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# Teller Cash Dispensers (TCDs) with CU\*BASE

## User Guide

### INTRODUCTION

This booklet describes CU\*Answers integrated interface to Teller Cash Dispensers (TCDs). This booklet covers the interface from the user side, covering actions involved with setting the Auto Mix, teller transactions, using the Inventory features, reporting and transferring funds. It is designed to be used with any model of TCD that CU\*Answers supports. For information on configuring TCDs to work with CU\*BASE, check out the companion booklet, Teller Cash Dispensers (TCDs) Configuration Guide.

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For an updated copy of this booklet, check out the Reference Materials page of our website:  
[http://www.cuanswers.com/client\\_reference.php](http://www.cuanswers.com/client_reference.php)  
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# OVERVIEW AND TERMINOLOGY

The following terms are used in this booklet (listed alphabetically):

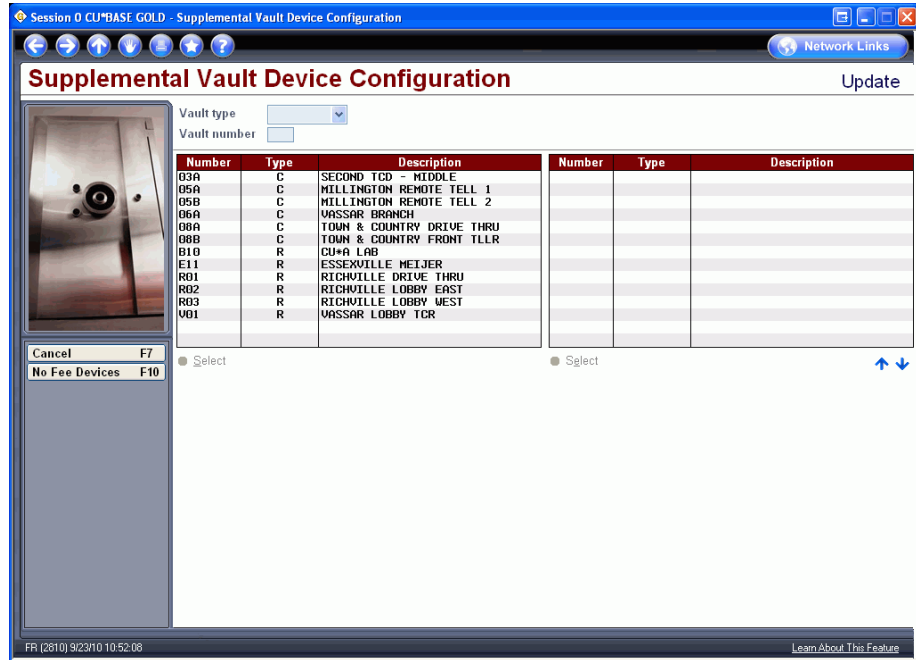
<i>Term</i>	<i>Description</i>
Auto Mix	This term refers to the default combination of bills that will be used for each dispense. This is configured for each individual TCD and can be set up according to the credit union's cash purchasing procedures and member preferences. See Page 7 for more information.
Cassette (Hopper, Feed Module, Cartridge, Bin, Stacker)	These terms are all used interchangeably to refer to the physical tray in which bills are placed for use by the TCD. Some models have removable cassettes which are physically pulled from the machine then opened so that bills can be added or removed. Others have a fixed hopper where bills are placed. The capacity of each cassette or hopper varies depending on the machine model and the quality of the bills themselves.
Close Command	This is a command that is issued from CU*BASE to "close" the TCD, which checks feed modules, lowers the lifts, and deactivates the TCD so it cannot be used for teller activity. This is recommended before restocking cash in the machine.  This command is required for all Talaris TCDs. Refer to your vendor for other manufacturers.
Driver PC	This is the PC with the middleware installed on it.
Fine Count	This term means to manually count every physical bill in the TCD. This procedure is usually done as part of the balancing routine whenever the TCD is replenished.
Left Teller Station	This is the PC that is physically connected to the TCD and usually contains the "driver" software that funnels the communication from CU*BASE to the TCD itself. This workstation will use the TCD to dispense funds for member transactions.
Lifts	For some TCDs, these are mechanical devices which automatically raise and lower the stack of bills so that they can be fed through and dispensed from the machine. When an "Open" command is issued, the lifts raise to their highest position so that bills are ready to dispense. When a "Close" command is issued, the lifts are lowered so that bills can be replenished.
Lutzwolf Middleware	This software is used so that CU*BASE can communicate with an expanded number of TCD models. When this middleware is used, the TCD manages the inventory of the TCD. CU*BASE does not store the inventory internally, but communicates with the TCD for data stored by the machine.
Note (Bill, Paper)	These terms are used interchangeably to represent the actual paper money that is dispensed from the TCD. Keep in mind that a TCD can only dispense pieces of paper—there is no mechanism in the machine that "reads" which bill is being dispensed. Therefore, it is critical that the machine's cassettes are set up properly for the cash denominations being used, and that you put the proper bills into the proper cassettes. <b>If you put \$100 bills into the cassette programmed for \$1 bills, the machine will dispense them</b>

<i>Term</i>	<i>Description</i>
	<b>as if they were \$1 bills!</b>
Open/Reset Command	<p>This is a command that is issued from CU*BASE to prepare the TCD to be used for dispenses. The lifts will raise, the machine will make sure that there are no bills stuck in the feed path, and the TCD will be prepared for use.</p> <p>An open command must be issued before ANY dispense can be made from machine, whether for a member transaction or a bulk cash purchase from the TCD.</p> <p>An open command can be issued at any time during the day to “reset” the machine. See Troubleshooting Hints on Page 39 for more information.</p>
Power Timer	<p>This is a device which can be programmed to automatically turn the power to the machine on and off using a daily schedule. This prevents funds from being dispensed from the machine after normal business hours. (See also “Secure” below and Troubleshooting Hints on Page 40.)</p>
Presentation Tray	<p>These are two trays that extend out from both the left and the right side of the machine to dispense cash to the two attached teller stations.</p>
Reject Cassette Reject Bin (Divert Cassette, Divert Bin)	<p>These terms refer to a special cassette inside the TCD that stores bills that could not be dispensed for one reason or another (torn bills, notes that were not straight in the cassette, etc.).</p> <p>The reject cassette must be emptied and counted when performing a fine count to balance the machine. See Page 30 for more information.</p> <p>Refer to your TCD manufacturer’s reference materials for information about bill quality and preventing excessive rejects.</p>
Right Teller Station	<p>This is the second teller workstation that <i>uses</i> the TCD to dispense funds for member transactions, but does not have any physical connection to it.</p>
Rocker Cradle	<p>These terms refer to the opening at the top of the machine where funds are dispensed. The rocker mechanism causes the cradle to move from one side to another so that the proper teller can easily grab the bills.</p>
Safekeeping Areas	<p>Physical cash in a credit union is transferred from one safekeeping area to another. There are currently four types of safekeeping areas that can be tracked in CU*BASE:</p> <ul style="list-style-type: none"> <li>• Branch Vaults - These are the traditional vaults linked by the system to the Change Fund G/L (739.00). Branch vaults were an integral part of the original CU*BASE teller platform. From a credit union’s perspective, this is the primary vault for a branch location. Branch vaults have their own tracking and monitoring system (Vault Control).</li> <li>• Teller Drawers - This is the physical cash in a teller drawer used to exchange funds with members. The teller drawer has its own tracking and monitoring system (Teller Control). Teller drawers are considered part of the branch vault and therefore use the same Change Fund G/L.</li> </ul>

<i>Term</i>	<i>Description</i>
	<ul style="list-style-type: none"> <li>Supplemental Vaults - These are physical devices or storage locations for cash that are a subset or ancillary service to the branch vault. A recent addition to the original CU*BASE teller platform, they are configured by the CU and can each use a separate G/L account. They include (so far): ATMs, Kiosk cash machines, and Teller Cash Dispensers (TCDs).</li> <li>Bank - Physical cash that is stored outside the credit union in third-party financial institutions or the Federal Reserve. Represented by a unique G/L account. Transfers between banks and branch vaults create a history record for that day but do not have monitoring systems or day-to-day balancing features. CU*BASE also uses bank designations for credit union checks and other credit union banking activities. CU*BASE offers many options when using G/L accounts to represent banks (may be different physical companies, different accounts within same company, etc.).</li> </ul>
Secure (Day-Secure, Chest)	These terms refer to the setup of the machine from a security standpoint. A Secure TCD is one that is surrounded by a UL-listed safe (also called the “chest”), similar to the safe which surrounds an ATM. The chest includes a combination lock and other security features, including an automatic power timer which is used to cut power to the TCD on a daily schedule (see “Power Timer” above). A day-secure TCD is a standard machine that is not in a chest. Funds should never be left overnight in a day-secure machine.
Special Mix	This term refers to a deviation from the default “auto mix” combination of bills. For example, if a member requests a certain combination of bills that is not the standard mix dispensed by the machine, the teller can set up a special mix of bills just for that dispense.
Supplemental Vault	See “Safekeeping Areas.”
TCP/IP	The communications protocol by which a PC in the credit union can communicate with the CU*Answers iSeries.
Teller Cash Dispenser (TCD)	A TCD is a physical device located on the credit union’s teller line (usually between two tellers: a “left” and a “right” station) and used to dispense cash. Not to be confused with lobby cash dispensing machines attached to a self-service kiosk, a TCD is used only by tellers when performing cash transactions for members or replenishing drawer funds.
Throat Bundle Size	The <i>throat</i> refers to the point on the machine through which bills are pushed during a dispense. The capacity of this throat, meaning the number of bills that can be pushed through at the same time, is referred to as the <i>bundle size</i> . The bundle size will vary depending on the TCD model, but is generally either 75 or 100 bills maximum depending on the quality of the bills.

