



General Information Manual

RAMAC 305 for Installment Loan Accounting

IBM General Information Manual RAMAC 305 for Installment Loan Accounting

We wish to acknowledge the assistance of officers and representatives of the Worcester County Trust Company, of Worcester, Massachusetts, and the Central Penn National Bank, of Philadelphia, who kindly assisted us in developing this unusual application of Installment Loan Accounting for the IBM RAMAC 305.

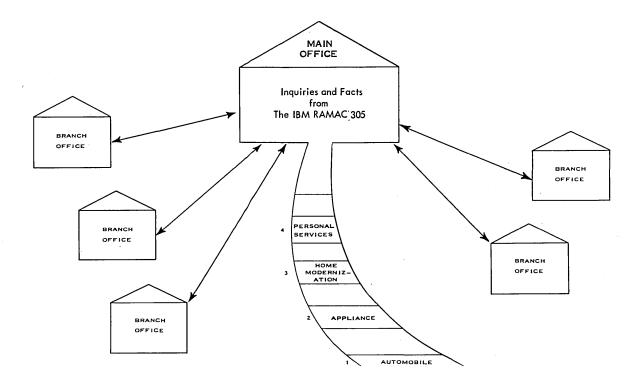
RAMAC 305 FOR INSTALLMENT LOAN ACCOUNTING

INTRODUCTION

Installment loans in today's banking organization are generally classified as (1) automobile, (2) appliance, (3) home modernization, and (4) personal services, such as dental and medical.

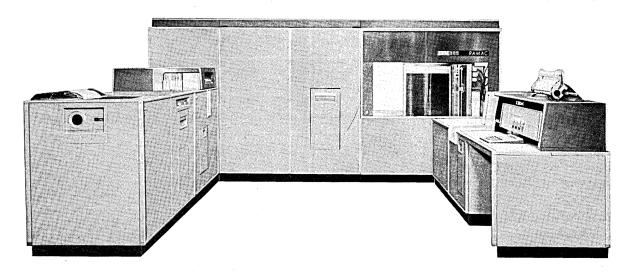
For purposes of illustrating a 305 RAMAC approach to installment loans, a medium-size commercial bank will be assumed. This institution might maintain a main office and a number of branches. Its loan applicants could process their loan requests through dealers, or seek loans direct through either the main office or its branches.

To assist in determining process times by means of disk storage, a volume of 25,000 installment loan accounts has been shown. It should be mentioned, however, that RAMAC could store and process a considerably larger record system.



WHY RAMAC?

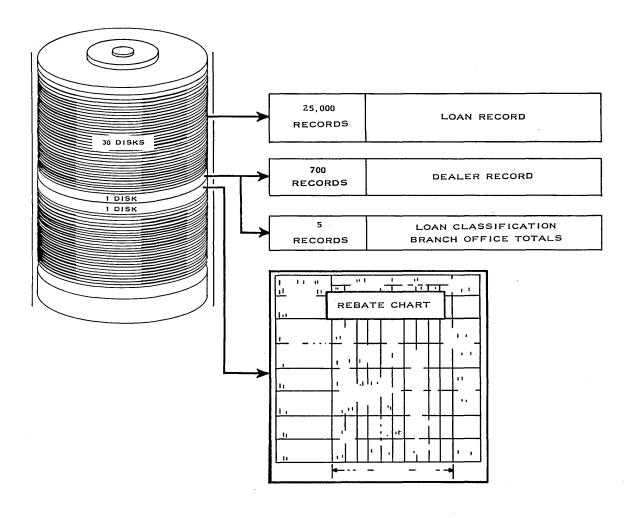
Although the bank under study has had a punched card installation over the years, its executives felt they could further streamline their installment loan area by obtaining a 305 RAMAC. Among the features that particularly appealed to them were speed, accuracy, and economy, coupled with the advantages of instant and continual accessibility of up-to-the-minute records. The 305 possessed an entirely new machine accounting concept - the opportunity of updating a number of records at one time in a single pass of a card. In addition, the possibility of printing on-line while simultaneously updating record data was a prime consideration, for it now became possible to reduce to the minimum the necessity for off-line card handling. Another reason for interest in RAMAC was the need to concentrate on equipment which could permit future expansion of the application area without entailing undue additional labor and machine costs.



