

ON-LINE SAVINGS SYSTEM

featuring the

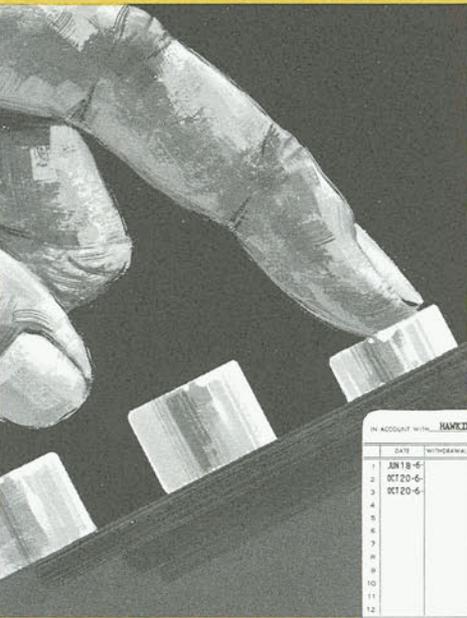
NCR 315

with

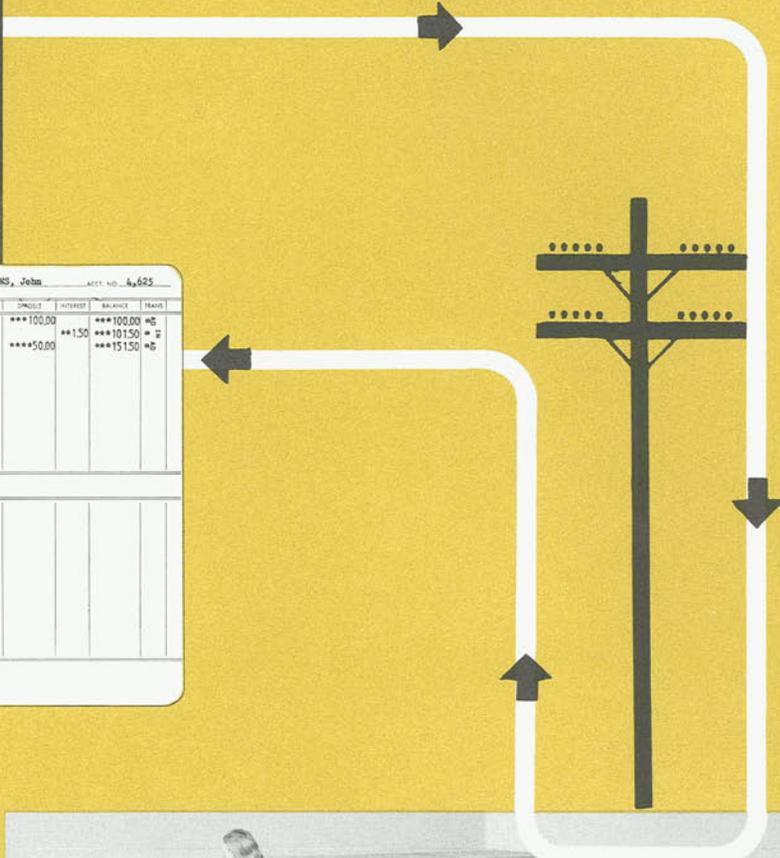
CRAM

Card Random Access Memory

NCR LINKS TELLER



IN ACCOUNT WITH: HAWKINS, John		ACCT. NO. 4,625			
DATE	WITHDRAWAL	DEPOSITS	INTEREST	BALANCE	TRANS.
1 JAN 18-6		***100.00		***100.00	06
2 OCT 20-6		**150		***101.50	06
3 OCT 20-6	***50.00			***151.50	06
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WITH COMPUTER...

NCR ANNOUNCES...

A system that links teller with computer...



New savings system places Window Posting Machines "on-line" with the NCR 315 Computer.

Proven NCR Class 42 Savings Machines and unique 315 Computer now serve as a team to speed the flow of savings transactions.

- Passbook is posted under Computer Control.
- Customer's ledger record is updated electronically on unique CRAM (Card Random Access Memory) files at same time passbook is posted.
- Branches have same "on-line" access to Computer files as main office.
- Complete Audit-trails and controls are maintained.
- Interest calculations and posting to both passbook and electronic files are accomplished automatically.



Investigation is the pathway to increased efficiency...
call your nearby NCR representative to learn more about this revolutionary new system.

THE NATIONAL CASH REGISTER COMPANY, Dayton 9, Ohio
1639 OFFICES IN 121 COUNTRIES • 77 YEARS OF HELPING BUSINESS SAVE MONEY

NCR National
ELECTRONIC DATA PROCESSING
ADDING MACHINES • CASH REGISTERS
ACCOUNTING MACHINES
NCR PAPER (NO CARBON REQUIRED)

THIS BROCHURE takes you on a tour through the National ON-LINE System. As you will see, National has again provided a practical approach to data processing...incorporating those things that are time-tested and proved from yesterday's system ...and employing the latest from the electronic age of today ...thus, providing an integrated system that meets all the requirements of tomorrow.

On May 26, 1961

**the announcement shown here
appeared in the
AMERICAN BANKER
magazine:**

HISTORICALLY this announcement can be classified as the most important release in the field of data processing in the past decade.

SPECIFICALLY this means that your tellers can now have...at their finger-tips... the finest on-line computer system on the market today—the NCR 315 Electronic Data Processing System.

