the transaction with another tender type or enter a different account number. This is due to an issue within the 2127 operating system.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
3	D	1	Display name from Negative Check File if it exists.
		0	Do not display names from the Negative Check File

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
5	This is the amount of time to display the name from the Negative Check File, in seconds.

Hold Drawer Closed

The store can define non-EFT tenders, which do not open the drawer until the checker presses the CLEAR key.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
18	D	1	Display the "Press CLEAR to open drawer" message at the end of the transaction.
		0	Do not display the message.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
18	This is the cumulative value of those non-EFT tenders where the drawer is not opened until the checker presses CLEAR after a transaction. See Appendix A.

PLEASE NOTE: for the tenders specified here, the appropriate address in Program 1 must have Bit B set to 1 so that the register does not open the drawer automatically when the tender key is pressed:

- Address 317 (Tender 1)
- Address 329 (Tender 2)
- Address 341 (Tender 3)
- Address 353 (Tender 4)
- Address 365 (Tender 5)
- Address 377 (Tender 6)
- Address 389 (Tender 7)
- Address 401 (Tender 8)
- Address 413 (Tender 9)
- Address 425 (Tender 10)

Replace Second Digit of Frequent Buyer Card

The store can have a value other than 0 or 1 in the 2nd position of the Frequent Buyer ID. The store specifies what this value is and whether it should be replaced with 0 or 1. The store can also choose to allow any value as the 2nd digit, which will be replaced by 0 or 1.

In Release 3.5, this is only needed when Program 1, Address 143, Bit A is 1, which tells the system to use the full Frequent Buyer card number. When Bit A is 0, the system can tell from the leading 4 that it is FB, then it drops the 4 and the next digit and uses the remaining as the Frequent Buyer ID.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
3	A	1	Use FB functionality & change 2 nd digit of Frequent Buyer ID
		0	Do not change 2 nd digit of Frequent Buyer ID

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
1	This is the actual 2 nd digit of the Frequent Buyer cards. If a value of 0 is entered here, all values for the 2 nd digit will be replaced (e.g., cards beginning 43, 44, 45, etc., will all be changed to 41, if A/C 261 address 6 has a 1 in it).
6	This is the number with which to replace the 2 nd digit of the Frequent Buyer ID. This must be a 0 or 1 depending upon Program 1, Addresses 81 and 121.

Use Frequent Buyer ID as Check Cashing Account Number

The store can use part of the Frequent Buyer ID as the account number for check cashing. The store specifies the starting position and length.

When this feature is used, the checker can do the following when prompted for the Account Number:

- ❖ press the Enter key if the Frequent Buyer card was already entered
- ❖ enter an account number manually and press Enter
- ❖ scan the Frequent Buyer card
- ❖ enter the Frequent Buyer ID manually and press the UPC key
- ❖ enter the Frequent Buyer ID manually and press the Enter key

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
2	C	1	Accept the Frequent Buyer ID as the account number for check cashing.
		0	Do not use the Frequent Buyer ID as the account number for check cashing.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
2	This is the starting position of the account number within the Frequent Buyer ID.
3	This is the number of digits to use as the account number from the Frequent Buyer ID.

Frequent Buyer Discounts on Scaleable or Random Weight Items

The store can choose to activate Frequent Buyer discounts on scaleable or random weight items. Standard NCR 2127® processing calculates the Frequent Buyer discount for scaleable items by unit discount amount, regardless of the purchase weight. With this user exit, the discount amount can be calculated via the purchase weight.

In release 3.5 of the NCR 2127® operating system, there are two options available via Program 1 (Address 144, Bit D) for handling this issue, so this functionality should NOT be used. **If this function is activated on a register running release 3.5, occasional Master Resets may be necessary.**

Users of release 3.2 may want to activate this functionality.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
2	B	1	On scaleable or random weight items, use the weight to calculate the Frequent Buyer bonus or discount.
		0	Use Program 1, Address 144, Bit D to determine how Frequent Buyer bonus or discount is calculated (do not use 3.2 fix).

Double or Triple Coupon BOGO Correction

The store can choose to activate a correction to how the NCR 2127® handles double or triple coupons. Within the NCR 2127® operating system, if a store doubles or triples coupons and a “Buy X Get Y” coupon is entered, the system double or triples the free part. This is generally not the behavior a store wants, since it leads to situations where a customer buys one product and receives two or three free and the store loses money.

Coupon types that trigger this problem are 00, 01, 14, 16 and 19.

Double coupons are activated on the register via Program 1, Address 77, Bit D. Triple coupons are activated via Program 1, Address 79, Bit D.

Users of this functionality should test a double or triple coupon and verify that financial reports are correct, since coupons can be charged to a department, motorized credit, etc. Contact Vesper Software if changes need to be made for your store situation.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
2	A	1	Activate the double and triple coupon fix.
		0	Do not activate the double and triple coupon fix.
5	A	1	Coupons are charged to MCR3 (Motorized Credit 3)
		0	Coupons are charged to the department.

Total Savings

The store can activate a Total Savings display on the receipt. With this function, the normal selling price is in the regular price field and the amount of the savings is in the alternate price field. This function totals up the amounts in the alternate price field and displays the total savings for the order with a message of "You Saved" on the receipt. The store can also choose to display or not display the line item savings. The PLU 999991 (1 is the check digit) contains the descriptor used for the line item savings.

The first 21 characters entered into Action Code 262 will be displayed above the savings summary message printed at the end of the transaction.

PLEASE NOTE: Program 1, Address 110, Bit D must be set to 1 to allow repeating a UPC/PLU by pressing the PLU key, otherwise, if a cashier tries to repeat an item and receives an error, the amount of the discount may be incorrect.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
8	A	1	Activate the Total Savings functionality.
		0	Do not activate the Total Savings functionality.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
31	Enter a 1 if a line showing the amount of the savings prints under each item. The description for the line is pulled from PLU 999991 (1 is the check digit).

Simple Savings

The store can activate a Simple Savings display on the receipt. With this function, the higher price is in the alternate price field. The lower price is in the regular price field. This function calculates the difference and prints the total savings for the order with a message of "You Saved" on the receipt. The store can also choose to display or not display the line item savings. The PLU 999991 (1 is the check digit) contains the descriptor used for the line item savings.

The first 21 characters entered into Action Code 262 will be displayed above the savings summary message printed at the end of the transaction.