IBM RAMAC 305

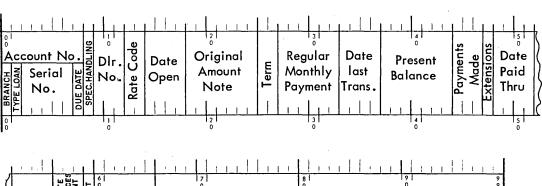
DISK ORGANIZATION AND TRACK LAYOUTS

The RAMAC used as an illustration might have a single 50-disk storage file containing fifty thousand 100-character records. Twenty-five thousand 100-character loan records would be loaded into the first 25 disks. An additional five disks are reserved for expansion. Two more disks hold seven hundred 100-character dealer records, five 100-character Loan Classification Branch Office records, and a Rebate Chart containing percentage calculations. Thus, 32 disks are put to use; the remaining 18 "open" disks may be used on other applications.



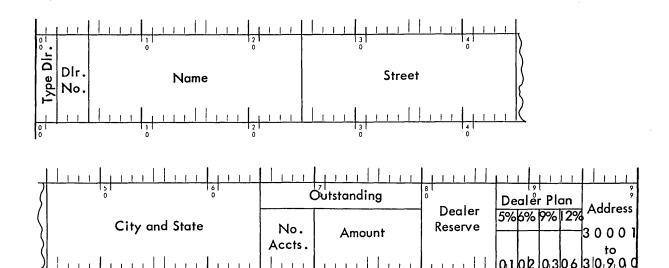
The <u>Loan record</u> is densely packed to provide maximum data. It includes several interesting features:

- 1. Original discount amounts are subdivided into Bank Retention, Dealer Reserve, and Special Reserve.
- 2. Current monthly Rebate amounts are also subdivided into Bank Retention, Dealer Reserve, and Special Reserve. This information may be inquired into by a remote inquiry station located on the banking floor. A borrower who wishes to pay off his loan in advance may be immediately told what is his net payoff amount. This data also permits the bank to close out the loan with a minimum of effort.
- 3. The number of delinquency notices mailed to the borrower, the number of times the account has been placed in collection, and all unpaid late charges are shown.
- 4. The account number contains eight digits which identify not only the loan serial number but also the branch office, type loan, and due date.
- 5. Interest rate and loan term are shown.
- 6. Dealer who discounted the note is provided.
- 7. Number of payments made, and month and day paid through, become available.

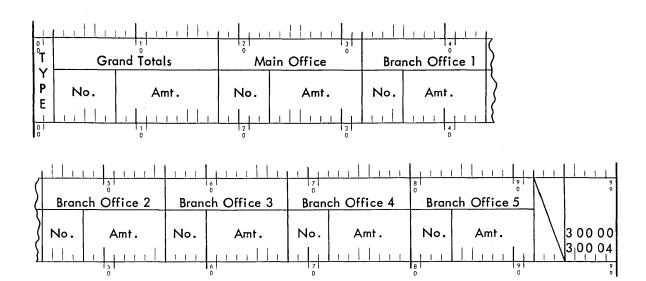


The Dealer record also provides unusual data:

- 1. The type of dealer (e.g., FHA modernization, etc.).
- 2. Number and amount of loans outstanding for each dealer.
- 3. Dealer percentages necessary to calculate dealer reserve amounts.
- 4. Instant accumulation of Dealer Reserves.



Outstanding loan data is summarized on five <u>Loan Classification records</u>, each containing summary totals for the main office and its branches. The record layout shown below for Personal Loans is also used for Appliance, Auto-New, Auto-Used, and Home Modernization.