IN THE PAST computers have been used as "back-office" systems. In effect, they were mysterious electronic machines which did nothing to aid the teller...and which did nothing to control transactions as they occurred.

NOW with NCR ON-LINE System, the computer becomes an electronic tool which processes every transaction, from the time it occurs until the final report is prepared.

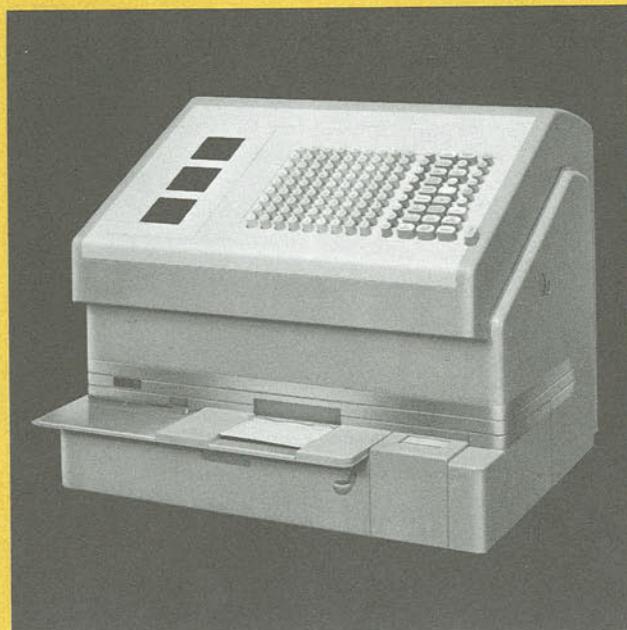
the TELLER

uses a time-tested and proved savings machine...

the CLASS 42 window posting machine

Thousands of these machines are currently in use... bank personnel are familiar with its unique features and simplicity of operation... and millions of pass-books, printed on these highly versatile machines, are currently in the hands of bank customers.

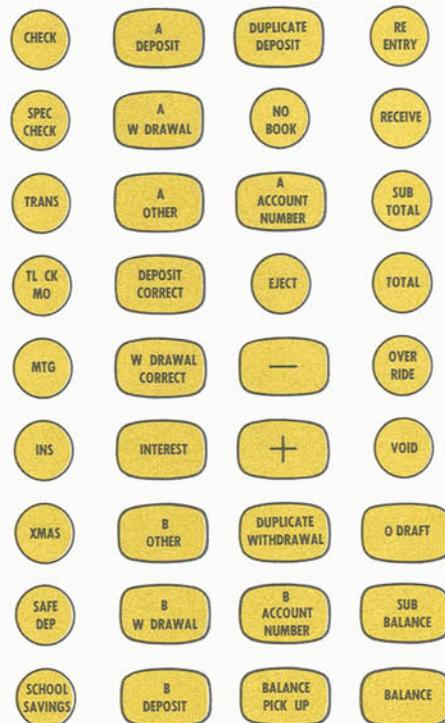
Consequently, tellers are not required to go through a completely new re-training program... new pass-books do not have to be issued... and none of the valuable controls inherent to the Class 42 need to be sacrificed.



the CONSOLE KEYBOARD

With the NCR ON-LINE System, each teller has his own computer console. Even though the computer might be located miles away, it serves the teller just as though it were housed at his window.

The Class 42 Console is the same keyboard with which most bank tellers are familiar. Only a few additional lights and keys have been added to simplify and speed the teller's communication with the computer... and the computer's communication with the teller.



the COMPUTER

employs a revolutionary new EDP concept...



MEET CRAM!

CARD RANDOM ACCESS MEMORY

CRAM (CARD RANDOM ACCESS MEMORY)

Basically, you may visualize a reel of magnetic tape cut into 1,792 strips, and that these short strips (called tracks) are assembled onto especially designed Random Access Cards. 256 magnetic cards ... each containing seven tracks ... are housed in an interchangeable cartridge. Up to 16 CRAM units can be placed on-line with the central processor. The notchings on the top edge of each card permit random selection of any card in approximately 200 milliseconds (1/5th of a second)—thus providing an unequaled degree of versatility for bank data processing.

Up to 600 Savings Accounts can be stored on a single card ... up to 150,000 per cartridge.

Here's how a

DEPOSITED IN
NATIONAL SAVINGS BANK
ANYWHERE, U.S.A.

CURRENCY	50	00
SILVER		
CHECKS		
TOTAL	50	00

TO CREDIT OF
NAME JOHN HAWKINS
ADDRESS 1404 PARK PLACE
ACCOUNT NO. 4,625
DATE OCT 20 6-

X-1076-67-10-6-59-THE N.C.R. CO.



the TELLER...

- The teller introduces the OLD BALANCE, the AMOUNT OF THE TRANSACTION, and the ACCOUNT NUMBER into the system.
- The introduction of the Account Number, in effect, says to the computer, "that's all the data I have, you take over."