PLEASE NOTE: Program 1, Address 110, Bit D must be set to 1 to allow repeating a UPC/PLU by pressing the PLU key, otherwise, if a cashier tries to repeat an item and receives an error, the amount of the discount may be incorrect.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
8	B	1	Activate the Simple Savings functionality.
		0	Do not activate the Simple Savings functionality.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
31	Enter a 1 if a line showing the amount of the savings prints under each item. The description for the line is pulled from PLU 999991 (1 is the check digit).

BOGO Savings on Random Weight Items

The NCR 2127 does not natively support BOGO-type promotions for random weight items (PLUs beginning with 2). This functionality allows those promotions to be defined via use of the mix-match table and a defined range of 20 mix-match codes. The maximum that can be defined as a quantity in the mix-match record is 5 (i.e., the promotion can range from “Buy 1 Get 1 Free” to “Buy 5 Get 1 Free”).

The discount amount will be equal to the lowest-priced item of the mix-match items sold for each “batch” of items that triggers a mix-match discount.

PLEASE NOTE: The random weight PLUs cannot have the scaleable flag set on the PLU or this functionality will not work.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
14	B	1	Activate BOGO for random weight items.
		0	Do not activate BOGO for random weight items.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
32	This is the first of 20 consecutive mix-match codes that will be used for BOGO for random weight items. The price value MUST be set to 1.

Require a Minimum Purchase Amount on BOGO and LQD Items

Stores may wish to run promotions using BOGO or LQD, but require a minimum purchase amount to be met before the BOGO or LQD takes place. This provides that functionality. The minimum purchase amount can be set differently for different PLUs, since the minimum purchase amount is stored in the Sale Price field for that PLU.

If an item is sold that has either the mix-match or lqd flag set on the PLU, and there is a minimum purchase amount in the sale price field:

- 1) If the minimum purchase amount has been met, the item rings up with the discount.
- 2) If the minimum purchase amount has not been met, the checker is prompted to either put the item aside or to sell it without the discount.

If an item is voided that has either the mix-match or lqd flag set on the PLU, and there is a minimum purchase amount in the sale price field:

- 1) If the minimum purchase amount has not been met, the item must have sold without the discount, so it is voided at the non-discounted price.
- 2) If the minimum purchase amount has been met, the checker is asked if the item should be voided at the discounted or non-discounted price.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
7	A	1	Activate Min. Purchase Amount for BOGO & LQD items.
		0	Do not activate Min. Purchase Amount for BOGO & LQD items.

Type 99 Coupons

Type 99 coupons are EAN-13 coupons that begin with a 99, instead of a 5. They are coupons that are distributed at the store (e.g., checkout coupons, shelf-display coupons or in-store promotions). The NCR 2127 is not able to recognize these as coupons and generates an error when one is scanned or keyed in.

Using this functionality, the type 99 coupon is converted to a type 5 coupon, which the register processes correctly.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
4	A	1	Convert type 99 coupons to type 5.
		0	Do not convert type 99 coupons.

Duplicate EFT Transactions

If a store has “duplicity” activated with First Data (Concord), then an EFT transaction for the same amount, same card and within a specified time frame will be accepted by Concord but have a host message (that prints on the receipt) indicating “DUPLICATE RECEIPT.” It is very easy for checkers to not see this message and there been people who have taken advantage of this to steal from a store. With this functionality, the user exit monitors for the “DUPLICATE RECEIPT” message, and if found, changes the response code from “00” (Accepted) to “94” (Duplicate transaction). This forces the order to be completed with a different tender.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
1	B	1	Monitor for Duplicate EFT transactions and convert “00” response code to “94” (Duplicate Transaction).
		0	Do not monitor for Duplicate EFT transactions.

Signature Receipt, Duplicate Receipt & Account Number Truncation

The store can choose to activate signature or duplicate receipts with the following, store-selected options:

- Which tenders display the full account number on the store copy of the receipt and which only display the full account number on the journal.
- Which tenders generate a signature receipt
- Whether or not a signature line is needed (by tender)
- Whether the customer name should be printed under the signature line
- Whether the receipt header/footer should print on the signature receipt
- Whether the drawer should stay closed until the checker presses CLEAR
- Whether the drawer should never open (the drawer has a slot in it).
- Whether a duplicate receipt should contain full item detail (which will then also display on a signature receipt)
- Whether the duplicate receipt should have "Duplicate Receipt" printed on it

A duplicate receipt is generated by pressing FSC-80. The user can enter how many duplicate receipts should be printed prior to pressing FSC-80 (e.g., pressing 5 and then FSC-80 will print 5 duplicate receipts. Just pressing FSC-80 will print one duplicate receipt. A maximum number that can be printed is defined in Action Code 261, Address 13.

PLEASE NOTE: The printing of the signature line is designed for 42 columns.

PLEASE NOTE: Program 50/51, Address 38, Bit D must be set to 1 for those records where the customer name is to be printed on the signature receipt.

PLEASE NOTE: In release 3.5, account number truncation is available via Program 1, Addresses 647 to 649. Set these 3 addresses to 1111 to have the register truncate the account number to the last 4 digits.

PLEASE NOTE: A/C 260, Address 13, Bit C must be set to 1 if "Approved" messages are not generated by the register, otherwise garbage characters will be shown on the display at the end of printing the second receipt. Pressing CLEAR will remove the garbage characters.

PLEASE NOTE: for the EFT tenders specified here, the appropriate address in Program 1 must have Bit B set to 1 so that the register does not open the drawer automatically when the tender key is pressed. This is only needed if Action Code 260, Address 3, Bit B is set to 1.