CALCULATION OF REBATES

Current rebate amounts for each loan record are calculated within RAMAC at the end of each month through use of the stored Rebate Chart. By reference to the original date and term of the note, the number of months remaining until maturity is readily calculated on the RAMAC. The number of months to maturity and the original term then provide a percentage which is applied to the original discount amounts. If, at time of a month's updating period, a twelve-month loan has four more months before maturity, RAMAC will search along the twelve-month sector in address 31012 to the fourth field and pick out 11%. This percentage figure is multiplied by the original Bank Retention, by the Dealer Reserve, and by the Special Reserve amounts to arrive at current Bank Retention, Dealer Reserve and Special Reserve.

Computations appearing on the Rebate Chart were arrived at by means of the 78ths formula.

$$\frac{(M^2 + M)D}{(T^2 + T)} = R$$

where M = unmatured term

T = loan term

D = discount amount

(i.e., Bank Retention, Dealer Reserve, Special Reserve)

Determining rebate amounts through use of stored percentage tables, as a substitute for the above formula, reduces RAMAC process time by a substantial margin.

Original Term	ī					_	است	ha=	٦,		46.	D of		100	n N	A-+-	: 4.	<u> </u>	-to							Direct
of Note	\vdash	- 2	3	4	5	6		_	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	UP TO	
6 Month			25																							31006
7 Month	0,2	0 ₈	1 8	3,3	5 ₁ 1	7 ₃	1	1		1	2 0		<u> </u>				<u></u>				L.	·		<u> </u>	_!_	3,1,0,0,7
8 Month	02	06	14	25	39	56	77					L	Ι	R	EB	A T	E	СН	AR	T	T	1				31008
9 Month	0,1	0,5	1 1	2,0	3,1	44	6,0	7 9	<u>L</u>		2 -	-		,	-	3 0		_l_			4		L			3 10 0 9
10 Month	01	04	09	16	25	36	49	64	81												_					31010
11 Month	0	0,3	0 7	1,3	2,1	30	4 0	5 3	6,7	8,3	2					3			J		10		Li_	1	-1	3 1 0 1 1
12 Month		03	06	11	17	25	34	44	5 6	69	84															31012
13 Month	0	0,2	0 5	0,9	1,5	21	2,9	3 8	4,8	5 ₁ 9	7,2	85	1	,		3 0	-!-		1	1.	10		_L	1		3, 1,0, 1,3
14 Month		02	05	08	13	18	25	33	41	5 1	62	73	86	_												31014
15 Month	0 1	0,2	04	0,7	1,1	16	2,2	2 8	3 6	4,4	5 ₄	64	7 5	8,7		3					4 0			_1_		3 1,0,1,5
16 Month	-	02	04	06	10	14	19	25	32	39	47	5 6	66	77	88											31016
17 Month	0	0,1	0 3	0,6	9	1 2	1 7	22	28	3,5	4 2	5,0	5 8	68	7,8	3	<u> </u>		-1		4 0	,			_L_	3 10 17
18 Month		01	03	05	0,8	11	15	20	25	31	37	44	52	60	69	79	89									31018
19 Month	0					0					0					0					0	1	-	-1	1	31019
20 Month		01													5 6											31020
21 Month	0					0					0					0			82		0					3 1:0 21
22 Month																			7 5							31022
23 Month	01	-				ľ					0					l°					ľ	9,1		-		3 1 10 23
24 Month	-	-	02	03	04	06	09	11	! 4	17	21	25	29	34	39	44	50	56	63	69	77	84	92			31024
Up to 60 Months																										

METHOD OF ADDRESSING

The method of addressing the 8-digit account number is a simple one.

	Type		Due
Branch	Loan	Serial No.	Date
X	$\overline{\mathbf{x}}$	XXXXX	X

For purposes of this illustration, account serial numbers range from 30,000 to 60,000. To locate loan records which are stored among the first 30 disks of the file, a constant 30,000 must be subtracted from each five-digit serial number.