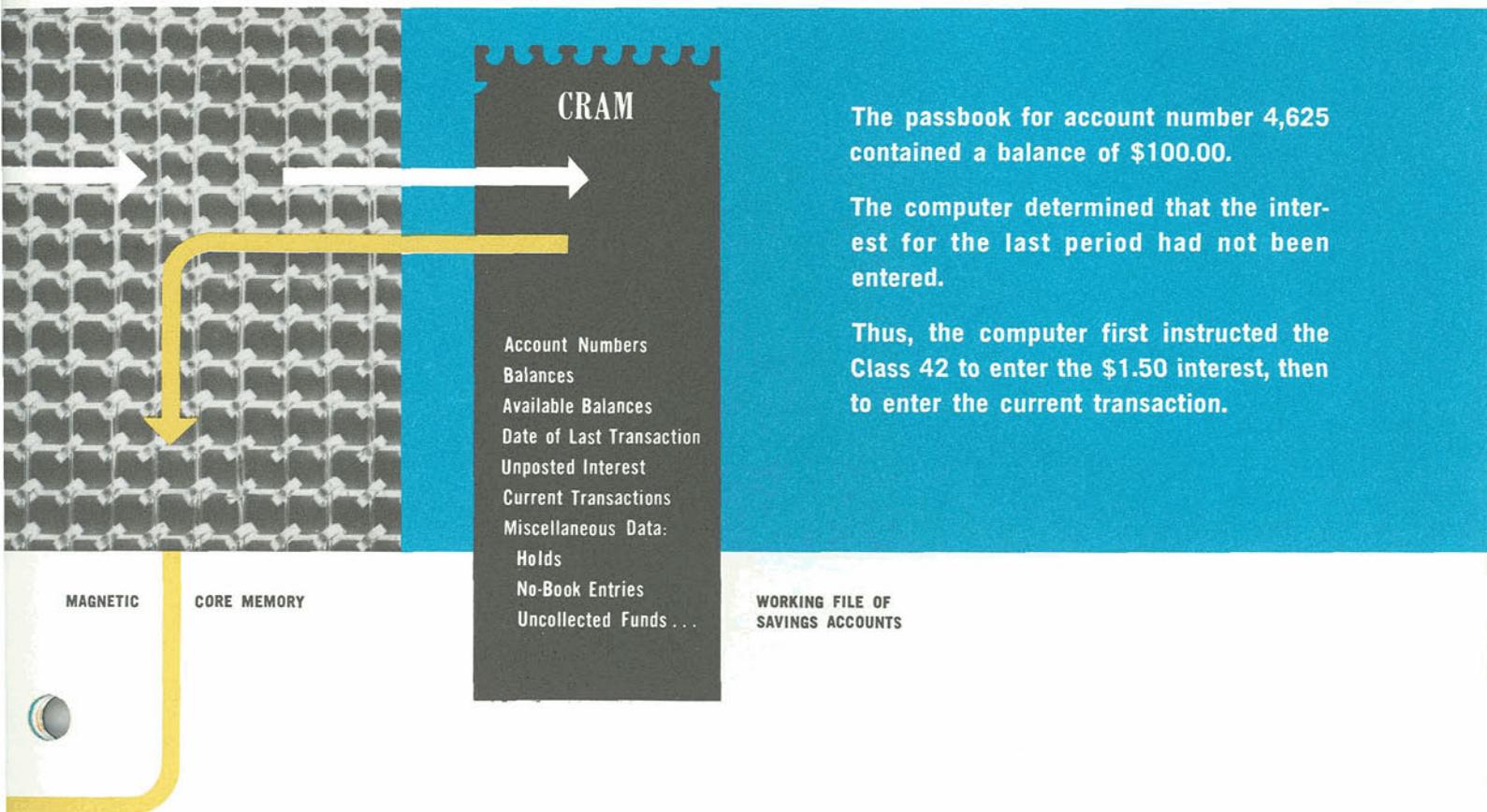
IN ACCOUNT WITH HAWKINS, John ACCT. NO. 4,625

	DATE	WITHDRAWAL	DEPOSIT	INTEREST	BALANCE	TRANS
1	JUN 18-6-		***100.00		***100.00	DB
2	OCT 20-6-			**1.50	***101.50	DB
3	OCT 20-6-		***50.00		***151.50	DB
4						
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DB	100.00
AD	50.00
#	46.25
IN	1.50
	101.50 SUB
DB	50.00
	151.50 BAL
DB	225.00
AN	15.00
#	21.55
AT	15.00
	210.00 BAL
DB	556.35
BD	215.00
#	56.24
IN	15.50
	571.85 SUB
BD	215.00
	786.85 BAL
DB	25.00
AD	10.00
#	22.45
AD	10.00
	35.00 BAL

All this is accomplished in less than 15 seconds

typical transaction is handled...



The passbook for account number 4,625 contained a balance of \$100.00.

The computer determined that the interest for the last period had not been entered.

Thus, the computer first instructed the Class 42 to enter the \$1.50 interest, then to enter the current transaction.

the COMPUTER...

- The computer selects the proper CRAM card containing Account Number 4,625 and reads the data into memory.
- The computer then goes through a series of tests wherein it asks certain questions... and makes certain decisions...
 - Does the Account Balance entered by the teller agree with the balance just read-in from CRAM? If not, why not?
 - Has the interest been posted to the passbook?
 - Have all "no-book" transactions been posted to the passbook?
 - If this is a withdrawal, are there any holds, or uncollected funds to be considered?
- Once these tests... and others... have been satisfied, the computer sends a message back to the Class 42 to update the passbook. That is, all previously unposted entries will be entered automatically and then the current transaction will be entered.
- While the Class 42 is completing the posting to the customer's passbook, the computer will store the account number and amount of the transaction on another CRAM card... and will update the customer's record stored on the "waking file."
- As the passbook is posted, and the new balance automatically printed, the Class 42 will accumulate the necessary individual teller totals and record the entries on the Class 42 Audit Journal.