Address 317 (Tender 1)

Address 329 (Tender 2)

Address 341 (Tender 3)

Address 353 (Tender 4)

Address 365 (Tender 5)

Address 377 (Tender 6)

Address 389 (Tender 7)

Address 401 (Tender 8)

Address 413 (Tender 9)

Address 425 (Tender 10)

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
1	A	1	Auto-cut printers.
		0	Tear-type printers.
2	D	1	Activate signature receipt functionality.
		0	Do not activate signature receipt functionality.
3	B	1	Open the cash drawer via pressing the CLEAR key after the signature receipt is printed.
		0	Do not require pressing the CLEAR key to open the drawer.
4	B	1	Print the customer name on the signature receipt.
		0	Do not print the customer name on the signature receipt.
5	B	1	Print "Duplicate Receipt" on the duplicate receipt.
		0	Do not print a duplicate receipt message on the duplicate receipt.
5	C	1	Include all item detail (up to 40 items) on the signature or duplicate receipt.
		0	Do not include all item detail on the signature or duplicate receipt.
10	C	1	Suppress the Header/Footer on the 2 nd receipt.
		0	Print the Header/Footer on the 2 nd receipt
13	C	1	Display the "Tear Receipt and Press Clear" message between the customer and signature receipts.
		0	Do not display this message. This is typically used when the value for Program 51, Address 29, Bit B is 1 for the credit tender, which triggers the Approved message.
13	D	1	The store utilizes Sema4 for EFT processing.
		0	The store does not utilize Sema4 for EFT processing.
14	C	1	This indicates that the EFT data printed on the journal should also be printed on the signature receipt.
		0	This indicates that only the EFT data that prints on the receipt should be printed on the signature receipt.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
7 – 11	Defines an EFT tender ID that generates a signature receipt. This is a two-part value – the first part is the tender ID (1-10). The second indicates if a signature line is printed (0 = no signature line, 1 = signature line).
13	This indicates the maximum number of duplicate receipts that can be printed when FSC-80 is pressed.
14	This defines a non-EFT tender ID which generates a signature receipt. This is a two-part value – the first part is the tender ID (1-10). The second indicates if a signature line is printed (0 = no signature line, 1 = signature line).
25	This is the cumulative value of those tenders where the full account number should NOT be printed on the store copy of the receipt. This is required by law in some areas for Debit cards. See Appendix A.
29	Enter a 1 if the full account number should print directly below the signature line on the store copy of the receipt.
37	This is the cumulative value of those tenders where the “Press Clear to finish and open drawer” message is not displayed and the drawer is not opened after the printing of the 2 nd receipt. This is typically used when the drawer has a slot that the checker uses for credit card slips. See Appendix A for information on determining this value.

MICR Readers

The store can choose to use either Welch-Allyn MICR readers or the MICR reader on their thermal printer to read account numbers from checks, instead of manually entering them on the keyboard.

- For users of thermal printers: the Wrenchman, Inc., interface cables for the NCR 7158, NCR 7160, Axiohm 758 and Axiohm 760 thermal printers are supported. The printer is connected to the register with either a 10K85 or 10K120 cable and a 10K96 cable connects to the RS-232 port to provide the MICR data.
- For users of thermal printers: the Westrack (DCNS) interface is also supported.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
14	A	1	Activate MICR Long Message functionality.
		0	Activate MICR Short Message functionality.

PLEASE NOTE THE FOLLOWING SETUP ISSUES:

- For Welch-Allyn MICR readers: Program 99, Address1 or 2 must be set with the value of the port to which the MICR reader is attached. This will be a value of 1, 2, 5 or 6. Also, Action Code 260, Address 14, Bit A should be set to 0 since the Welch-Allyn MICR sends short format MICR messages.
- For thermal printer MICR readers with the Wrenchman cables:
 1. The user needs to follow the Installation and Setup Guide procedures provided by Wrenchman, Inc. for their 10K85 or 10K120 interface cable.
 2. When scanning or entering PLUs to configure the thermal printer, the user may use either the short or long format setting. Make sure that the setting in A/C 260, Address 14, Bit A is set the same way (long or short).
 3. Enter PLU 66394700114. This activates MICR on the thermal printer.
 4. Program 121, Address 4 must be set to the following text: **"ENTER ACCT. #"**. It must be all upper-case, as shown.
 5. To activate the MICR reader, the checker inserts the check and presses the CLEAR key.
- For thermal printer MICR readers with the Westrack interface: Action Code 260, Address 14, Bit A must be set to 1 since this interface sends long format messages. Baud rate and other settings need to be set up per the Westrack instructions.

PLEASE NOTE: Starter checks (those without check numbers) do not work correctly on either the Welch-Allyn or thermal printer MICR readers. The MICR readers seem to only read the last part of the account number in the tests done in our lab.

PLEASE NOTE: Action Code 110, Address 22 must be set to a value of 13 or greater. Otherwise, an error indicating that too many digits have been entered may be displayed for checks that have a longer account number.

WIC

The store can choose to process WIC transactions with the following, store-selected functionality:

- A WIC transaction is started by pressing a key programmed as FSC-81. The SKU light begins to blink to indicate a WIC sale is taking place. (See Appendix C for WINEPS integration.)
- If the appropriate flag is set, the checker is then prompted for the check start and end dates. They should be entered in the format MMDDYY. If the starting date is after today or the ending date is before today, an error message (W0572) is triggered.
- If the appropriate flag is set, the checker is then prompted for the amount of the WIC check. This should be entered with dollars and cents (e.g., 75.40). There is a maximum of \$300.00. If the WIC check does not have an amount, enter 1 to bypass this test. If the total for the sale is more than the WIC check amount (unless a 1 was entered), then the sale cannot be completed and the checker must reduce the sale amount via voids, price corrections, etc.
- WIC sales cannot be suspended and recalled.
- The 2127 does not have an item status flag specifically for WIC. Therefore, this user exit provides two options for marking WIC items – the Trading Stamp flag and the User Exit Status 1 flag. Items available for sale in a WIC transaction can be either marked with the User Exit Status 1 flag (at the PLU level) or with the Trading Stamp flag (at the PLU or Department level). If using the Trading Stamp flag to mark WIC items, the Trading Stamp Modifier (FSC-20) can be used to sell an item in a WIC sale that does not have the Trading Stamp flag turned on. In a WIC sale, a non-WIC item will trigger an error W0002 (Prohibited by Programming). The Trading Stamp flag and User Exit Status 1 flag are included on the PLU record via Program 85, Field 3, which defines which status flags are used.
- If the appropriate flag is set indicating that WIC sales are tax-exempt, then all PLUs and departments sold are checked to see if they are taxable. If they are, they are tax-modified to be non-taxable. The amounts are collected and available to view on the financial reports (Daily Master Checker file and the Daily Register Financial file).
- If the first item in a WIC sale is a non-WIC item or a not-on-file item, the appropriate error is displayed, but the checker is not taken out of “WIC mode”. This allows the checker to continue with the sale without having to reenter check dates and the check amount. Transaction cancel clears this, if the checker does want to leave “WIC mode”.
- An error W0037 is generated if the checker tries to use a non-WIC tender for a WIC sale.
- An error W0037 is generated if the checker tries to use a WIC tender for a non-WIC sale.
- After the WIC sale is tendered, the checker is reminded to request the customer signature on the WIC check, if the appropriate flag is set.
- After the WIC sale is tendered, the checker is prompted to request the customer signature if there were any price corrections made during the transaction, if the appropriate flag is set.
- If an item needs to be included in a WIC sale, but the Status 1 flag is not set, the checker can use the Trading Stamp modifier key to allow the item to be included in the WIC sale. Depending on the override part of Action Code 261, Address, 15, this may require supervisor intervention.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
6	A	1	Prompt for WIC check dates.
		0	Do not prompt for WIC check dates.
6	B	1	Activate WIC functionality.
		0	Do not activate WIC functionality.
6	C	1	Use the User Exit Status 1 flag to mark PLUs which can be sold in WIC transactions. Items without this flag trigger an error in a WIC sale.
		0	Do not require User Exit Status 1 flag for WIC items.
7	B	1	Remove tax on WIC sales and record tax exempt amount in appropriate places on the financial reports.
		0	Do not auto-remove tax on WIC sales.
9	A	1	Use the Trading Stamp flag to mark the PLUs and departments which can be sold in WIC transactions. Items without this flag trigger an error in a WIC sale.
		0	Do not require Trading Stamp flag for items in WIC sales.
9	B	1	At the start of a WIC sale, prompt for the amount of the WIC check.
		0	Do not prompt for the amount of the WIC check.
9	C	1	In WIC sales, prompt for customer signature if there were any price corrections during the transaction.
		0	Do not prompt for customer signature for price corrections.
9	D	1	Prompt for the customer signature on the check at the end of the WIC sale.
		0	Do not prompt for customer signature on the WIC check.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
15	This is the tender number for WIC. This is a two-part value – the first part is the tender ID (1-10). The second indicates whether Supervisor Intervention is needed when the WIC override key is pressed (1 = Supervisor Intervention needed). The WIC override key is the Trading Stamp Modifier (FSC-20).
26	This is the percent by which the WIC check is multiplied. Not all states allow for the full WIC check amount to be used. For example, if the state only allows 90% of the check amount, enter 90 here. Then, for example, if a WIC check amount of \$10.00 is entered at the beginning of the WIC sale, the maximum transaction amount can only be \$9.00.

Gift Card (First Data/Concord)

First Data provides a document that describes how gift cards can be implemented with standard NCR 2127 programming. This user exit module expands upon that functionality by providing a way for stores to track gift card purchases and authorizations.

First Data provides a document on how to set up the register to properly process gift cards. That document must be used to make sure the register is programmed correctly.

This user exit module uses Foreign Currency 7 to track the total quantity and amount of gift cards sold. Foreign Currency 6 is used to track the total quantity and amount of gift cards authorized. These two fields should be set up to display on both the cashier and store financial report. They should be defined as memo fields and not included in totals. Transactions in training mode do not increment these totals.

Gift cards must be assigned to a department that is not used for anything else, since that department (set up in A/C 261, Address 38) will prompt for authorization.

A typical transaction involving gift cards would be:

- The checker scans the customer's purchases, including gift cards the customer is purchasing. The order is totaled and the customer pays for the order.
- After the order is complete, the checker is prompted to authorize the cards. The total dollar amount of gift cards sold is displayed. The checker should press Clear and begin authorization.
- For each gift card purchased, the checker will enter the dollar amount and press the gift card tender key (a No Sale transaction with the gift card tender key). First Data will either approve or decline the activation.
- If First Data approves the authorization, the process repeats until the checker has authorized all the gift cards purchased.
- If First Data declines the authorization, a message is displayed and the activated quantity and total are not updated. The checker must cancel the authorization (see below) and refund the customer's money.

To cancel an authorization, the checker can either press FSC-85 or sign out.

If the register does not detect that gift cards were sold in the most recent transactions, a supervisor override is required to run an authorization (a No Sale with the gift card tender). This is to prevent the checker from incorrectly refunding money for gift card, when they are actually authorizing it for more money.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
17	C	1	Use First Data (Concord) Gift Card functionality
		0	Do not use Gift Card functionality.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
38	This value defines which department gift cards are in (positions 1 through 4) and which tender authorizes gift cards (positions 5 and 6).

Check Authorization (First Data/Concord)

The First Data Check Authorization user exit allows stores to process personal and payroll checks through First Data's approval system.

- When tendering by check, the checker enters the dollar amount and presses the appropriate payroll or personal check tender key. The 2127 prompts for the account number. The checker can either enter the information manually, or use the MICR to read the check.
- For a personal check:
 - If A/C 260, Address 11, Bit C is set to 1, the checker is prompted to enter the DLN. The keyboard changes to ALPHA mode for this operation. The checker either enters the DLN and presses P1, or, if he/she believes the DLN is already on file with First Data, the checker can press 0 and P1.
 - If the checker enters the DLN, the checker will then be prompted for the state code. The keyboard changes to ALPHA mode for this operation. The checker can enter 0 and P1 to accept the standard value (A/C 261, Address 30) or enter the appropriate value and press P1. If the user did not enter the DLN, the checker is not prompted for the state.
 - If A/C 260, Address 11, Bit C is set to 0, the checker is not prompted for either DLN or state.
- For a payroll check:
 - The checker must always enter the DLN and press P1.
 - The checker can either enter a state and press P1 or enter 0 and P1 to accept the standard value (A/C 261, Address 30).
- First Data will approve the check, deny the check, or request that the DLN information be provided. If the DLN information is requested, the checker must press Clear and re-tender with the same tender. They will not need to re-enter the account information. The checker can re-tender with a different tender, if desired.
- When entering DLN or state, the checker can return to the total prompt by pressing the P4 key.

PLEASE NOTE: Action Code 213, Format Blocks 416 to 425 must be set up to print the data entered in Action Code 88 as part of the validation on the back of the check.

PLEASE NOTE: Action Code 213, Format Blocks 363 = 372 must be set up to print the user exit fields side-by-side on the back of the check. This is what determines where the DLN information prints on the validation.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
11	C	1	With First Data Check Authorization, always ask for the DLN after the entry of the bank account information for personal checks. For payroll checks, DLN is always required.
		0	Only ask for the DLN if a “denied – enter DLN” message is received from First Data.
11	D	1	Activate First Data Check Authorization.
		0	Do not activate First Data Check Authorization.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
22	This is the tender ID used for payroll checks for First Data’s Check Authorization. Set this to 0 to not accept payroll checks.
23	This is the tender ID used for personal check for First Data’s Check Authorization.
30	This is the default state for the Driver’s License Number (DLN). This is entered as 4 digits (2 for the first letter, 2 for the second letter), where A = 65, B = 66, etc.)