Through use of an interesting numbering scheme, it is practically impossible for the same serial number to identify a new account again over the course of several years.

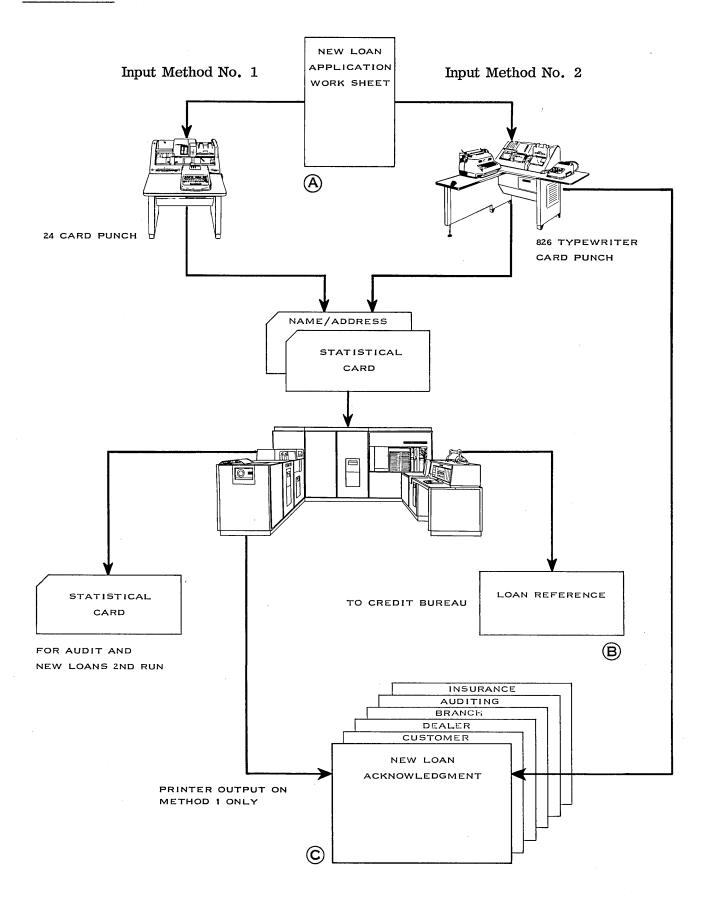
As an illustration, the serial number 44567 upon being subtracted by 30000 becomes 14567 for purpose of RAMAC storage.

When it becomes necessary to use 14567 over again, an identity D4567 is used; a third time around it becomes M4567. Since the RAMAC address register accepts only numerical data, the serial numbers D4567 or M4567 are always stored in location 14567.

PROGRAMMED ROUTINES

This application is programmed in approximately 450 steps, subdivided into these routines:

				Number of
	Title		Printed Output	Steps
(1)	New Loans	First Run	New Loan Acknowledgment Loan Reference Card	200
		Second Run	New Loan Journal Coupon Payment Book	
(2)	Payments and Adju	istments	Installment Loan Journal	180
(3)	Delinquency Notice	e Procedure	First Notice Second Notice Third and Final Notice	40
(4)	Dealer Delinquency	у	Dealer Delinquency Report	\int_{30}
(5)	Closed Loans	>	Closed Account Report	