# SETTING DENOMINATIONS AND ADJUSTING TCD INVENTORY

MNCNFC #9 "ATM/Supp Vault Location Config."



To set the inventory for a selected TCD, you must access its configuration. Start by choosing a vault type (A=ATM or C=Teller Cash Dispenser), then enter a 3-character (numbers or letters) vault ID. Use Enter to proceed to the second screen.

Screen 2

The fields on the second screen will vary slightly depending on the type of supplemental vault being configured. To access the inventory for this device, use F5-Inventory.

F5-Inventory for Selected TCD

For a list of status messages that may appear here, refer to Appendix B on Page 40.

Cassette	Denomination	# of Bills	Supp Vault Inventory	Status
1	1.00	500	500.00	Normal
2	5.00	566	2,830.00	Normal
3	10.00	373	3,730.00	Normal
4	20.00	1,440	28,800.00	Normal
5	50.00	391	19,550.00	Normal
6	100.00	197	19,700.00	Normal
Coins			135.51	
Total			75,325.51	

Remember that an inquiry-only version of this screen is also available via the "TCD Inquiry and Control" feature on the MNHTEL menu, for use in daily balancing.

This screen is used to specify the denominations that are stored in each cassette in the TCD. These MUST match exactly the denominations that have been programmed into the TCD itself. A best practice recommendation

is that denominations should be in ascending order starting with the first cassette in the machine, with duplicate denominations together.

Remember that more than one cassette can contain the same denomination. The system will automatically use all the bills it can from the first cassette, then switch to the next cassette. When the final (or only) cassette with any denomination begins to get low, a warning message will appear on *every* dispense, even if that denomination is not needed for that specific transaction. Replenish the machine as soon as possible.

Click the Clear Status button  to reset a bin (cassette) error.

This screen also shows the inventory currently recorded for this TCD. This information is updated automatically whenever funds are dispensed for a teller transaction (see Page 13) and when a bulk cash transfer is posted, either to or from the machine (see Pages 16 and 34). The *Coins* field will appear only if this TCD has a coin dispenser attached to it. This amount includes total coins from *both* coin dispensers (left and right).

**To replenish the TCD, or sell funds from the TCD back to the branch vault, use the Cash Transfers system (see Pages 30 and 34).**

**BE CAREFUL: Changes should NOT be made to the inventory recorded here.** Manual corrections to TCD inventory will *not* generate a corresponding G/L entry. Because the inventory is adjusted automatically through other CU\*BASE features, including the Cash Transfers system, adjustments to this screen should be very rare and only done in special circumstances. Contact a CU\*BASE Client Service Representative for assistance.

## SETTING THE "AUTO MIX"

*This screen appears when you use **F6-Auto Mix** on the main Supplemental Vault Device Configuration screen (see Page 7).*



The Auto Mix is the minimum preferred count of each denomination of bills to be dispensed, every time a cash dispense is performed for a member transaction. (Enter the total amount of money for each denomination, or the number of bills per denomination.)

*For example, does your credit union always like to give out at least a couple of fives for every withdrawal? Do you prefer to give twenties and tens rather than use fifties? This will depend on your credit union's cash purchasing procedures as well as the preferences of your membership.*

When a value is set here, this number of bills will always be dispensed (assuming it does not exceed the disbursement amount, and there are actually enough of those bills in the machine). If set to zero, the denomination is not *required* to be dispensed, although it may be used if necessary to give the proper amount. (Remember that the teller can always override these settings and use a "special mix" on a case-by-case basis as necessary.)

The minimum dispense is always computed in ascending denomination order (1s, 5s, 10s, 20s, 50s, then 100s). Once that is satisfied, any remaining funds are pulled using the fewest possible number of bills (starting at the highest denomination and working back down).

**Example 1:** Assume the auto mix shown in the sample above. If a member needs \$120, the bills to be dispensed are calculated in two passes: the first pass determines the bills required from the auto mix settings, and the second pass gathers any remaining bills needed to complete the request.

In the first pass, the calculation determines that one \$5, one \$10, and 5 \$20 bills are needed, for a total of \$115. On the second pass, the remaining amount is fulfilled using the smallest number of bills, in this case one \$5. See the diagram below:

		Requested Dispense Amount: \$120.00	
Denomination	Auto Mix	First Pass	Second Pass
\$1	.00		
\$5	5.00	5.00	5.00
\$10	10.00	10.00	
\$20	180.00	100.00	
\$50	200.00		
\$100	200.00		
		\$115.00	\$5.00
		= <b>\$120.00</b>	

**Example 2:** Assume the same auto mix, but this time the member needs \$341.00.

		Requested Dispense Amount: \$341.00	
Denomination	Auto Mix	First Pass	Second Pass
\$1	.00		1.00
\$5	5.00	5.00	5.00
\$10	10.00	10.00	
\$20	180.00	180.00	40.00
\$50	200.00	100.00	
\$100	200.00		
		\$295.00	\$46.00
		= <b>\$341.00</b>	

### Hints for Choosing an Appropriate Auto Mix

- Consider the point at which you want to begin giving large bills on a dispense. Imagine a typical dispense amount and calculate which bills will be used. The auto mix should be set up so that the system is not forced to use large bills unless the requested amount is higher than that point.
- To help your tellers get used to this default mix and avoid confusion, it is recommended that all TCD devices within a branch (or the entire credit union) use the same auto mix settings.

# DAILY TCD CONTROL ACTIVITIES

## MNHTEL #4 “TCD Inquiry and Control”



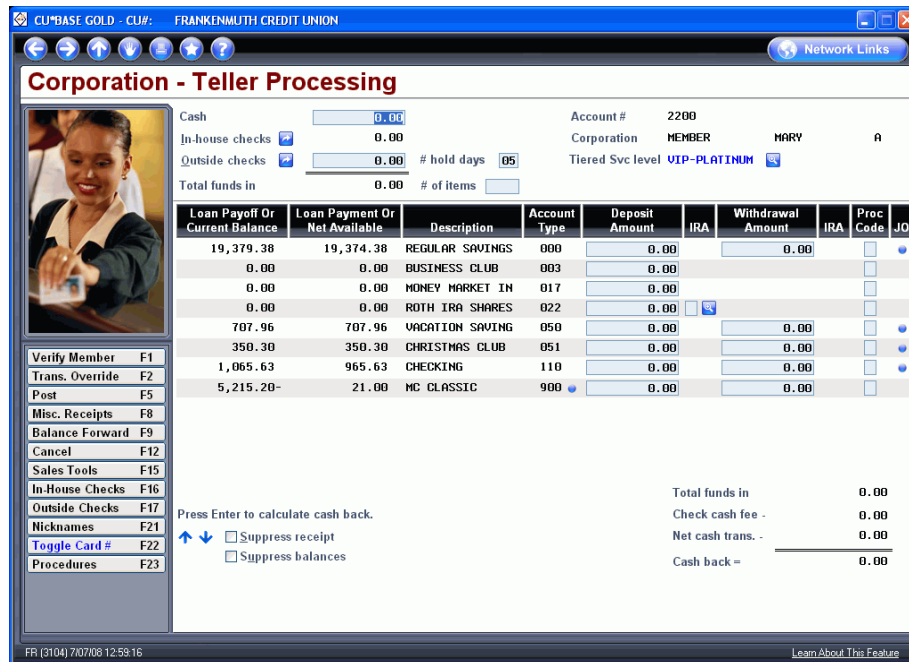
This screen is “command central” when it comes to opening, closing, monitoring and balancing your TCDs. From here you can choose any of your credit union’s TCDs and select the following options:

<i>Option</i>	<i>Description</i>
Open/Reset	<p>This issues an “open” command to the TCD which resets the machine, checks the feed modules, raises the lifts, and essentially prepares the TCD for activity.</p> <p>Although this command <u>must</u> be issued at least once at the beginning of each day, this command can be run at any time to reset the machine during the day.</p> <p>Additionally, an “open” command should be taken any time a physical action is taken with a TCD, such as refilling it or checking it for jams.</p> <p>For example, if one of the error messages described in the Appendix (see Page 40) occurs, try this command to reset the TCD.</p>
Current Inventory	Use this to see an inquiry-only version of the denomination and inventory screen shown on Page 5. This is helpful when balancing the machine.
Supp Vault Config Inquiry	Use this to see an inquiry-only version of the supplemental vault configuration screens (shown on page 7) to look up contact information, confirm the auto mix settings, etc.
Close	This issues a “close” command to the TCD which checks feed modules, lowers the lifts, and deactivates the TCD so it cannot be used for teller activity. This is recommended

<i>Option</i>	<i>Description</i>
	<p>before restocking cash in the machine.</p> <p>This command is required for all Talaris TCDs. Refer to your vendor for other manufacturers.</p> <p>NOTE: Remember that any commands issued to the TCD when it is closed will result in error messages; therefore, if the machine will be down for any length of time, it is best to deactivate the TCD from both the left and right teller workstations to avoid unnecessary errors. (See Page 37 for instructions.)</p>
Inventory Analysis	<p>This will display a historical record of beginning-of-day and end-of-day inventory totals for the TCD. This screen is used when balancing the TCD. See Page <b>Error! Bookmark not defined.</b> for details.</p>

# USING A TCD FOR TELLER TRANSACTIONS

Main Teller Posting Screen



When performing a member transaction in the Teller Processing system, if a TCD device has been configured for the teller’s workstation, and has been activated properly for the day, the following screen will appear automatically after **F5-Post** is used on the Main Teller Posting Screen.