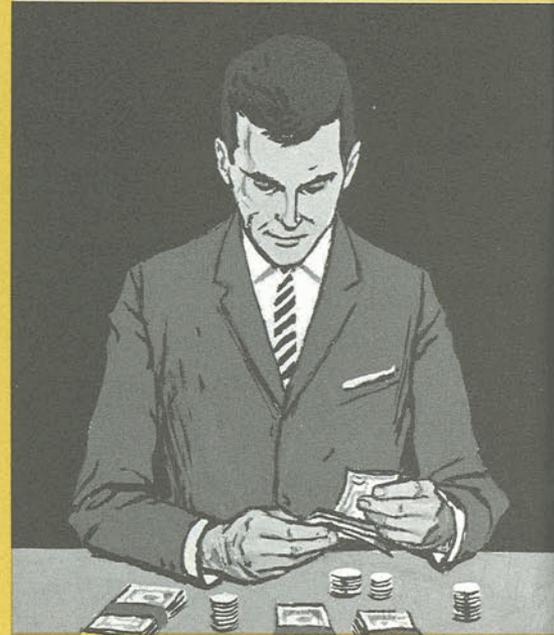
Here's what happens after the last window transaction

the TELLER

TELLER SUB-TOTALS CONSOLE . . . All totals in the Class 42 are under complete "lock-control" of the Auditor. The teller merely sub-totals the console . . . this causes each control total to be printed on a Teller's Settlement Report, as well as on the Audit-Journal.

The Audit-Journal, which is also under "lock-control," becomes a complete chronological record of every transaction handled on the Class 42, as well as a complete record of all communication between the teller and the computer.

AUDIT PERSONNEL will then clear the control totals and remove the audit-journal. This means that all of the protective features and audit-controls, which have always been part of your savings procedures, are built into the NCR On-Line System.



TELLER'S SETTLEMENT REPORT

DAILY CONTROL STATEMENT

LINE	ITEMS	DATE	NET	MACHINE TOTALS
1	A—DEPOSIT	OCT20		* 23,606.47 828
2	B—DEPOSIT	OCT20		* 21,865.02 828
3	DEPOSIT CORRECTION	OCT20		* .00 828
4	NET DEPOSIT			* 45,471.49 *
5				
6	A—WITHDRAWAL	OCT20		* 7,809.88 828
7	B—WITHDRAWAL	OCT20		* 7,739.99 828
8	WITHDRAWAL CORRECTION	OCT20		* .00 828
9	NET WITHDRAWAL			* 15,549.87 *
10				
11				
12				
13	A—OTHER RECEIPTS	OCT20		* 16.37 828
14	B—OTHER RECEIPTS	OCT20		* 63.02 828
15	TOTAL			* 79.39 *
16				
17	INTEREST CREDITED	OCT20		* 1,616.60 828
18				
19	DUP. PROOF	OCT20		* 520.24 828
20				
21				
22				

CLASS 42 AUDIT JOURNAL

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8  OB      100.00
8  AD      50.00
8  #       46.25
8  IN      1.50
8  IN     101.50 SUB
8  AD      50.00
8  AD     151.50 BAL
8  OB     225.00
8  AW      15.00
8  #       21.55
8  AW      15.00
8  OB     210.00 BAL
8  OB     556.35
8  BO     215.00
8  #       56.24
8  IN      15.50
8  IN     571.85 SUB
8  BO     215.00
8  BO     786.85 BAL
8  OB     25.00
8  AD     10.00
8  #       22.45
8  AD     10.00
8  BO     35.00 BAL
    