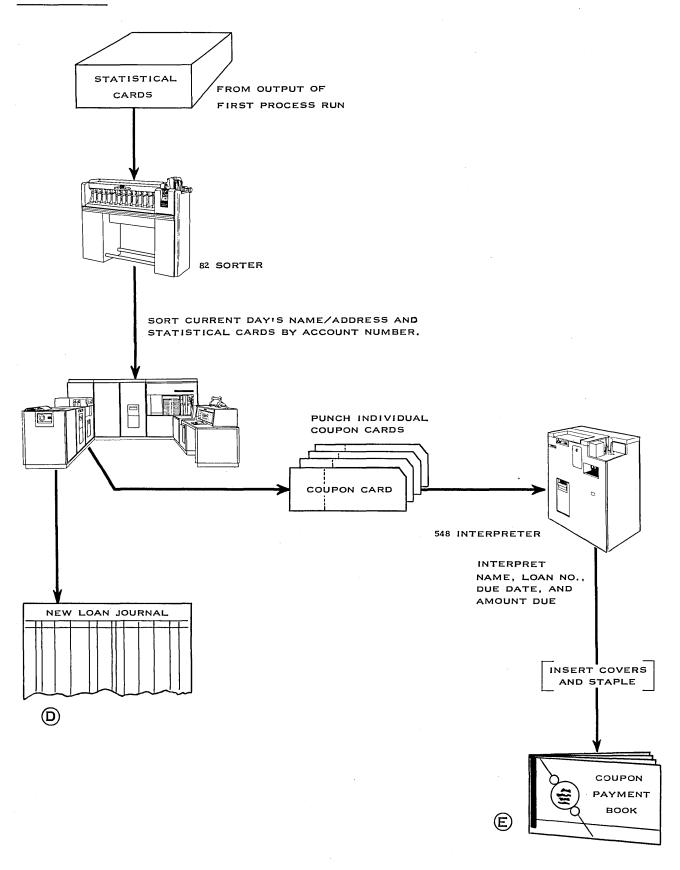


RAMAC is programmed to

- Place input Name/Address and Statistical card data on drum tracks. (The Statistical card contains data on account number, special handling, dealer code, rate code, date open, term, amount financed, special reserve code, discount and monthly payment.)
- 2. Seek Loan record on disk. Address open?
- 3. Seek and bring down Dealer record to drum.
- 4. Search Dealer Plan area on Dealer record for same rate code as appears on input card (i.e. -6%).
- 5. Calculate Dealer Reserve amount (i.e. 2% per annum).
- 6. Calculate Bank Retention amount as difference between interest rate and Dealer percent (i.e. 6% less 2% equals 4%).

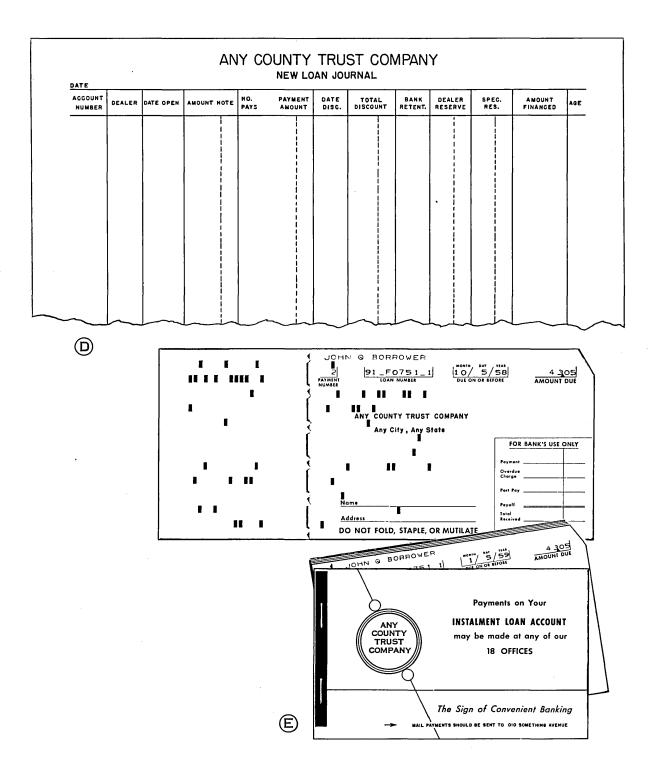
- Calculate Special Reserve amounts by reference to Special Reserve code on input.
- 8. Add Bank Retention, Dealer Reserve, and Special Reserve to determine total original discount.
- Add discount total to Amount Financed to arrive at Amount of Note.
- Verify Amount of Note by multiplying monthly payment by number of payments.
- Update Loan record with above calculations and store on disk.
- Update Dealer record by increasing Outstanding loan amount and Dealer Reserve amount and store on disk.
- Seek Outstanding Loan Class/Branch Office total record, update, and return to file.