CVV (Cash Value Voucher)

The store can choose to process CVV transactions with the following, store-selected functionality:

- A CVV transaction is started by pressing a key programmed as FSC-83. The SKU light begins to blink to indicate a CVV sale is taking place
- If the appropriate flag is set, the checker is then prompted for the check start and end dates (issue and expiration dates). They should be entered in the format MMDDYY. If the starting date is after today or the ending date is before today, an error message (W0572) is triggered.
- If the appropriate flag is set, the checker is then prompted for the amount of the CVV check. This should be entered with dollars and cents (e.g., 6.00). There is a maximum of \$300.00. If the CVV check does not have an amount, enter 1 to bypass this test. IT IS CRITICAL TO ACTIVATE THIS FUNCTIONALITY IN ORDER FOR THE USER EXIT TO PROPERLY CALCULATE THE AMOUNT OF THE TAX EXEMPT PORTION OF THE TRANSACTION AND TO HANDLE THE SCENARIO WHERE THE TRANSACTION TOTAL IS LESS THAN THE CVV CHECK AMOUNT.
- If the total for the sale is less than the CVV check amount and the checker enters the CVV check amount for tendering, the amount is automatically reduced to the transaction total so that no change is given. For example, if the CVV check is for \$6.00 and the transaction total is \$4.95 and the checker tenders \$6.00 (CVV tender), the amount tendered is automatically changed to \$4.95.
- If the total for the sale is more than the CVV check amount, the customer can pay for the balance due with another tender. The amount over the CVV check amount will be taxed as normal. The CVV amount will not be taxed. The CVV check must be tendered first.
- CVV sales cannot be suspended and recalled.
- The 2127 does not have an item status flag specifically for CVV. Therefore, this user exit provides two options for marking CVV items – the Trading Stamp flag and the User Exit Status 1 flag. Items available for sale in a CVV transaction can be either marked with the User Exit Status 1 flag (at the PLU level) or with the Trading Stamp flag (at the PLU or Department level). If using the Trading Stamp flag to mark CVV items, the Trading Stamp Modifier (FSC-20) can be used to sell an item in a CVV sale that does not have the Trading Stamp flag turned on. In a CVV sale, a non-CVV item will trigger an error W0002 (Prohibited by Programming). The Trading Stamp flag and User Exit Status 1 flag are included on the PLU record via Program 85, Field 3, which defines which status flags are used.
- If the appropriate A/C 260 flag is set indicating that the portion of a CVV transaction covered by a CVV check is tax-exempt, then a deduction is given to eliminate the sales tax on the portion of the transaction paid for by the CVV check (and printed on the receipt). The amounts are collected and available to view on the financial reports (Daily Master Checker file and the Daily Register Financial file).
- If the first item in a CVV sale is a non-CVV item or a not-on-file item, the appropriate error is displayed, but the checker is not taken out of “CVV mode”. This allows the checker to continue with the sale without having to reenter check dates and the check amount. Transaction cancel clears this, if the checker does want to leave “CVV mode”.
- An error W0037 is generated if the checker tries to use a non-CVV tender as the FIRST tender for a CVV sale.
- An error W0037 is generated if the checker tries to use a CVV tender for a non-CVV sale.

- After the CVV sale is tendered, the checker is reminded to request the customer signature on the CVV check, if the appropriate flag is set.
- After the CVV sale is tendered, the checker is prompted to request the customer signature if there were any price corrections made during the transaction, if the appropriate flag is set.
- If an item needs to be included in a CVV sale, but the Status 1 flag is not set, the checker can use the Trading Stamp modifier key to allow the item to be included in the CVV sale. Depending on the override part of Action Code 261, Address 16, this may require supervisor intervention.

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
15	A	1	Activate CVV functionality.
		0	Do not activate CVV functionality.
15	B	1	Prompt for CVV check dates.
		0	Do not prompt for CVV check dates.
15	C	1	In CVV sales, prompt for customer signature if there were any price corrections during the transaction.
		0	Do not prompt for customer signature for price corrections.
15	D	1	Prompt for the customer signature on the check at the end of the CVV sale.
		0	Do not prompt for customer signature on the CVV check.
16	A	1	Use the User Exit Status 1 flag to mark PLUs which can be sold in CVV transactions. Items without this flag trigger an error in a CVV sale.
		0	Do not require User Exit Status 1 flag for CVV items.
16	B	1	Use the Trading Stamp flag to mark the PLUs and departments which can be sold in CVV transactions. Items without this flag trigger an error in a CVV sale.
		0	Do not require Trading Stamp flag for items in CVV sales.
16	C	1	At the start of a CVV sale, prompt for the amount of the CVV check.
		0	Do not prompt for the amount of the CVV check.
16	D	1	Remove tax on the portion of the CVV transaction that was paid for by the CVV check and record the tax exempt amount in appropriate places on the financial reports.
		0	Do not auto-remove tax on CVV sales.

Action Code 261 Settings

<u>Address</u>	<u>Definition</u>
16	This is the tender number for CVV. This is a two-part value – the first part is the tender ID (1-10). The second indicates whether Supervisor Intervention is needed when the CVV override key is pressed (1 = Supervisor Intervention needed). The CVV override key is the Trading Stamp Modifier (FSC-20).
19	This is the tax rate for the store for produce items that are included in CVV. This value is used to calculate how much the sales tax needs to be reduced when a CVV voucher is used. The format is 4 digits (e.g., 5% would be 0500, 5.25% would be 0525).

Additional User Exit Modules

The following lists additional User Exit functionality that can be added to the base VesperExits. Please visit our website (www.vespersoftware.com) for an up-to-date list.

Most of the functions listed below can be activated or inactivated via settings in Action Code 260 and 261. Some functions also work in conjunction with other Action Code or Program settings, which are also noted.

14-digit PLUs (EAN-14, RSS-14, UPC-A+2, GTIN)

The NCR 2127's PLU file was designed to hold PLUs of more than 14 digits. Therefore, the register system itself is in compliance with the 2nd level of the Sunrise 2005 initiative developed by the UCC (GTIN). To use this capability requires two additional components – a back office package capable of sending 14-digit PLUs to the PLU file and a User Exit capable of allowing a checker to enter a 14-digit PLU on the keyboard.