```

CHRONOLOGICAL
RECORD OF EVERY
TRANSACTION HANDLED
BY THE TELLER

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Z 18 AD 23,606.47 Z
Z 18 BO 21,865.02 Z
Z 8  XD .00 Z
Z 8  45,471.49 Z
Z 18 AW 7,809.88 Z
Z 18 BW 7,739.99 Z
Z 8  XW .00 Z
Z 8  15,549.87 Z
Z 18 AO 16.37 Z
Z 18 BO 63.02 Z
Z 8  79.39 Z
Z 18 IC 1,616.60 Z
Z 8  DP 520.24 Z
    
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CONTROL TOTALS

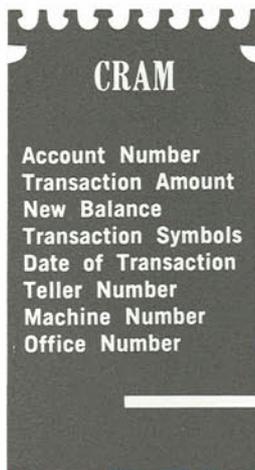
for the day has been processed...

the COMPUTER

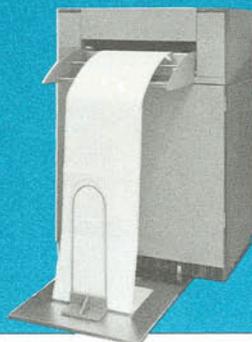
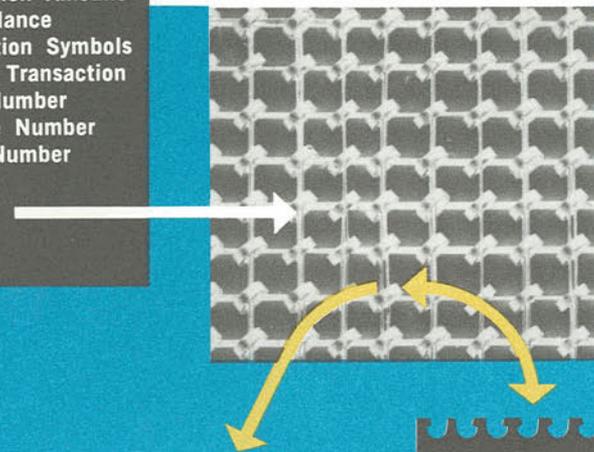
WHILE THE TELLERS ARE COUNTING THEIR CASH the computer will read into memory all of the day's transactions which it has stored on CRAM cards... up to 1,250 transactions per card.

As the data is read into memory, a complete chronological audit-trail will be printed out. This will be accomplished at the rate of 900 lines per minute... 1,800 transactions in only two minutes. This report is a printed sequential "diary" of the day's transactions. Upon request, the computer will also provide a printed chronological listing for any or all window machines, in the exact order that the transactions were handled by each teller.

Also, the computer will sort all the transactions into account number order... and will record the sorted data onto other CRAM cards. This, then, becomes an electronic file of all the current day's transactions in account number order.



CHRONOLOGICAL RECORD OF EVERY TRANSACTION HANDLED BY THE COMPUTER



TODAY'S TRANSACTIONS IN ACCOUNT NUMBER ORDER

COMPLETE CHRONOLOGICAL AUDIT-TRAIL

BRANCH	MACHINE NUMBER	TELLER	ACCOUNT NUMBER	TYPE OF TRANS.	TRANS. AMOUNT	NEW BALANCE
21	6	A	21,641	1	45.00	1,265.00
16	2	A	16,804	3	5.45	
				1	100.00	865.12
8	10	B	8,232	4	45.00	95.75
8	14	A	11,394	2	80.00	291.00
4	8	A	4,625	3	1.50	
				1	50.00	151.50
11	1	B	9,941	5	25.00	80.00
3	3	B	12,444	4	100.00	
				1	100.00	10,645.75
1	2	A	2,395	2	60.00	321.00
4	9	A	4,109	1	5.00	5.00

CONTROL TOTALS FOR ALL TELLERS

DEPOSITS	104,692.40	
DEPOSIT CORRECTIONS	10.15 -	
NET DEPOSITS		104,682.25
DUPLICATE PROOF	1,180.60	
WITHDRAWALS	48,210.20	
WITHDRAWAL CORR.	8.40 -	
NET WITHDRAWALS		48,201.80
NET INCREASE		56,480.45
INTEREST CREDITED	12,802.21	

all accomplished in less than 5 minutes a day...

in less time than it normally takes a teller to count his cash.

Here's how the daily trial balance

Using the CRAM cards containing the current transactions in account number order and the CRAM cards containing the Master File, the 315 computer accomplishes a number of updating and printing functions . . . all in one automatic operation.

- As each account number from the Master File is read into memory it is compared with the Current Transactions which have previously been read into