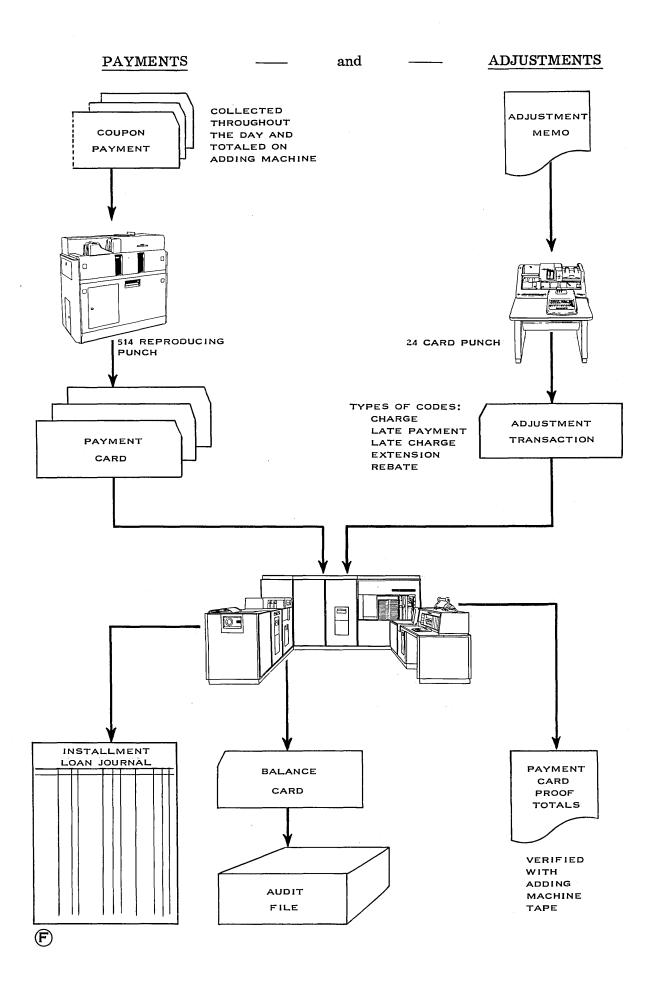
NEW LOAN APPLICATION SHEET ---ANY COUNTY TRUST COMPANY NEW LOAN REFERENCE CARD LINCOLN SMITH 00-AB123-5 ADDRESS SALEM RD. SUTTON, PENNA. UNPAID CASH BAL. I INTEREST CHGS TERMS 300 \$ 38.89 \$ 1,166.70 W. or H. DEDUCT. COLL F. & T. C. A. C. TOW. INS COMP CAR INS TERM ____ SAFE TRAVEL. BANK DEALER MEMO CASH PRICE RATING DOWN PAYMENT UNPAID CASH BALANCE TERRITORIAL DIFF. OTHER AMOUNT FINANCED (B) FINANCE CHARGE DUE PURCHASER AMOUNT OF CONTRACT DEDUCT TOTAL CHARGES ANY COUNTY TRUST COMPANY NEW LOAN ACKNOWLEDGMENT ADVANCE TO DEALER ANY CITY, ANY STATE OTHER DEDUCTIONS CUSTOMER'S NAME AND ADDRESS ACCOUNT NO AMOUNT OF CHECK 1 BANK AICC MEMO DUE BANK DATE DUE DEALER DUE PURCHASER DUE AICC TOTAL MONTH PRIOR IST PAYT PAYMENT TOTAL DEALER SPEC. AMOUNT TERR. DIFF. CHART NO. FINANCED D=OLD NOTE AMOUNT DISCOUNT RET. RESERVE RES MO. RATE TRUCKS LOCAL [INTERMEDIATE LONG D ORIGINAL CASH SELLING PRICE NEW S CASH SELLING INS. MAKE-MODEL-YEAR SERIAL NO. MOTOR NO. OCCUPATION-TYPE AND PLACE HUSBAND'S OR WIFE'S NAME CO-MAKERS NAME AND ADDRESS SECURED UNSECURED (C)