Vesper Software has created a 14-digit PLU User Exit module, which provides support for keying or scanning 14-digit PLUs during checkout. This module supports barcode symbols such as UPC-A+2, EAN-14 and RSS-14. By default, the NCR 2127 does not allow more than 13 digits to be entered or scanned, despite the fact that the PLU file can hold longer numbers.

Please note that the User Exit does not allow someone to enter a 14-digit PLU in Supervisor mode (e.g., in Action Codes 63 or 68). This is because all User Exit functionality is suspended while in Supervisor mode. However, if the back office software is capable of sending 14-digit PLUs to the register, this should not be an issue.

Vesper Software remains in regular communication with the UCC to stay current on discussions as to what new bar codes, such as RSS-14, will appear at the point-of-sale and when that will occur.

Labels containing 14-digit PLUs have already appeared in stores. These have been for random weight, prepackaged meat items, with a PLU beginning with 2. These PLUs follow the format whereby the first 12 digits are the standard UPC-12 format, followed by 2 additional digits indicating processing facility. This User Exit module can handle these PLUs.

The 14-digit PLU User Exit has been certified by Vesper Software, LLC with 7870 scanners and scanner/scales as well as with 7875 and 7880 scanners and scanner/scales. RSS-14 barcodes can be read by 7875 scanners, although older models may need an updated chip installed.

The following steps need to be taken on the NCR 2127 register to enable the processing of 14-digit PLUs with these scanners:

1. Check Program 99, Address 1. It needs to be set to 83 (OCIA single cable mode). If the lane has a scanner only, this value is probably set to 3 and must be changed. If the lane has a scanner/scale, it should already be set to 83.
2. On the 7870, 7875 or 7880 scanner or scanner/scale, run the following program tags to set the unit to OCIA single cable:

Programming Mode
Hex 1
Hex 0
Hex 6
Save and Reset

3. On the scanner or scanner/scale, run the following program tags to set the unit to accept UPC-128:

Programming Mode
Hex 1
Hex 7
Hex 1
Hex 2
Hex 0
Save and Reset

Notes

NCR 7820 and 7824 units cannot be used with EAN-14. They are not able to be set up for acceptance of UPC-128 codes.

NCR 7880 units have not been tested but should work exactly as the 7870 and 7874 units. They use the same scan codes.

NCR 7837 hand scanners do work with EAN-14. They need to be enabled for UPC-128 codes. Program 99, Address 1 needs to be 3 for this scanner.

Contact Vesper Software, LLC or visit our website for information on other scanners and scanner/scales.

DUKPT

The DUKPT User Exit module provides the mechanism to incorporate the encrypted PIN data from the PIN pad into the outbound EFT message. The enhanced encryption is NOT performed within the User Exit, or even with the NCR 2127. It happens within the DUKPT-compliant PIN pad. The User Exit is completely incapable of storing or tracking the encrypted PIN data in any way.

Implementing DUKPT provides significantly higher levels of security for the store over the current non-DUKPT PIN encryption schemes. This lowers the store's potential exposure over stolen card numbers and PINs.

To activate DUKPT, review Program 51 for those issuer records which are sending DUKPT-compliant PINS. For those issuers, change address 37, Bit C from 1 to 0. Also review Vesper Software, LLC's DUKPT User Exit documentation for information on how to implement the DUKPT User Exit and details on how to update various PIN pads to create DUKPT-encrypted PINs. Use of the DUKPT functionality requires that the card processor be aware that DUKPT-encrypted PINs are being sent and that the PIN pads are loaded with the correct software and injected with a DUKPT encryption key.

S&H Interface for greenpoints



The following describes the various settings that need to be implemented to utilize the S&H functionality for greenpoints on the NCR 2127®.

ISP needs to be set to YES on the Master and Backup Master Registers.

Please refer to the Action Code manual for details as to how to make these changes.

Action Code 200 Settings

<u>Field</u>	<u>Address</u>	<u>Value</u>
23	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
52	1	B5
	2	0
	3	0
	4	3000
	5	0
	6	0
	7	0
	8	0

Action Code 260 Settings

<u>Address</u>	<u>Bit</u>	<u>Value</u>	<u>Definition</u>
13	A	1	Activate the S&H Messaging.
		0	Do not activate the S&H Messaging.
13	B	1	Send each S&H packet twice, to eliminate possible lost packets.
		0	Send each S&H packet only one time.

Summary of Action Code 260 Settings

Address	Bit	Definition
1	A	1 = Auto-cut printers, 0 = Tear printers
	B	1 = Monitor for Duplicate EFT transactions.
	C	
	D	
2	A	1 = Activate the double and triple coupon fix.
	B	1 = On scaleable or random weight items, use the weight to calculate the Frequent Buyer bonus or discount. THIS IS ONLY USED FOR REGISTERS RUNNING 3.2.
	C	1 = Accept the Frequent Buyer ID as the account number for check cashing.
	D	1 = Activate signature receipt functionality.
3	A	1 = Change 2 nd digit of Frequent Buyer ID
	B	1 = Open the cash drawer via pressing the CLEAR key after the signature receipt is printed for EFT tenders.
	C	
	D	1 = Display name from Negative Check File.
4	A	1 = Convert type 99 coupons to type 5 coupons.
	B	1 = Print the customer name on the signature receipt.
	C	
	D	
5	A	1 = Coupons are charged to MCR3 (Motorized Credit 3). 0 = Coupons are charged to the department.
	B	1 = Print "Duplicate Receipt" on the duplicate receipt.
	C	1 = Include all item detail on the signature or duplicate receipt.
	D	Reserved
6	A	1 = Prompt for WIC check dates.
	B	1 = Activate WIC functionality.
	C	1 = Use the User Exit Status 1 flag to mark PLUs which can be sold in WIC transactions. Items without this flag trigger an error in a WIC sale.
	D	
7	A	1 = Activate Min. Purchase Amount for BOGO & LQD items.
	B	1 = Remove tax on WIC sales and record tax exempt amount in appropriate places on the financial reports.
	C	
	D	
8	A	1 = Activate the Total Savings functionality.
	B	1 = Activate the Simple Savings functionality.
	C	
	D	
9	A	1 = Use the Trading Stamp flag to mark the PLUs and departments which can be sold in WIC transactions. Items without this flag trigger an error in a WIC sale.
	B	1 = At the start of a WIC sale, prompt for the amount of the WIC check.
	C	1 = In WIC sales, prompt for customer signature if there were any price corrections during the transaction.