memory. If there is no activity, the account number and amount are printed on the Trial Balance Report. If there is activity, the balance is updated, and then printed on the Trial Balance.

- The data from the Master File and the data from the Current Transaction File are merged and posted onto the Master File. This provides a permanent, unchangeable, electronic historical record for each

All this is accomplished in a fraction of the time formerly required to run an old and new balance proof of posting . . . and it is done automatically!



DAILY TRIAL BALANCE

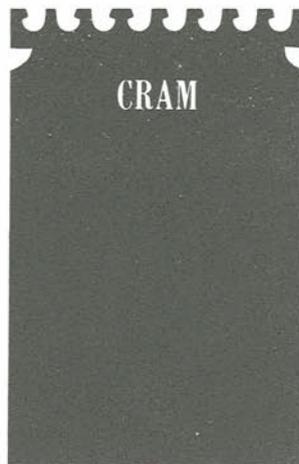
BRANCH NO. 4

ACCT. NO.	DATE OF LAST ENTRY	BALANCE	ACCT. NO.	DATE OF LAST ENTRY	BALANCE	ACCT. NO.	DATE OF LAST ENTRY	BALANCE	ACCT. NO.	DATE OF LAST ENTRY	BALANCE
4,001	6 21 6-	1,265.00	4,002	1 12 5-	16.10	4,003	10 11 6-	8.40	4,004	3 2 6-	1,681.00
4,005	4 8 6-	10.81	4,006	8 12 6-	129.84	4,007	1 17 6-	21.65	4,008	8 1 6-	943.00
4,009	2 12 6-	450.00	4,010	2 1 6-	4,325.00	4,011	1 17 6-	840.00	4,012	2 11 6-	45.00
4,013	9 15 5-	25.50	4,014	7 27 6-	500.00	4,015	1 17 6-	8,500.00	4,016	10 1 6-	250.00
4,017	2 11 6-	5.00	4,018	6 30 6-	250.10	4,019	6 2 6-	645.50	4,020	10 12 6-	5.00
4,021	5 12 6-	2,000.00	4,022	10 1 6-	10.00	4,023	9 30 6-	3,500.00	4,024	10 12 6-	150.00
4,025	7 4 6-	15.45	4,026	10 1 6-	7.50	4,027	8 21 6-	295.25	4,028	3 1 6-	100.25
4,029	7 6 6-	725.38	4,030	9 14 6-	2,345.82	4,031	8 19 6-	5.00	4,032	9 16 6-	8,126.93
4,033	8 4 6-	100.00	4,034	8 1 5-	84.50	4,035	2 22 6-	435.65	4,036	7 14 6-	800.00
4,037	8 4 6-	15,650.00	4,038	4 2 6-	12.95	4,039	1 2 5-	100.00	4,040	2 1 6-	5.50
4,041	8 11 6-	10.50	4,042	7 1 6-	825.93	4,043	2 12 5-	4,855.55	4,044	1 2 6-	210.00
4,045	9 2 6-	333.00	4,046	7 28 6-	720.00	4,047	3 18 6-	5.00	4,048	7 12 6-	405.25
4,049	9 1 6-	5.00	4,050	9 12 6-	7,255.55	4,051	9 30 6-	150.00	4,052	2 1 6-	12,500.00
4,053	1 4 6-	810.10	4,054	4 12 6-	11.23	4,055	8 30 6-	150.00	4,056	12 1 5-	3,350.00
4,057	6 19 6-	905.05	4,058	3 31 6-	5.00	4,059	2 12 6-	825.25	4,060	3 1 6-	15.55
4,061	1 2 6-	3,333.00	4,062	3 1 6-	85.50	4,063	6 18 6-	75.00	4,064	8 12 6-	8.43
4,065	1 3 6-	25.25	4,066	7 2 6-	135.35	4,067	9 12 6-	9.10	4,068	8 28 6-	211.00
4,069	7 21 6-	750.50	4,070	5 30 6-	7,555.00	4,071	2 20 6-	500.00	4,072	8 28 6-	425.10
4,073	8 2 5-	9.00	4,074	2 27 6-	88.88	4,075	3 31 6-	6,210.50	4,076	1 2 6-	2,500.00
4,077	3 14 5-	310.10	4,078	3 1 6-	624.08	4,079	3 1 6-	2,000.00	4,080	1 12 6-	1,115.55
4,081	9 10 6-	45.21	4,082	3 1 6-	5.00	4,083	2 12 6-	7.75	4,084	3 8 6-	12.50
4,085	8 7 6-	9,500.00	4,086	3 17 6-	394.73	4,087	9 11 6-	985.50	4,088	10 1 6-	333.33
4,089	10 14 6-	5.00	4,090	9 1 6-	5.00	4,091	10 1 6-	15.00	4,092	9 21 6-	432.25
4,093	10 1 6-	435.24	4,094	8 30 6-	875.45	4,095	1 11 6-	645.45	4,096	7 14 6-	22,845.32
4,097	2 1 6-	202.25	4,098	2 21 6-	200.00	4,099	2 18 5-	12.50	4,100	7 14 6-	555.55