To reset the Auto Mix to a mix requested by the member, use F10-All from Drawer, then enter the number of each denomination requested by the member.

		Override			Summary
		Auto Mix	Bills	Dollars	
Ones	\$1	0.00	0	0.00	Transfer amount 650.00
Five	\$5	0.00	0	0.00	Override amount 0.00
Tens	\$10	0.00	0	0.00	
Twenties	\$20	0.00	0	0.00	Net 0.00
Fifties	\$50	250.00	5	250.00	
Hundreds	\$100	400.00	4	400.00	
Coins		0.00		0.00	
From drawer		0.00		0.00	
Totals		650.00		650.00	

NOTE: If warning messages appear, they will appear in a pop-up window separate from this screen.

This screen is used to confirm the denominations that will be dispensed from the TCD to the member.

*NOTE: The system always displays this screen as the last screen in the posting process. If there are check cashing fees or other screens needed to perform the transaction, they will appear first before the final TCD denomination screen appears.*

The left column shows the denominations available in the TCD. Depending on the machine, you may see a denomination shown more than once, if multiple cartridges in the machine hold the same type of bills. Using the settings in the Auto Mix configuration (see Page 7) the system will automatically calculate the exact bills that will be dispensed. If these bills are acceptable to the member, simply use F5-Post again to complete the transaction and dispense the funds from the TCD.

The “Coins” field will only appear if a coin dispenser has been configured for this TCD. Remember that if you have a coin dispenser, **the maximum amount that can be dispensed in coins at one time is 99 cents**. Large amounts of coins (such as if a member asks for \$5.00 in quarters) should be pulled from your teller drawer.

If the member has requested a certain set of bills or if you would like to specify a “special mix” for this dispense, use F10-All to drawer. The funds will move to the from drawer field. You can then withdrawal the money from the drawer. Or you can enter the total dollar amount that should be dispensed for each bill type to set the mix yourself. (Remember that if you have a coin dispenser, the maximum that can be entered here is 99 cents.)

Use Enter to recalculate and make sure that the total amount matches the cash back amount at the top of the screen. When ready, use F5-Post to

continue. The TCD will dispense the cash as shown on the screen; simply pull any remaining funds or coins from the teller drawer as usual.

### Important Tips

- **If you receive an error message during a transaction, DO NOT close your session until the error has been addressed.** Never close a CU\*BASE Session without properly logging off of CU\*BASE.
- Once this screen is displayed, it is NOT possible to cancel the transaction. If at this point the member changes his or her mind, you must enter the entire cash-back amount into the *From Drawer* field and post the transaction without a dispense. Then perform a transaction reversal/drawer adjustment as usual to reverse the transaction and correct the drawer totals.
- **If you want to pull all funds from your teller drawer** (such as if you know the TCD is low on the specific bills you want or is malfunctioning), simply clear all of the default fields and enter the ENTIRE cash-back amount in the *From Drawer* field. Then use F5-Post and manually take the appropriate bills from your teller drawer.
- The bills will dispense to the left or right position when the dispense is made, making it clear which teller should grab the bills. Do not worry if both tellers request a dispense at the same time; the TCD will handle the requests systematically one after the other.
- If an error causes the dispense to fail, or only part of the dispense can be completed, an error message will appear with a summary showing the total amount that was dispensed.

*In this example, a communication error occurred; the entire amount must be pulled from the teller drawer:*

Summary	
Total Cash Back	75.18
Override Amount	75.18
Net	.00
-----TCD-----	
Amount Requested	75.18
Amount Dispensed	.00
Not Dispensed	75.18

*In this example, only a partial dispense was possible; pull the amount not dispensed from the teller drawer:*

Summary	
Total Cash Back	10000.54
Override Amount	10000.54
Net	.00
-----TCD-----	
Amount Requested	10000.54
Amount Dispensed	4500.54
Not Dispensed	5500.00

If this happens, note the *Not Dispensed* amount, then use Enter to continue and take that amount from your teller drawer. (Also see the Appendix for troubleshooting common error messages.)

- If you request more notes than can actually fit through the throat of the machine, remove the first bundle and the next will be dispensed immediately after it.
- Regardless of where the cash came from, transaction reversals are always posted through the teller drawer, not back to the TCD.

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## USING THE TCD TO REPLENISH A TELLER DRAWER

In addition to performing member cash dispenses, a TCD can make a very efficient substitute for the branch vault when it comes to replenishing teller drawers. For example, if your credit union uses a TCD between your first two tellers, who are the busiest, but not for the third and fourth teller stations, those two stations could occasionally buy cash from the main TCD to avoid having to go to the head teller for a branch vault purchase.

These types of transactions are referred to as **Bulk Cash Transfers** from the TCD. These transfers are performed using the CU\*BASE Cash Transfer system.

The following directions show how to transfer cash from the Teller Drawer Control. You can also use MNHTEL #3 Teller Vault Cash Transfer/Inq to perform a transfer from the Teller Drawer to the TCD, but another option is to perform the transfer directly from within the Teller Control. Both methods require that the TCD is configured to allow bulk transfers, and that the teller uses the same employee ID and password and teller ID.

*Remember that if desired, a TCD can be configured NOT to allow bulk cash transfers to any teller (such as for extremely busy TCDs or small units that hold fewer notes). Refer to the TCD Configuration Guide.*

*Bulk cash dispenses, if allowed, always come from the **left-hand presentation tray** of the TCD, and there will be no alert tone from the machine itself.*

## MNSERV #16 Teller Drawer Control Inquiry

Session 0 CU\*BASE GOLD - Teller Control

### Teller Control

Employee ID **00** OSCODA FLOATING TELLER Vault **01**

Beginning cash	5,345.18	Cash in drawer	5,394.18
Vaults to teller	+ 51.00	Checks in drawer	0.00
Teller to vaults	- 0.00	Inhouse drafts	0.00
TCD/TCR +/- members	+ 1.00	Total drawer balance	5,394.18
Cash +/- member	+ 0.00	Cash in drawer	5,394.18
Wdr/dish from accounts	- 3.00	Cash over (+)	0.00
Cash in drawer	5,394.18	Cash short (-)	0.00
		Adj closing cash	5,394.18

Cash inventory as of **Dec 22, 2009** [MMDDYY] Enter Amounts

Coins	Rolled	Loose	Bills	Total
Pennies	0.00	0.00	Ones	0.00
Nickels	0.00	0.00	Fives	0.00
Dimes	0.00	0.00	Tens	0.00
Quarters	0.00	0.00	Twenties	0.00
Half dlr	0.00	0.00	Fifties	0.00
Dollars	0.00	0.00	Hundreds	0.00
Subtotal	0.00	0.00	Subtotal	0.00
			Net (Adj cash - inv)	5,394.18

FR (2839) 1/12/10 14:12:17 [Learn About This Feature](#)

The teller should select F14-Buy from TCD to buy cash to the teller drawer from the TCD

### Screen 2

Session 0 CU\*BASE GOLD - Teller / Vault Cash Transfers

### Teller / Vault Cash Transfers

Supplemental Vault to Teller

From: Vault type **C = TCD** Branch vault **08 ALPENA - US 23 NORTH**


To: Vault # **01B RICHVILLE CASH DISPEN**

Transfer amount **2,500.00**

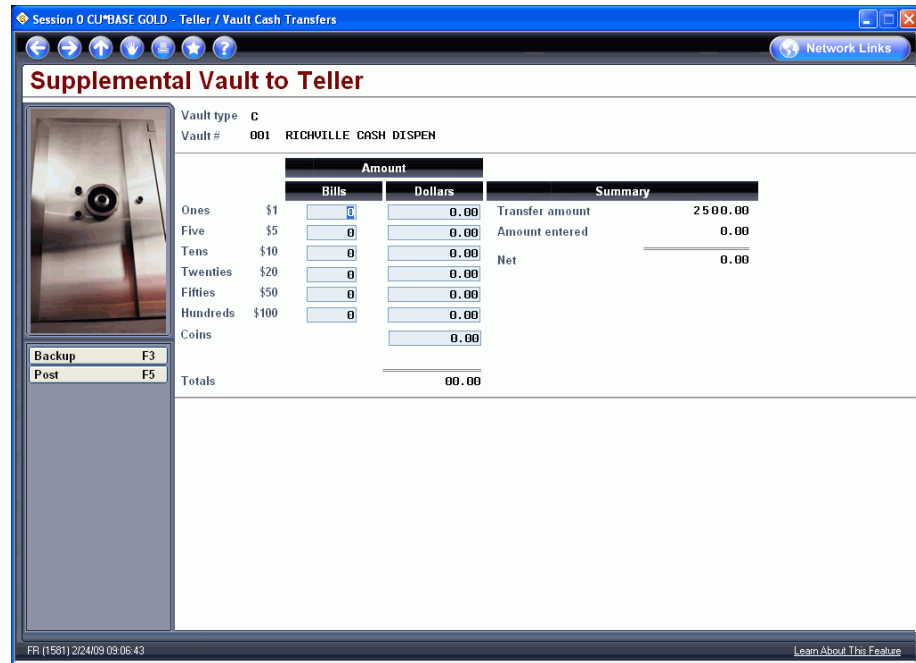
General Ledger Entries	
Branch	Account
From credit G/L	08 739.03
To debit G/L	08 739.00

Backup F3  
Post F5  
Cancel F7  
No Dispense Post F10

FR (2844) 3/30/09 16:43:12 [Learn About This Feature](#)

On the left side of the screen, choose "C" for TCD and enter the TCD vault ID (click the help button  to see a list of your credit union's configured codes). Enter the amount of the transfer, then use Enter to refresh the screen. The screen will show how this transfer will affect the General Ledger. When ready, use **F5-Post** to continue to the final screen.