	D	1 = Prompt for the customer signature on the check at the end of the WIC sale.
10	A	
	B	
	C	1 = Suppress the Header/Footer on the 2 nd receipt.
	D	
11	A	
	B	
	C	1 = With First Data Check Authorization, always ask for the DLN after the entry of the bank account information for personal checks. For payroll checks, DLN is always required.
	D	1 = Activate First Data Check Authorization.
12	A	1 = All transactions are Frequent Buyer transactions
	B	1 = Valid date of birth required on age audit items
	C	1 = Capture date of birth entry for age audit items in the Item Data Capture file
	D	
13	A	1 = Activate the S&H Messaging
	B	1 = Send each S&H packet twice, to eliminate possible lost packets
	C	1 = Display the "Tear Receipt and Press Clear" message between the customer and signature receipts
	D	1 = The store utilizes Sema4 for EFT processing.
14	A	1 = Activate MICR Long Message functionality. 0 = Activate MICR Short Message functionality.
	B	1 = Activate BOGO for random weight items.
	C	1 = This indicates that the EFT data printed on the journal should also be printed on the signature receipt.
	D	
15	A	1 = Activate CVV functionality.
	B	1 = Prompt for CVV check dates.
	C	1 = In CVV sales, prompt for customer signature if there were any price corrections during the transaction.
	D	1 = Prompt for the customer signature on the check at the end of the WIC sale.
16	A	1 = Use the User Exit Status 1 flag to mark PLUs which can be sold in CVV transactions. Items without this flag trigger an error in a CVV sale.
	B	1 = Use the Trading Stamp flag to mark the PLUs and departments which can be sold in CVV transactions. Items without this flag trigger an error in a CVV sale.
	C	1 = At the start of a CVV sale, prompt for the amount of the CVV check.
	D	1 = Remove tax on CVV sales and record tax exempt amount in appropriate places on the financial reports.
17	A	
	B	
	C	1 = Use First Data (Concord) Gift Card functionality
	D	
18	A	Reserved for JournalView (data capture user exit)
	B	Reserved for JournalView (data capture user exit)
	C	Reserved for JournalView (data capture user exit)
	D	1 = Display the "Press CLEAR to open drawer" message at the end of the transaction (for non-signature receipt use).

Summary of Action Code 261 Settings

Address	Definition
1	This is the actual 2 nd digit of the Frequent Buyer cards. If a value of 0 is entered here, all values for the 2 nd digit will be replaced (e.g., cards beginning 43, 44, 45, etc., will all be changed to 41, if A/C 261 address 6 has a 1 in it).
2	This is the starting position of the account number within the Frequent Buyer ID.
3	This is the number of digits to use as the account number from the Frequent Buyer ID.
4	
5	This is the amount of time to display the name from the Negative Check File in seconds.
6	This is the number with which to replace the 2 nd digit of the Frequent Buyer ID. This must be a 0 or 1 depending upon Program 1, Addresses 81 and 121.
7-11	Defines an EFT tender ID that generates a Signature Receipt. This is a two-part value – the first part is the tender ID (1-10). The second indicates if a signature line is printed (0 = no signature line, 1 = signature line).
12	
13	This indicates the maximum number of duplicate receipts that can be printed when FSC-80 is pressed.
14	This defines a non-EFT tender ID, which generates a signature, receipt. This is a two-part value – the first part is the tender ID (1-10). The second indicates if a signature line is printed (0 = no signature line, 1 = signature line).
15	This is the tender number for WIC. This is a two-part value – the first part is the tender ID (1-10). The second indicates whether Supervisor Intervention is needed when the WIC override key is pressed (1 = Supervisor Intervention needed). The WIC override key is the Trading Stamp Modifier (FSC-20).
16	This is the tender number for CVV. This is a two-part value – the first part is the tender ID (1-10). The second indicates whether Supervisor Intervention is needed when the CVV override key is pressed (1 = Supervisor Intervention needed). The CVV override key is the Trading Stamp Modifier (FSC-20).
17	
18	This is the cumulative value of those non-EFT tenders where the drawer is not opened until the checker presses CLEAR after a transaction. See Appendix A.

19	This is the tax rate for the store for produce items that are included in CVV. This value is used to calculate how much the sales tax needs to be reduced when a CVV voucher is used. The format is 4 digits (e.g., 5% would be 0500, 5.25% would be 0525).
20	
21	
22	This is the tender ID used for payroll checks for First Data's Check Authorization.
23	This is the tender ID used for personal checks for First Data's Check Authorization.
24	
25	This is the cumulative value of those tenders where the full account number should NOT be printed on the store copy of the receipt. This is required by law in some areas for Debit cards. See Appendix A.
26	This is the percent by which the WIC check is multiplied. Not all states allow for the full WIC check amount to be used. For example, if the state only allows 90% of the check amount, enter 90 here. Then, for example, if a WIC check amount of \$10.00 is entered at the beginning of the WIC sale, the maximum transaction amount can only be \$9.00.
27	
28	
29	Enter a 1 if the full account number should print directly below the signature line on the store copy of the receipt.
30	This is the default state for the Driver's License Number (DLN) for First Data's Check Authorization. This is entered as 4 digits (2 for the first letter, 2 for the second letter), where A = 65, B = 66, etc.)
31	Enter a 1 if a line showing the amount of the savings prints under each item for Total Savings or Simple Savings. The description for the line is pulled from PLU 999991.
32	This is the first of 20 consecutive mix-match codes that will be used for BOGO for random weight items. The price value MUST be set to 1.
33	
34	
35	
36	This is the cumulative value of those tenders where a HALO event requires supervisor intervention. See Appendix A.
37	This is the cumulative value of those tenders where the "Press Clear to finish and open drawer" message is not displayed and the drawer is not opened after the printing of the 2 nd receipt. This is typically used when the drawer has a slot that the checker uses for credit card slips. See Appendix A for information on determining this value.
38	This value defines which department gift cards are in (positions 1 through 4) and which tender authorizes gift cards (positions 5 and 6).
39	
40	

Appendix A – Action Code 261 Tender Values

Because there is a limited amount of space in Action Code 261 to list values, in some cases a single entry represents all the tenders to which something applies (such as which tenders do not have the full account number printed on the 2nd receipt). That value is calculated as follows:

Tender 1 = 1

Tender 2 = 2

Tender 3 = 4

Tender 4 = 8

Tender 5 = 16

Tender 6 = 32

Tender 7 = 64

Tender 8 = 128

Tender 9 = 256

Tender 10 = 512

Add up the numbers for all tenders that are needed and enter that value in the appropriate address in Action Code 261. For example, if tenders 3, 5 and 7 should not have the full account number printed on the 2nd receipt, you would add 4+16+64 and enter the result of 84 in Action Code 261, Address 25.