4,101	7 4 6-	5.00	4,102	10 12 6-	675.50	4,103	3 1 6-	5.00	4,104	3 1 6-	1,875.00
4,105	3 19 6-	12.85	4,106	1 12 6-	5.00	4,107	9 1 6-	8,245.45	4,108	2 12 6-	5.00
4,109	2 27 6-	5.00	4,110	4 2 5-	2,555.50	4,111	8 12 6-	1,000.00	4,112	2 18 6-	632.45

is created...

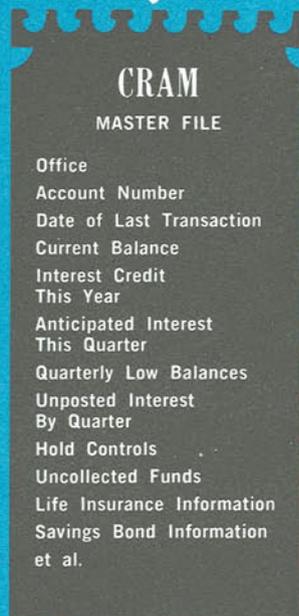
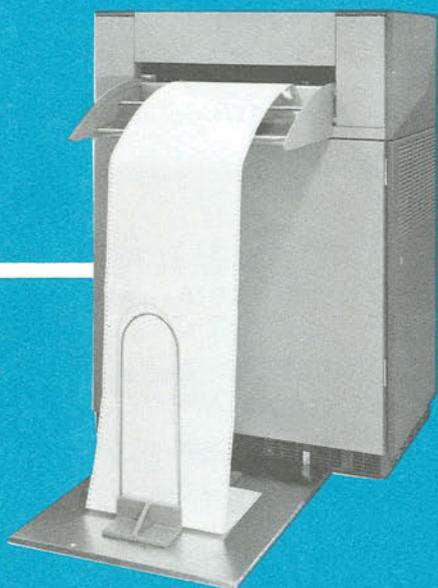
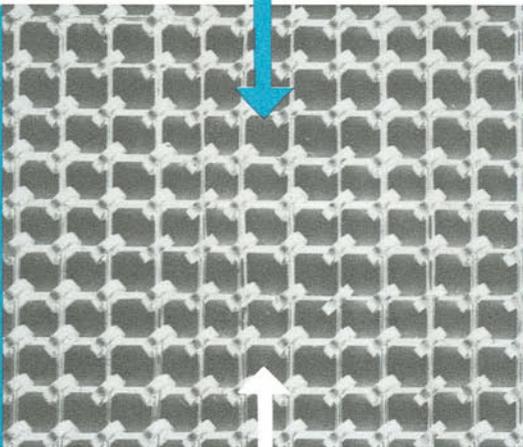
savings account, by branch.

- Statistical data can be generated and printed on the Trial Balance Report... or on separate reports. For example, a report of all significant balance changes can be prepared... a report of all accounts with "hold" conditions can be created... a report of activity by branches, showing weekly, monthly, and yearly comparisons can be developed...



TODAY'S TRANSACTIONS IN
ACCOUNT NUMBER ORDER
BY BRANCH

TRIAL BALANCE FOR
100,000 ACCOUNTS
IS PRINTED IN LESS THAN
30 MINUTES



THIS FILE IS AN
ELECTRONIC HISTORY RECORD OF
EVERY ACCOUNT BY BRANCH

Entire contents of a single
CRAM cartridge can be copied
onto another deck of CRAM
cards in less than four minutes.

Here are the answers to some of the



Q What would happen if all the tellers attempted to communicate with the computer at the same time?

A If 60 tellers would depress the account number keys on their consoles at the exact same time, it would take 20 seconds to complete the 60th teller's transaction.

Q What happens if the computer is "down" for a period of time — for example, if there is a power failure in the computer room?

A The teller merely sub-totals his Class 42 console and continues to use it off-line as a conventional window posting machine.

When the computer is back "on-the-air," the teller again sub-totals the Class 42 console and then operates "on-line."

At the end of the day, the teller merely re-enters each of the transactions that occurred off-line. Thus, the teller brings

questions you are probably asking...



the computer up to date regarding the transactions that occurred during the time they were not working as a team. And, any previously unposted passbook transactions which did not get entered during the off-line period will be remembered by the computer so they can be posted to the passbook the next time it is active.

Q How far away from the tellers' windows can the computer be located?

A The computer can be located in the same building... or it can be located miles away.

When the computer is in the same building with the tellers, it is cable-connected to the Class 42 machines. In other cases, private telephone lines are used.

Even though Banks do not normally have branches located hundreds of miles apart, it is possible to communicate to or from any point in the United States where telephone lines are available.

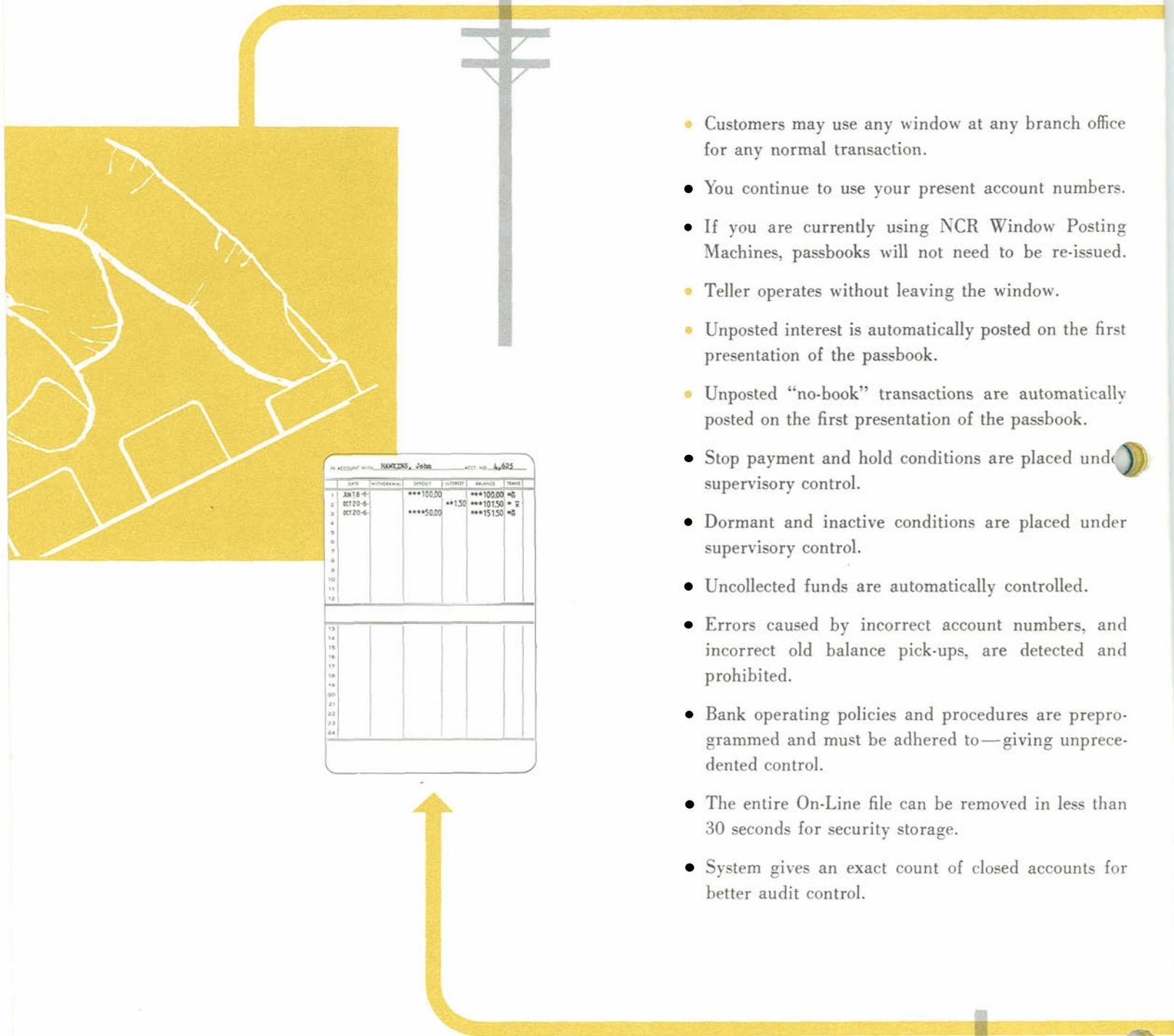
Q Will we need to re-assign account numbers?