Screen 3



This final screen is used to define the denominations to be dispensed from the TCD. Enter the total amount or number of bills to be dispensed for each bill desired. Use Enter as often as needed to recalculate and make sure the dispense amount matches the requested transfer amount at the top of the screen.

*The “Coins” field will only appear if a coin dispenser has been configured for this TCD. Remember that if you have a coin dispenser, **the maximum amount that can be dispensed in coins at one time is 99 cents.** Bulk transfers of coins should not be done from a TCD.*

When ready, use F5-Post again to complete the transaction and dispense the bills. The machine will sound a low beep when the dispense is intended for a teller other than the left or right teller station for that TCD. When done, a cash transfer receipt will be printed on your configured receipt printer:

BANK/VAULT/TELLER CASH TRANSFER RECEIPT					
Date	Time	From	To	Amount	
3/20/02	11:13	01 MAIN OFFICE	001 345 CU*BASE	5000.00	
Coins	\$	_____	Twenties	\$	_____
Ones	\$	_____	Fifties	\$	_____
Fives	\$	_____	Hundreds	\$	_____
Tens	\$	_____	Other	\$	_____
Initialed: FROM _____ TO _____			TOTAL CASH	\$	_____

Use the lines provided to jot down the amount of each bill type being transferred. (The system will not complete these; they are used for manual confirmation of the cash that was transferred.)

*NOTE: If you do not wish to receive receipts for bulk cash transfers, remove the checkmark from the “Cash Transfers” receipt option in the device configuration for the workstation (MNCNFC # 10).*

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# RESPONDING TO ERRORS

It is VERY IMPORTANT to pay close attention to your CU\*BASE screen to ensure that when an error message is received that the action items are followed through on to ensure that the machine balances.

Following are some guidelines on handling Level 2 and Level 3 error messages. (In these cases, a pop-up window is received).

- **Special Note: If you receive an error message during a transaction, DO NOT close your session until the error has been addressed.** Never close a CU\*BASE Session without properly logging off of CU\*BASE.
- **NOTE: It is important to follow a regular maintenance cycle on your TCD.** You would be sure to get an oil change for your car; maintenance on your TCD is just as important!

## STEP 1: BALANCE YOUR TCD

Refer to the next section: **Balancing Your TCD** for best practices and CU\*BASE screens you can use to balance your TCD.

Any time a Level 2 or Level 3 message is received in CU\*BASE a full audit and count of the physical cash is necessary where the INVENTORY BALANCE = G/L BALANCE = PHYSICAL CASH is required. Otherwise, you may be out of balance.

If an out of balance situation occurs, contact CU\*Answers to retrieve logs and information about the error message.

## STEP 2: IF NEEDED PERFORM OPEN/RESET

If a Level 2 or Level 3 error is encountered which indicates a failure of the machine, the next step is to perform an Open/Reset. If the error message indicates a jam, the machine should be physically opened and all paths checked for torn, misplaced, stuck, or otherwise jammed notes. After the notes are cleared, an Open/Reset should be performed.

If the Open/Reset returns a communications failure, the following steps should be taken:

1. Power off the TCD.
2. Power off the workstation that controls the TCD.
3. Turn on the TCD.
4. Let the TCD fully complete its start up cycle.
5. Turn on the workstation.
6. Perform an Open/Reset.

If errors continue after fully rebooting the equipment in order, then a service call should be placed to the TCD vendor to service the machine.

---

# BALANCING YOU TCD

## PERFORM DAILY BALANCING

Be sure to confirm, on a **DAILY** basis, that the Inventory Balance from the previous day matches to the BOD G/L Balance and the BOD Inventory Balance. Use the TCD Inventory Analysis (Page **Error! Bookmark not defined.**) and /or the TCD Daily Activity Summary report (Page 26) to verify that the TCD inventory amount matches the amount shown in the G/L account configured for that TCD.

See the following section for a discussion of these CU\*BASE tools.

*Inventory is balanced via different methods depending on whether you have the legacy middleware or the new (Lutzwolf) middleware. Contact WESCO Net if you are not sure which type of middleware supports your TCD model.*

If discrepancies are found, an audit of the TCD should be performed to confirm the balance of the TCD. This imbalance may be due to the fact that an error occurred during a TCD transaction on the TCD during the day. Additionally, consult with the accounting staff to ensure the recorded Beginning G/L Balance reflect the actual G/L balance.

## BALANCING YOUR PHYSICAL CASH

It is also imperative that you frequently balance your TCD and reconcile the physical cash in the TCD with the balances of the associated machine. Consider your TCD to need balancing, similar to the way you balance and branch vault.

Remember that there are three control totals for each TCD machine and they all must match in order for the TCD to be in balance:

**Inventory Balance = G/L Balance = Physical Cash in the TCD**

During this balancing, you should physically count the cash in the machine to ensure the INVENTORY BALANCE is matched to the G/L BALANCE and is then matched to PHYSICAL CASH (all three figures should MATCH).

**A full balance of this manner should be performed:**

- **Weekly**
- **Every time a new cassette is loaded**
- **Any time you receive a Level 2 or Level 3 error message**
  - **Refer to previous section: Responding to Errors.**

After balancing the physical cash to the CU\*BASE figures, if an out of balance situation occurs, please contact CU\*Answers to retrieve logs and information about the error message.

## BALANCING TCDs USING NEW MIDDLEWARE

TCDs using Lutzwolf middleware maintain their own inventory, unlike legacy TCDs where the inventory of the TCD is maintained by CU\*BASE. Therefore, it is recommended that you compare both the current balance of the TCD with the recorded G/L balance at the end of the day to ensure these numbers balance.

This analysis is accomplished by comparing two screens you can access from MNHTEL #4 "TCD Inquiry and Control."

- Access the balance of the TCD (recorded by the TCD itself) by using the Current Inventory option. (See following **Inventory Analysis option** screens)
- Access the current G/L balance (recorded in CU\*BASE) by using the Inventory Analysis option. (See page 23 for **Current Inventory option** screen.)

### Inventory Analysis Option Selected - Screen 1

Date	Beginning G/L Balance	Net Changes	Calculated G/L Balance
Feb 19, 2009	50,000.00	1,625.00	48,375.00
Feb 05, 2009	200.00	1,500.00	1,700.00

FR (454) 3/12/09 14:33:20

This is the first of two screens showing a historical record of TCD activity, one day at a time based on G/L activity. The Beginning G/L Balance is snapshot of the G/L balance at the time End-of-Day was run. The Net Changes record the transactions made during the day. The Calculated G/L Balance is calculated change in the G/L based on these two figures.

A detailed view of a day's activity can be viewed by selecting a date and using the Select option.

Screen 2

**Daily TCD/TCR Inventory Analysis**

Vault type C  
 Vault # 001 SIMULATOR ON CARRIE'S PC  
 G/L account 01-01-739.03 Date Feb 05, 2009

Inventory Analysis	
BOD G/L balance	200.00
Net to/from tellers	100.00
Net to/from branch vaults	200.00
Net to/from supp vaults	300.00
Net to/from bank	400.00
Net to/from members	500.00
Net change	1,500.00
Calculated EOD G/L balance (BOD G/L balance + net change)	1,700.00

Backup F3

FR (455) 3/12/09 14:34:31 [Learn About This Feature](#)

Above is a detail of the selected day's activity.

Current Inventory Option

**Supplemental Vault Inventory** Inquiry

Vault type C  
 Vault # 001

Module	Denomination	# of Bills	Machine Inventory	Status
1	1.00	0	0.00	Normal
2	5.00	30	150.00	Normal
3	10.00	21	210.00	Normal
4	20.00	31	620.00	Normal
5	20.00	26	520.00	Normal
6	50.00	64	3,200.00	Normal
7	50.00	66	3,300.00	Normal
8	100.00	70	7,000.00	Normal
Coins			0.00	
Total			15,000.00	

Backup F3

FR (2661) 3/12/09 14:38:23 [Learn About This Feature](#)

The screen shown above shows the inventory of the TCD itself as of this moment in time. These figures are recorded by the TCD machine itself. (No information on previous day's inventory is recorded.)

The last step in teller balancing should be to compare these two screens to ensure that the Calculated G/L balance matches the actual inventory total. This is a balancing control where you make sure that the calculated G/L inventory matches the real time TCD inventory.

If discrepancies are found, an audit of the TCD should be performed to confirm the balance of the TCD. This imbalance may be due to the fact that an error occurred during a TCD transaction on the TCD during the day. Additionally, consult with the accounting staff to ensure the recorded Beginning G/L Balance reflect the actual G/L balance.