Appendix B – Account Number Truncation

If, after making all the changes discussed within this manual for account number truncation, the account number is not being displayed correctly (with the 12 leading numbers covered by an x), go through the following procedure.

- 1) Print Program 51. This shows all the tender definitions, including the account number format block. For the debit/credit/EBT records, note the values in address 13 (e.g., 1 and 5).
- 2) Determine where the FIELD, TYPE and ADDRESS keys are for Supervisor mode. You may need to print out Program 3 to verify this - the 3rd section is for Supervisor mode. FIELD is FSC-60. TYPE is FSC-59. ADDRESS is FSC-61.
- 3) Verify that Program 1, addresses 647, 648 and 649 are all set to 1111.
- 4) Turn the register key to Supervisor Mode. Enter Action Code 213. (If using an LCD display, the menu choices are 8 and then 20).
 - a) Enter the number of the format block to review or change and press ENTER. 901 will be used within examples below. The numbers are:

<u>Value from Program 51/Address 13</u>	<u>Format Block</u>
1	901
2	919
3	937
4	955
5	973
6	991
7	1009
8	1027
9	1045
10	1063

- b) Press the FIELD key. The register should display a location line similar to 213 901 1 1 2 x. The x value is where the mnemonic for the Account Number (e.g., Acct #) is displayed. Make a note of this number. If the value is 0, then the mnemonic is not being displayed. In this case, enter 170 and press ENTER. 170 is typically a safe default value, but this may need to be adjusted based on the receipt format.

- c) Enter 2 and press the TYPE key, then press the FIELD key. The register should display a location line similar to 213 901 2 1 2 y. The value for y should be 7 greater than the value for x (from above). If there is a problem displaying truncated account numbers on the receipt, it is typically because this value is 0. Enter the appropriate value and press the ENTER key.
- d) Press ENTER again to return to the Action Code 213 prompt for the Format Block Number. If done, press ENTER again to exit Action Code 213, or enter another Format Block Number and repeat these steps.

Appendix C – WINEPS Integration

The WINEPS system by MTXEPS, Inc. (www.mtxeps.com) provides for the ability to have a semi-integrated system of card processing terminals on NCR 2127 registers. On the NCR 2127 platform, the WINEPS system requires a user exit. Since the NCR 2127 can only have one user exit installed, there needed to be a way to incorporate other functionality, such as 14-digit PLUs. Therefore, Vesper Software, LLC was granted permission by MTXEPS to incorporate other functions into the WINEPS user exit. Any questions regarding this enhanced WINEPS user exit should be directed to Vesper Software, LLC.

WINEPS already defines many of the addresses in Action Codes 260 and 261. Therefore, Vesper will use different addresses for the functions that have been added to the WINEPS user exit.

The modules that are available with the WINEPS are defined below. Please refer to the appropriate sections earlier in this document for a full explanation of each module.

- 1) 14-digit PLU support
- 2) Require date of birth entry for age audit items
- 3) Replace Second Digit of Frequent Buyer Card
- 4) Double or Triple Coupon BOGO Correction
- 5) Total Savings
- 6) Simple Savings
- 7) Require Supervisor Intervention on Specified Tender “Over Sales Limit” Warnings
- 8) All Transactions are Frequent Buyer
- 9) WIC

Note: for WIC, FSC-87 is used for initiating a WIC sale, not FSC-81. This is done to avoid a conflict with WINEPS.

For the WINEPS integration, the user must follow the WINEPS documentation for determining the settings in Action Codes 260 and 261. In addition to those settings, the following are available to activate the above modules.

Action Code 260:

Address	Bit	Definition
16	B	1 = Valid date of birth required on age audit items
18	A	1 = Change 2 nd digit of Frequent Buyer ID
	B	1 = All transactions are Frequent Buyer transactions
	C	1 = Activate the Total Savings functionality.
	D	1 = Activate the Simple Savings functionality.
19	A	1 = Using the Trading Stamp flag to mark the PLUs and departments which can be sold in WIC transactions. Items without this flag trigger an error in a WIC sale.
	B	1 = At the start of a WIC sale, prompt for the amount of the WIC check.
	C	1 = In WIC sales, prompt for customer signature if there were any price corrections during the transaction.
	D	1 = Prompt for the customer signature on the check at the end of the WIC sale.
20	A	1 = Activate WIC functionality.
	B	1 = Prompt for WIC check dates.
	C	1 = Remove tax on WIC sales and record tax exempt amount in appropriate places on the financial reports.
	D	1 = Activate the double and triple coupon fix.

Action Code 261:

Address	Definition
25	This is the tender number for WIC. This is a two-part value – the first part is the tender ID (1-10). The second indicates whether Supervisor Intervention is needed when the WIC override key is pressed (1 = Supervisor Intervention needed). The WIC override key is the Trading Stamp Modifier (FSC-20).
26	This is the percent by which the WIC check is multiplied. Not all states allow for the full WIC check amount to be used. For example, if the state only allows 90% of the check amount, enter 90 here. Then, for example, if a WIC check amount of \$10.00 is entered at the beginning of the WIC sale, the maximum transaction amount can only be \$9.00.
27	This is the actual 2 nd digit of the Frequent Buyer cards. If a value of 0 is entered here, all values for the 2 nd digit will be replaced (e.g., cards beginning 43, 44, 45, etc., will all be changed to 41, if A/C 261 address 6 has a 1 in it).
28	This is the number with which to replace the 2 nd digit of the Frequent Buyer ID. This must be a 0 or 1 depending upon Program 1, Addresses 81 and 121.
31	Enter a 1 if a line showing the amount of the savings prints under each item for Total Savings or Simple Savings. The description for the line is pulled from PLU 999991.
36	This is the cumulative value of those tenders where a HALO event requires supervisor intervention. See Appendix A.