A No... your existing numbering system need not be changed. This means you can make the transition to ON-LINE Accounting without inconvenience to your customers, and without disrupting your present signature and reference files.



IN SUMMARY, here are some of the

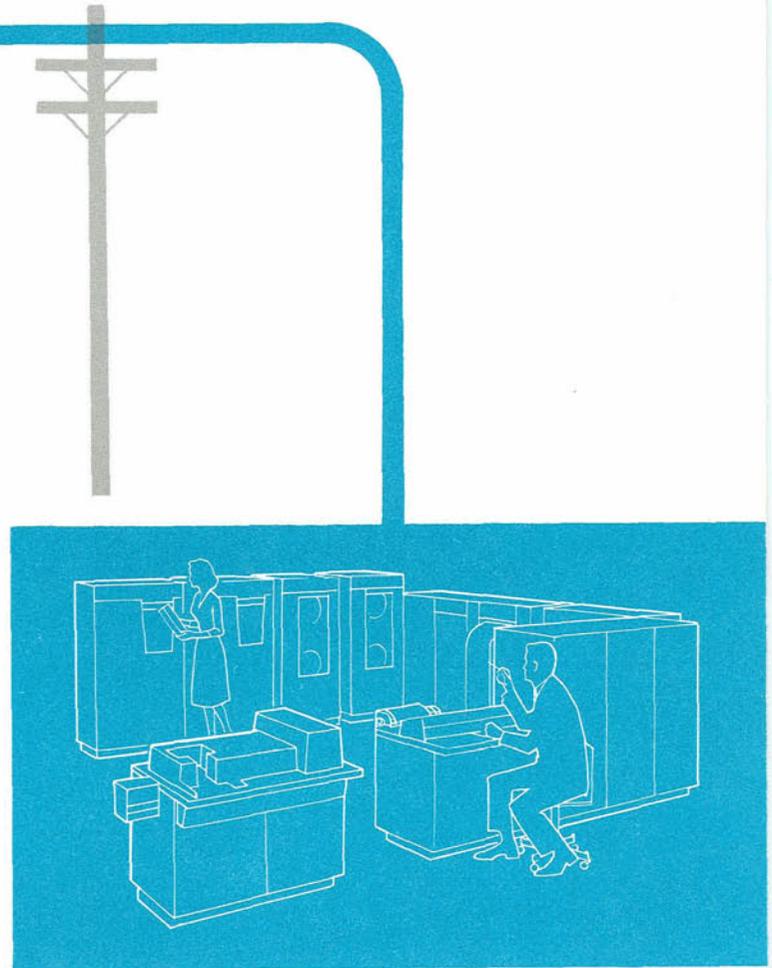
- Customers may use any window at any branch office for any normal transaction.
- You continue to use your present account numbers.
- If you are currently using NCR Window Posting Machines, passbooks will not need to be re-issued.
- Teller operates without leaving the window.
- Unposted interest is automatically posted on the first presentation of the passbook.
- Unposted “no-book” transactions are automatically posted on the first presentation of the passbook.
- Stop payment and hold conditions are placed under supervisory control.
- Dormant and inactive conditions are placed under supervisory control.
- Uncollected funds are automatically controlled.
- Errors caused by incorrect account numbers, and incorrect old balance pick-ups, are detected and prohibited.
- Bank operating policies and procedures are preprogrammed and must be adhered to—giving unprecedented control.
- The entire On-Line file can be removed in less than 30 seconds for security storage.
- System gives an exact count of closed accounts for better audit control.



IN ACCOUNT WITH		NAME		ACCT. NO.	
		NUMBERS		John	
DATE	WITHDRAWAL	DEPOSIT	INTEREST	BALANCE	TRANS.
1	JAN 18 -6	***100.00		***100.00	#B
2	OCT 20 -6		**1.50	***101.50	#E
3	OCT 20 -6	***50.00		***151.50	#E
4					
5					
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advantages provided by the NCR ON-LINE system...

- Errors caused by incorrect interest or "no-book" updatings are eliminated... computer performs these functions automatically.
- Floor space requirements on banking floor are reduced... ledger files and reference files are eliminated.
- Provides greater efficiency in lobby organization... reduces number of special windows... and teller can handle all of a customer's banking transactions.
- Teller's balancing totals are always available from the Class 42 Console.
- Computer retains a complete chronological list of all daily transactions for all machines.
- Class 42 Console operates on-line or off-line.
- Tellers are familiar with the Class 42... little additional training is required.
- Class 42 is time-tested and proved... thousands now in use.
- Maintenance and service are of the highest quality... provided through your nearby NCR office.
- NCR representatives are trained systems consultants... NCR has been a leader in the manufacture of machines, and the development of systems, for banks for more than 40 years.



INVESTIGATION IS THE PATHWAY TO INCREASED EFFICIENCY... DO IT TODAY!

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