- **TIP:** If discrepancies occur, take a screen print of the Current Inventory for your records. Once a TCD processes additional transactions, you will not be able to access this information.

## BALANCING TCD USING LEGACY MIDDLEWARE

For TCDs using Legacy middleware maintain, the inventory of the TCD is maintained by CU\*BASE. Therefore, you can use three figures on the Inventory Analysis to determine if your TCD is in Balance

MNHTEL #4 "TCD Inquiry and Control" then Inventory Analysis (H) - Screen 1

Session 0 CU\*BASE GOLD - Daily TCD/TCR Inventory Analysis

**Daily TCD/TCR Inventory Analysis**

Vault type C  
Vault # 080 US-23 POD #3

Date	Beginning Inventory	Net Changes	Ending Inventory
Feb 19, 2009	.00	.00	75,325.51
Sep 30, 2008	75,325.51	.00	75,325.51
Sep 11, 2008	76,341.59	1,016.08	75,325.51
Sep 10, 2008	77,317.14	975.55	76,341.59
Sep 09, 2008	77,695.64	378.50	77,317.14
Sep 08, 2008	.00	77,695.64	77,695.64
Sep 06, 2008	.00	.00	.00
Sep 05, 2008	.00	.00	.00
Sep 04, 2008	.00	.00	.00
Sep 03, 2008	.00	.00	.00
Sep 02, 2008	.00	.00	.00
Sep 01, 2008	.00	.00	.00
Aug 31, 2008	.00	.00	.00
Aug 30, 2008	.00	.00	.00
Aug 29, 2008	.00	.00	.00

Backup F3

Select

FR (454) 3/12/09 13:46:55

Learn About This Feature

This is the first of two screens showing a historical record of TCD activity, one day at a time. These records are created during end-of-day teller processing. From this screen, select the date you'd like to view and use Enter or Select to proceed to the second screen.

*Remember that the record for the current date will show only beginning-of-day activity.*

Screen 2

Session 0 CU\*BASE GOLD - Daily TCD/TCR Inventory Analysis

**Daily TCD/TCR Inventory Analysis**

Vault type C  
 Vault # 08D US-23 POD #3  
 G/L account 01-00-739.06 Date Sep 09, 2008

Inventory Analysis		
Previous day EOD inventory balance	77,695.64	
BOD G/L balance	77,695.64	
BOD inventory balance		77,695.64
Net to/from tellers	0.00	
Net to/from branch vaults	0.00	
Net to/from supp vaults	0.00	
Net to/from bank	0.00	
Net dispensed to members	378.50-	
Net change	378.50-	
Calculated EOD balance (BOD inventory + net change)		77,317.14
EOD inventory balance		77,317.14

Backup F3

FR (455) 3/06/09 09:36:50 [Learn About This Feature](#)

If these three totals do not match, they will appear highlighted and an error message will appear at the bottom of the screen.

Likewise, these two totals must match or an error will appear.

This screen provides a quick picture of TCD activity. At the top of the screen are three totals that should always match: the inventory balance as of the previous end-of-day, the inventory balance as of beginning-of-day on this date, and the current balance shown in the general ledger account assigned to this TCD. If they do not match, they will appear highlighted with an error message and should be investigated.

*Remember that each TCD should be configured with its own unique G/L account. If you have more than one TCD using the same G/L, these amounts will not balance. See the TCD Configuration Guide for more information.*

The middle of the screen will display net activity for this TCD, including bulk cash transfers to or from tellers, branch vaults, supplemental vaults and the bank, as well as cash dispensed during member transactions. Remember that these totals are generated during end-of-day processing, so they will not appear if you are viewing this screen for today's date.

*NOTE: If you need to see details about any of these activity amounts, refer to the TCD Daily Activity Detail report (see below).*

Finally, the bottom section shows two totals that should also match: a calculated inventory balance that takes the recorded beginning-of-day inventory amount and adds the individual net activity amounts for the day, and the end-of-day inventory balance as recorded in the TCD inventory (see Page 5).

# TCD DAILY ACTIVITY REPORTS

## MNHTEL #23 "TCD Daily Activity Reports"

This screen is used to print three different reports showing daily TCD activity. These reports, two of which are produced automatically during end-of-day teller processing, are helpful for balancing a TCD and researching balancing issues.

Complete all settings as desired and use Enter to print the report(s) selected. See the following pages for report samples.

### Field Descriptions

<i>Field Name</i>	<i>Description</i>
Activity for date	Enter a date for which activity should be shown (mmddyy).
Print TCD/TCR summary	Check this flag to print a report showing a summary of daily activity, using the same format as the Inventory Analysis screen shown on Page <b>Error! Bookmark not defined.</b> . Each TCD will be listed separately.  This report is produced automatically during end-of-day teller processing.
Teller ID	Select a specific Teller ID to view transactions from that specific teller, or leave this field blank to view transaction from all Teller IDs.
TCD/TCR Type	Enter a C for TCD and an R for TCR.
TCD/TCR Code	If you wish to see detail for only a single TCD, enter the code here. Leave the field blank to include all TCDs on the report (similar to the default daily reports).
Print detail by teller	

Field Name	Description
Bulk cash transfers	Check this checkbox to print a report showing each individual bulk transfer performed using the Cash Transfers system.
Member dispenses/deposits	Check this flag to show a summarized total of cash dispenses and deposits by teller. (Remember that this only shows the total amount dispensed/deposited to members for each teller; use the Print complete member dispense report to see individual transaction amounts dispensed/deposited for each member.)
Print complete member dispense detail	Check this checkbox to print a report showing every individual transaction performed on behalf of a member, grouped by teller ID.

### Summary Report - LSVACT

4/21/09	44:22	ABC TEST CREDIT UNION	LSVACT	PAGE 1
		Teller Cash Dispenser/Recycler Daily Activity Report		User
		Summary - 4/21/2009		
*****				
TCD 04A	DOWNTOWN DRIVE THRU			
*****				
Previous Day EOD Inventory Balance		280,998.00		
Beginning of Day G/L Balance		280,998.00		
Beginning of Day Inventory Balance			280,998.00	
Net Bulk transfers to/from Teller		.00		
Net Bulk transfers to/from Branch Vault		.00		
Net Bulk transfers to/from Supp Vaults		.00		
Net Bulk transfers to/from Bank		.00		
Net Dispensed to Members		31,297.00-		
		-----		
NET CHANGE			31,297.00-	
			-----	
Calculated EOD Balance (BOD Inventory + Net Change)			249,701.00	
EOD Inventory Balance			249,701.00	
*****				
TCD 05A	DOWNTOWN DRIVE THRU			
*****				
Previous Day EOD Inventory Balance		245,293.00		
Beginning of Day G/L Balance		245,293.00		
Beginning of Day Inventory Balance			245,293.00	
Net Bulk transfers to/from Teller		56,500.00-		
Net Bulk transfers to/from Branch Vault		8,000.00-		
Net Bulk transfers to/from Supp Vaults		.00		
Net Bulk transfers to/from Bank		.00		
Net Dispensed to Members		23,910.00-		
		-----		
NET CHANGE			88,410.00-	
			-----	
Calculated EOD Balance (BOD Inventory + Net Change)			156,883.00	
EOD Inventory Balance			156,883.00	

## Detail Report - LSVACT2

4/21/09	44:22	ABC TEST CREDIT UNION Teller Cash Dispenser/Recycler Daily Activity Report TCD/TCR Detail - 4/06/2009	LSVACT2	PAGE 1 User
*****				
TCD 04A            DOWNTOWN DRIVE THRU				
*****				
DISPENSED TO MEMBERS				
Tlr		Amount		
---		-----		
06		27,479.00-		
71		3,818.00-		
			31,297.00- *	
*****				
TCD 05A            DOWNTOWN TELLER LINE				
*****				
TELLER BULK TRANSFERS				
Tlr	Time	Amount		
---		-----		
C9	10:57:22	550.00-		
C9	10:59:53	10,000.00-		
C9	11:01:12	8,000.00-		
F1	10:25:02	600.00-		
F1	10:26:53	4,500.00-		
F1	10:28:52	14,000.00-		
03	10:47:18	12,000.00-		
03	10:48:49	2,500.00-		
03	10:49:28	100.00-		
11	10:44:40	4,050.00-		
59	10:21:54	100.00-		
59	10:40:35	100.00-		
			56,500.00- *	
BRANCH VAULT BULK TRANSFERS				
Vlt	Time	Amount		
---		-----		
11	10:31:36	8,000.00-		
			8,000.00- *	
DISPENSED TO MEMBERS				
Tlr		Amount		
---		-----		
C2		15,490.00-		
59		8,420.00-		
			23,910.00- *	

Member Dispense Detail Report - LSVACT3

NOTE: This report can be printed only via the menu command; it is not produced during daily processing. Because it can be a fairly lengthy report, it is generally used only when researching balancing problems that have been traced to member dispenses.

Tlr	Time	Amount	Mbr Acct	Name
3/27/09 10:20:27 ABC TEST CREDIT UNION LSVACT3 PAGE 4				
Teller Cash Dispenser/Recycler Daily Activity Report				
Member Dispense Detail - 3/21/2009 User				
*****				
TCD 04A ESPANOLA DRIVE THRU (Continued)				
*****				
06	19:05:18	200.00	138356	SMITH
06	19:08:54	239.00	502593	JONES
06	19:10:58	200.00	65680	EVANS
06	19:11:53	50.00	501523	STEVENS
06	19:14:14	75.00	410269	RICHARDS
06	19:15:05	10.00	353652	WILLIAMS
06	19:15:49	569.00	504028	RICKERS
06	19:16:48	75.00	418529	THOMAS
06	19:17:11	75.00	418530	EDWARDS
06	19:19:01	606.00	351823	MARKS
06	19:21:00	80.00	416035	PETERS
06	19:24:07	200.00	412308	DAVIDS
06	19:25:10	150.00	417979	ANDERSON
06	19:26:43	45.00	421269	JOHNSON
06	19:27:54	75.00	418546	STEVENSON
06	19:29:10	506.00	417987	RICHARDSON
	Total -->	27,479.00	*	
71	14:11:03	100.00	418312	DONALDSON
71	14:12:28	60.00	920122	PETERSON
71	14:13:56	388.00	8057234	WILSON
71	14:15:21	10.00	103785	SMITH
71	14:18:31	200.00	421454	JONES
71	14:22:12	143.00	417573	EVANS
71	14:25:04	199.00	418164	STEVENS
71	14:26:32	20.00	920132	RICHARDS
71	14:27:46	112.00	71010	WILLIAMS
71	14:29:18	60.00	418500	WILLIAMS
71	14:31:23	1,120.00	419967	RICKERS
71	14:33:55	145.00	413295	THOMAS
71	14:36:45	50.00	412681	EDWARDS
71	14:38:03	180.00	417523	MARKS
71	14:40:10	200.00	401213	PETERS
71	14:41:46	50.00	400053	DAVIDS
71	14:43:00	130.00	611810	SPECKLED ROCK
71	14:49:55	300.00	421922	ANDERSON
71	14:52:40	50.00	501523	JOHNSON
71	14:57:59	31.00	420648	STEVENSON
71	15:01:20	200.00	414943	RICHARDSON
71	15:02:35	70.00	351440	DONALDSON
	Total -->	3,818.00	*	

---

# COUNTING TCD CASH AND RESTOCKING THE TCD

It is recommended that a TCD be balanced with a complete hand-count of all physical cash in the machine every time the cassettes are replenished. These steps should be performed by a head teller or other supervisor. It is usually easiest to complete this process early in the day before teller activity begins.

Experience has shown that the TCD will run much more smoothly and experience far fewer problems and down-time if the cassettes are stocked with plenty of bills and are never allowed to run completely out. Establishing a regular schedule of restocking the TCD before bills are low should help you avoid unnecessary trouble.

- **Important!!** It is important that while you restock your TCD, that you cease using the TCD to process transactions. Do not proceed with transactions until the TCD is fully restocked and money has been transferred to the vault (physically and via CU\*BASE), in other words, the process is completed.
1. First make sure that all teller drawers are in balance and that the TCD Inventory amounts are also in balance (use the Inventory Analysis shown on Page **Error! Bookmark not defined.**).

*HINT: If a teller drawer is out of balance, determine if it relates to TCD activity or not before proceeding with the physical count. Remember teller “over” and “short” amounts when analyzing these situations. Corrections will depend on the reason for the out-of-balance condition. Contact a CU\*BASE Client Service Representative for assistance.*

2. If necessary, deactivate both teller stations from the TCD. Perform a “Close” to lower the lifts.
3. Open the machine and remove the reject bin. Remove all notes and sort by denomination.

*NOTE: Follow your credit union’s normal procedures for replacing any torn or unusable notes. DO NOT remove any notes from the stack or the inventory will not balance.*

4. Pull out the first bin. Count the notes, adding in any notes of that same denomination from the reject cassette, and match the total against the inventory record (see Page **Error! Bookmark not defined.**). This amount will remain in inventory; it is not sold back to the vault before replenishing.

*\*See the **Special Note** below if your machine has the same denomination in multiple cassettes.*

5. Return the original notes and add new notes to the cassette using the techniques recommended by the manufacturer (*e.g., always physically count the entire strap of notes; use full straps only for easier counting; mark every other full strap to simplify the next fine-counting process; do not overfill the cassettes*). Always verify that the notes match the denomination recorded for that cassette. Set aside the straps to be used when recording the transfer in Step 9.
6. Replace the cassette.
7. Repeat steps 4 through 6 for the remaining cassettes.
8. Close the machine, making sure that the reject bin has also been replaced properly.
9. (If teller activity will resume, perform an “Open” command to raise the lifts and prepare the machine, and reactivate both teller stations. (HINT: The first dispense after the lifts have been down will be a little slower than normal as the feed mechanisms readjust themselves.
10. Use the Teller/Vault Cash Transfers system (see the following page) to record the full amount of cash that was taken from the branch vault and used to replenish the machine.

**\*Special Note:** If your TCD does not use Lutzwolf middleware and it uses the same denomination in more than one cassette, it will be necessary to add the total count from all cassettes with that denomination and match that total against a total of the inventory amounts shown for the TCD in CU\*BASE. For example, if cassettes 4 & 5 both contain \$20 bills, the total of bills in those two cassettes should match the total of the inventory amounts shown for cassette 4 and 5 on the CU\*BASE TCD inventory screen. (This is because if bills were rejected from either cassette, the system has no way to indicate from which cassette they were pulled.) TCDs using Lutzwolf middleware will be able to tell from which cassette the money was taken so you will be able to count cassettes individually.

## Recording the Cash Transfer

The following instructions pertain only to using the cash transfer system to record the restocking of a TCD.

MNHTEL #3 "Teller/Vault Cash Transfers/Inq." - Screen 1

CU\*BASE GOLD - Teller / Vault Cash Transfers

Teller / Vault Cash Transfers

From [ ] To [ ]

Cancel F7  
Inquiry F9

FR (2921) 7/01/08 10:27:55 [Learn About This Feature](#)

To replenish a teller drawer using cash from a TCD, choose **Branch Vault** on the "FROM" side and **Supplemental Vault** on the "TO" side, then use Enter to proceed to the second screen.

Screen 2

CU\*BASE GOLD - Teller / Vault Cash Transfers

Teller / Vault Cash Transfers Branch Vault to Supplemental Vault

From To

Branch vault 01 FRANKENMUTH OFFICE Vault type A = ATM

Transfer amount 300.00 Vault # 032 FREEMAN FRITZ

General Ledger Entries		
	Branch	Account
From credit G/L	01	739.00
To debit G/L	01	739.09

Backup F3  
Post F5  
Cancel F7

FR (2935) 7/09/08 14:44:05 [Learn About This Feature](#)

On the left, enter the branch vault from which the cash will be taken. On the right, choose “C” for TCD and enter the TCD vault ID. Enter the total amount of funds that were counted and placed in the machine. Use Enter to refresh the screen. The screen will show the accounts that will be affected in the General Ledger. When ready, use **F5-Post** to continue to the final screen.

Screen 3

**HINT: F14-Full Status Descr.** will expand the *Status* to show a longer description.

Cart	Denomination	Current Inventory	Transfer Amount	Transfer Amount	Status
1	100.00	40,800.00	0.00	40,800.00	Normal
2	50.00	32,700.00	0.00	32,700.00	Normal
3	20.00	15,860.00	0.00	15,860.00	Normal
4	10.00	6,840.00	0.00	6,840.00	Normal
5	5.00	3,445.00	0.00	3,445.00	Normal
6	1.00	716.00	0.00	716.00	Normal
Totals		100,361.00	0.00	100,361.00	

The final screen is used to define the denominations that were restocked in the TCD. (The “Coins” field will only appear if a coin dispenser has been configured for this TCD. Remember to combine the total coins being replenished in both coin dispensers when entering this total.

Enter the total amount for each denomination (if you have multiple cassettes with the same denomination, take special care to enter the amounts correctly for each cassette). Use Enter as often as needed to recalculate and make sure the total matches the transfer amount at the top of the screen. When ready, use F5-Post again to record the transfer.

---

# SELLING FUNDS FROM THE TCD BACK TO THE VAULT

If it becomes necessary to remove bulk quantities of cash from the TCD (such as if the machine needs repair, is being replaced, or if a cartridge denomination is changing), the Cash Transfers system should be used to sell the money from the TCD back to the branch vault. This can be done without issuing an actual dispense command, so the notes can be taken out manually.

- NOTE: Also follow these directions to sell back the TCR cash to the vault prior to replacing a TCD.

1. First make sure that all teller drawers are in balance and that the TCD Inventory amounts are also in balance (use the Inventory Analysis shown on Page **Error! Bookmark not defined.**).

*HINT: If a teller drawer is out of balance, determine if it relates to TCD activity or not before proceeding with the physical count. Remember teller “over” and “short” amounts when analyzing these situations. Corrections will depend on the reason for the out-of-balance condition. Contact a CU\*BASE Client Service Representative for assistance.*

2. Deactivate both teller stations from the TCD. Perform a “Close” command to lower the lifts.
3. Open the machine and remove the reject cassette. Remove all notes and sort by denomination.

*NOTE: Follow your credit union’s normal procedures for replacing any torn or unusable notes. DO NOT remove any notes from the stack or the inventory will not balance.*

4. Pull out the first cassette to be sold. Remove and count the notes, adding in any notes of that same denomination from the reject cassette, and match the total against the inventory record (see Page **Error! Bookmark not defined.**).

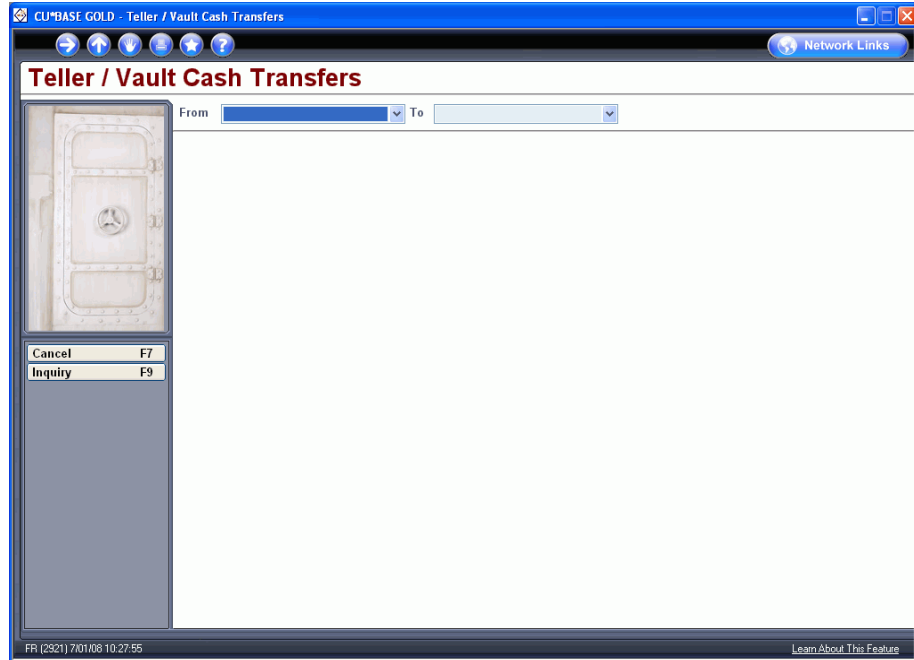
*\*See the **Special Note** on Page 30 if your machine has the same denomination in multiple cassettes.*

5. Replace the empty cassette.
6. Repeat steps 4 and 5 for other cassettes that should be sold.
7. Close the machine, making sure that the reject bin has also been replaced properly (remember to press the green reset button if available).
8. Use the Teller/Vault Cash Transfers system (see the following page) to record the full amount of cash that was taken from the TCD and

returned to the branch vault. Be sure to use the **No Dispense Post** feature to post the transaction so that the machine does not attempt to dispense the bills.

## Recording the Cash Transfer

MNHTEL #3 "Teller/Vault Cash Transfers/Inq." - Screen 1




To sell bulk cash from a TCD, choose **Supplemental Vault** on the "FROM" side and **Branch Vault** on the "TO" side, then use Enter to proceed to the second screen.

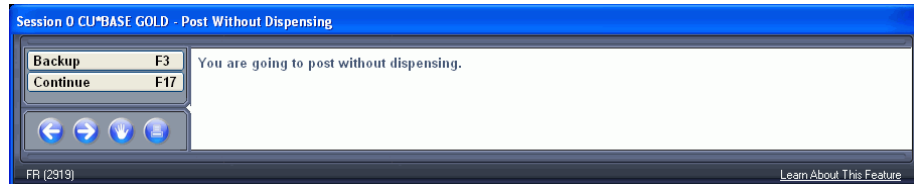
Screen 2

**\*\*IMPORTANT:** Make sure to click this button if you do not want the TCD to attempt to dispense all the cash!



On the left, choose “C” for TCD and enter the TCD vault ID (click the help button  to see a list of your credit union’s configured codes) and the transfer amount. On the right, enter the Branch Vault number that will receive the funds. Use Enter to refresh the screen.

The screen will display the G/L accounts that will be affected by the transfer. When ready, click the **No Disperse Post** button to post the transfer without attempting a dispense from the TCD. A warning/confirmation window will appear:



Use F17-Continue to continue posting without dispensing funds from the TCD.

## TCD "QUICK REFERENCE"

This page is designed to be a quick reference for common teller TCD activity. Refer to previous pages for details.

- Starting the TCD:  
The "Open/Reset"  
Command
1. From the MNHTEL menu, choose #4 "TCD Inquiry and Control."
  2. Select the desired TCD in the list.
  3. Click "Open/Reset"
  4. Select the TCD again and choose "Current Inventory" to check canisters for low notes or errors; restock if necessary
- Halting the TCD:  
The "Close" Command
1. From the MNHTEL menu, choose #4 "TCD Inquiry and Control."
  2. Select the desired TCD in the list.
  3. Click "Close"
- Activating / Disabling the  
TCD for a Workstation
1. From the MNSERV menu, choose #16 "Teller Drawer Control/Inq."
  2. Enter the Teller ID and use Enter.
  3. Use **F13-Device Config** to display the pop-up window shown on Page 10.
  4. Change the *Use Teller Cash Disp Machine* flag (checked or unchecked).
  5. Use Enter to save, then F8-Bypass to exit.
- NOTE: If this workstation is disabled, it will be disabled for any teller using the computer.
- Replenishing a Teller  
Drawer
1. From the MNHTEL menu, choose #3 "Teller Vault Cash Transfer/Inq"
  2. Choose "C" for TCD, enter the TCD vault number and "1" Teller Drawer and press Enter to move to the next screen.
  3. Choose C=TCD and select the vault by using the lookup.
  4. Enter the transfer amount. Use Enter to refresh the screen.
  5. Use F5-Post to continue.
  6. Enter the desired denominations and use Enter to verify the total amount. Use F5-Post to complete the dispense.
- OR
1. From the Teller Drawer Control (MNSERV #16), select F14-Buy from TCD.
  2. Choose "C" for TCD, enter the TCD vault number and "1" Teller Drawer and press Enter to move to the next screen.
  3. Choose C=TCD and select the vault by using the lookup.
  4. Enter the transfer amount. Use Enter to refresh the screen.
  5. Use F5-Post to continue.
  6. Enter the desired denominations and use Enter to verify the total amount. Use F5-Post to complete the dispense.
- Restocking Canisters
1. From the MNHTEL menu, choose #4 "TCD Inquiry and Control."
  2. Select the desired TCD in the list and click "Close."
  3. Open the TCD safe and restock the canisters (one at a time so it is put back in the correct slot; confirm the correct bills are being used).
  4. Close the TCD safe.
  5. From the MNHTEL menu, choose #4 "TCD Inquiry and Control."
  6. Select the desired TCD in the list and click "Open/Reset."

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## APPENDICES

- Appendix A: Troubleshooting Hints
- Appendix B: Status and Error Messages

## APPENDIX A: TROUBLESHOOTING HINTS:

If you are having trouble with the TCD, try these simple tricks first. Also refer to Appendix B (Page 40) for a list of error messages you may see.

- Is the middleware running on the driver PC? Try rebooting the PC to re-establish a connection.
- Check the device configuration for the TCD to verify the workstation ID set up as the “Left” or “Right” workstation. Check the public address and verify that all other settings are correct. See the TCD Configuration Guide for more details.
- Check the device configuration of the workstation to make sure the “Use TCD/TCR” flag has been turned on (for the left or right teller workstation only; this flag should not be checked for workstations that simply purchase bulk cash from the TCD). See Page 12 for details.
- Experience has shown that the TCD will run much more smoothly and experience far fewer problems and down-time if the cassettes are stocked with plenty of bills and are never allowed to run completely out. Establishing a regular schedule of restocking the TCD before bills are low should help you avoid unnecessary trouble.
- Is the power on? Check the TCD to make sure that unit is fully powered on. If needed, power off the dispenser then turn it back on. You should hear the dispenser cycle through. Afterwards, attempt an Open/Reset.
- A special Query (“TCDTRANS”) can be used to check a log of all status and error messages that have occurred on a TCD, to assist with troubleshooting problems. Contact a CU\*BASE representative for assistance.

## APPENDIX B: TCD STATUS AND ERROR MESSAGES (USING LEGACY MIDDLEWARE)

Following are error messages that may appear when dispensing funds. (Codes are similar for other TCD manufacturers.) These messages may also appear in the “Status” column on the TCD inventory screen (shown on Page 5). Notice the numeric codes in front of each message; these codes will be important if a technician is required to service the machine.

### Warning Messages

When these messages appear, the TCD can still be used to dispense cash, but the error should be addressed as soon as possible.

<i>Message</i>	<i>Status Type*</i>	<i>Action</i>
(31) Low notes in notes cassette	W	Indicates that the number of notes remaining is less than 10% of the capacity of the cassette. The TCD will continue to dispense. Replenish the low cassette as soon as possible.
(34) Notes rejected during a dispense	W	Indicates that during a dispense, some notes were rejected into the reject cassette. No action is required.  (If this message is displayed too many times in succession, call for service.)
(44) Reject cassette almost full	W	Indicates that the reject cassette is almost full. The TCD will continue to dispense. As soon as possible, empty the reject cassette. Retain all rejected notes for use the next time a physical cash count is done. (See Page 30.)
(48) High note pressure in cassette	W	Indicates the TCD has detected high pressure in one or more of the feed modules. The TCD will continue to dispense. If the warning persists after several dispense transactions, reset the pusher plat in the cassette of the indicated module(s). If the error still exists, call for service.

### Error Messages

When these messages appear, the TCD has failed and no dispenses will be made. These errors must be addressed before the TCD will function again. In most cases, the first step is to try an “open” command to reset the machine (see Page 37).

If the error cannot be immediately corrected, deactivate both workstations from the TCD so they can continue working from the teller drawer (see Page 37 for instructions.)

<i>Message</i>	<i>Action</i>
(32) Empty notes in cassette	Indicates there is an empty cassette. No dispenses can be made of that denomination. Take funds from the teller drawer to complete the transaction. Replenish the cassette (see Page 30).
(33) Lifts are down	Not applicable for Glory TCDs.
(35) Wrong note count	Indicates that an internal TCD error has occurred. The TCD

<i>Message</i>	<i>Action</i>
	will not accept another transaction. Deactivate the TCD for both workstations (see Page 37) and continue working from the teller drawer. Remove the cassettes and check for bad or jammed notes or broken guides. Reactivate the tellers and try a transaction. If the error still exists, call Glory for service.
(36) Failure to feed notes	Indicates that the TCD has failed to dispense from one or more feed modules on two consecutive tries. Deactivate the TCD for both workstations (see Page 37) and continue working from the teller drawer. Check for jammed notes in the cassettes. Reactivate the tellers and try a transaction. If the error still exists, call Glory for service.
(37) Transmission Error	Indicates that a software transmission error has occurred. Take funds from the teller drawer to complete the transaction. Check the communication cable connections and/or power the equipment off and back on again. Make sure the CD Server software is running on the driver workstation. If the error persists, call Glory for service.
(38) Illegal command	Indicates that commands sent to the TCD are undefined or out of sequence or were sent in the wrong format. Take funds from the teller drawer to complete the transaction. Power the equipment off and back on again. Make sure the CD Server software is running on the driver workstation. If the error persists, call Glory for service.
(39) Double detect sensor malfunction	Indicates that an internal TCD error has occurred. Deactivate the TCD for both workstations (see Page 37) and continue working from the teller drawer. Check for jammed notes in the cassettes, reactivate the tellers and try again. If the error persists, call Glory for service.
(3A) Feed cassette not properly installed	Indicates that one or more of the cassettes is not properly installed. Take funds from the teller drawer to complete the transaction. Check the TCD to verify that all note cassettes are present and inserted properly. Remove and reinsert the cassettes and try another transaction. If the error persists, call Glory for service.
(3D) Cleaning fingers failure	Indicates that an internal TCD error has occurred. Take funds from the teller drawer to complete the transaction. Make sure all notes are removed from the delivery slot. If the error persists, call Glory for service.
(3F) Reject cassette not properly installed	Indicates that the reject cassette has not been properly installed. Take funds from the teller drawer to complete the transaction. Verify that the reject cassette is present and inserted properly. Try removing and reinstalling the cassette. If the error persists, call Glory for service.
(41) Reject failure	Indicates that the TCD has detected an internal error. The TCD will not dispense. Deactivate the TCD for both workstations (see Page 37) and continue working from the teller drawer. Check for jammed notes in the cassettes or delivery slot. Reactivate the tellers and try a transaction. If the error persists, call Glory for service.
(42) Too many notes requested	This indicates that a transaction was requested that requires more notes than will fit through the throat on a single dispense. For a member dispense, take funds from the teller drawer to complete the transaction. For a bulk cash purchase from the TCD, repeat the transaction requesting fewer notes. <b>Check the bundle size recorded on the supplemental vault configuration.</b>
(43) Too many notes on conveyor	Indicates that the TCD has detected an internal error. Take funds from the teller drawer to complete the transaction. Check the TCD for jammed notes. If the error persists, call Glory for service.
(45) Illegal cassette number	Indicates that an internal TCD error has occurred. The ID number for one of the note cassettes cannot be read. Check

<i>Message</i>	<i>Action</i>
	the connector on the bottom of the cassette for damage. Replace the cassette with a spare of the same denomination. If a spare is not available, call Glory for service.
(46) Main motor failure	Indicates that an internal TCD error has occurred. Take funds from the teller drawer to complete the transaction. Check the TCD for jammed notes. If the error persists, call Glory for service.
(49) Double detect gain on limit	Indicates that an internal TCD error has occurred. Take funds from the teller drawer to complete the transaction and deactivate both tellers. Power off the TCD and then power it back on. If the error still exists, call Glory for service.
(4A) Feeder sensor fail	Indicates that an internal TCD error has occurred. Take funds from the teller drawer to complete the transaction. Power off the TCD and then power it back on. If the error persists, call Glory for service.
(4D) Notes in delivery throat	Indicates that a dispense was attempted while notes are being detected in the delivery slot for over one minute. Take funds from the teller drawer to complete the transaction. Check the delivery slot for notes. If notes cannot be found, the sensors may be out of adjustment or damaged. Call Glory for service.
(4E) Communications error	Indicates that a software error or internal TCD error has occurred. Check the communication cable connections. Verify that the CD Server software is running on the driver PC. If the error persists, call Glory for service.
(50) Note cassettes may have been changed	Indicates that the cassette ID and locations in the TCD cannot be recognized. Power off the TCD and then power it back on. If the error persists, call Glory for service.
(51) Reject cassette full	Indicates that the reject cassette has become full. The TCD will not dispense. Take funds from the teller drawer to complete the transaction. Empty the reject cassette, then try again.
(5C) Sensor error or sensor covered	Indicates a non-successful operation status from a sub unit. If the error persists, call Glory for service.

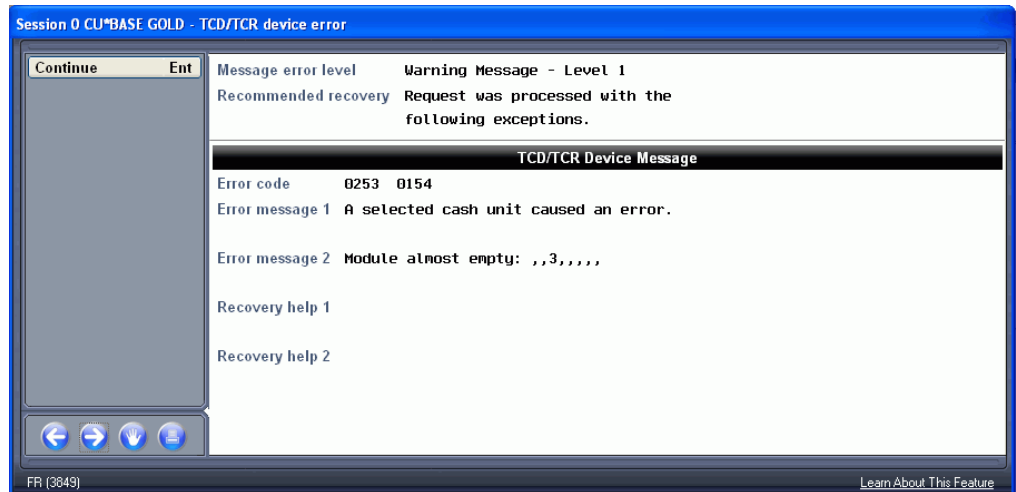
\*Status Types (used by technicians when troubleshooting):

- O = Operator recoverable
- F = Fatal
- S = Soft, recoverable
- R = Retry-able fatal
- W = Warning

## APPENDIX C: TCD STATUS AND ERROR MESSAGES (USING NEW LUTZWOLF MIDDLEWARE)

Following are error messages that may appear when dispensing funds from a TCD. Notice the numeric codes in front of each message; these codes will be important if a technician is required to service the machine. The first digit represents the error level (see below), which is followed by a space, then the error number, followed by error text. The error messages come directly from the machine and will be unique for individual machine models. When warning messages appear, the TCD will still function, but the error should be addressed as soon as possible. An error message must be addressed before the TCD will function again. In most cases, the first step is to issue a reset command to reset the machine. If the error cannot be immediately corrected, deactivate both workstations from the TCD so that they can continue working from the teller drawer.

When a device error occurs, a window will pop-up listing the details of the error, as with the example below:



### Error Message Levels and Actions to be Taken

<i>Error Level</i>	<i>Action to be taken</i>
Level 1	<p>Level 1 messages are warning messages and will not prohibit the machine from working, but should be addressed. Can be addressed later in the day.</p> <p><b>Example:</b> Cassette is almost empty or almost full</p> <p><b>Remarks:</b> This is a typical example of an error with a level one (1) warning. The teller has to empty or fill the cassettes in question in the near future. After the issue is resolved, make sure you perform an “Open/Reset.”</p>
Level 2	<p>Error: Level 2 messages are error messages and can stop the machines from working correctly. The head teller should be notified and the error should be corrected as quickly as possible.</p> <p><b>Example:</b> A cassette is empty.</p> <p><b>Remarks:</b> This is an example of a level two (2) warning. The cassette will need to be refilled before that denomination (or cassette of denomination) can be dispensed. After the issue is resolved, make sure you perform an “Open/Reset.”</p>

Level 3	<p>Fatal error: Level 3 messages are fatal messages that indicate that the machine is no longer functional. The tellers should balance the machine and contact technical support for further troubleshooting assistance.</p> <p><b>Example:</b> Hardware errors</p> <p><b>Remarks:</b> These are typically errors with a level three (3)—fatal. The teller can try to reinitialize the machine, but if this does not help, then the teller should call a service technician. After the issue is resolved, make sure you perform an “Open/Reset.”</p>
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