RAMAC is programmed to:

- 1. Seek Loan record.
- 2. Print a New Loan Journal.
- While performing the above, RAMAC analyzes "Term" and punches out a coupon card for each month's payments (e.g. a 24-month term means that the "305" punches 24 individual cards for the Coupon Book).





RAMAC operates on these record areas:

1. Loan Record

- a. Subtract regular Monthly Pay Amount from actual Pay Amount to determine partial or overpayments. (For purposes of illustration, partial payment is considered less than 95% of the regular amount.)
- b. Subtract Payment from Balance.

- c. Post to Payments made (in tenths). Use decimals if partial payments. Add whole number position to base month if full monthly payment.
- d. Post Month and Year paid through.

2. Dealer Record

Subtract Payment from Outstanding Amount.

3. Loan Classifications/Branch Office Record
Subtract Payment from one of five classifications.

Date	ANY COUNTY TRUST COMPANY ANY CITY, ANY STATE OR TRANSACTION CODES 5 PAYMENT 5 - CHARGE 7 EXTENSION 6 LATE PAYMENT 8 REBATE											
ACCOUNT NUMBER	NAME	LAST TX	last Balance	TX DATE	1X *	BAT.	TX * AMOUNT	CURRENT BALANCE	LATE CHARGES DUE	PAYS MADE	PA THI	
15-E0185-1	FITZGI	7/24	215.32	7/24	5	02	15.38	199.94		5.0	9/8	
15-51396-1	PALERM	7/24	151.06	7/24	5	02	11.62	139.44	.58	6.0	9/8	
63-57465-1	WETTEL	7/24	.00	7/24	8	08	73.55	73.55	.00	31.4	1/0	
41-58216-1	BOLDUC	7/24	135.50	7/24	5	01	28.50	107.00		11.0	9/8	
61-58305-1	STEVEN	7/24	.00	7/24	5	00	.70-	.70	.66	11.9	6/8	
71-58731-1	WORNHA	7/24	.00	7/24	5	01	71.00	71.00-	.00	13.0	9/8	
81-58894-1	BISSEL	7/24	298.41	7/24	5	13	99.47	198.94	.00	13.0	9/8	
61-59102-1	PLINPT	7/24	.00	7/24	5	03	46.40	46.40-	2.50	12.8	8/8	
61-59316-1	BENNET	7/24	.00	7/24	8	08	6.67	6.67-	.00	12.1	8/8	
83-60313-1	GAUTHI	7/24	922.88	7/24	5	13	65.92	856.96	.00	11.0	9/8	
	BERTHI	7/24		7/24	5	12	21.21	275.73	.00	11.0	9/8	
12-C0130-2	MINGOL	7/24	15,975.00	7/24	5	04	1175.00	14,800.00		4.0	9/8	
11-30433-2	BARTOL	7/24	.00	7/24	5	09	69.66	69.66 -	1.74	8.0	10/8	
41-C0623-2		7/24	53.00	7/24	5	05	53.00	.00		3.0	9/8C	
11-C0828-2	1 '	7/24	257.55	7/24	5	01	15.15	242.40	.76	2.0	8/8	
12-C0833-2			18,000.00	7/24	5	04	1000.00	17,000.00		4.0	9/8	
71-30870-2	ALBERT	7/24	341.46	7/24	5	10	24.39	317.07	2.44	5.0	8/8	



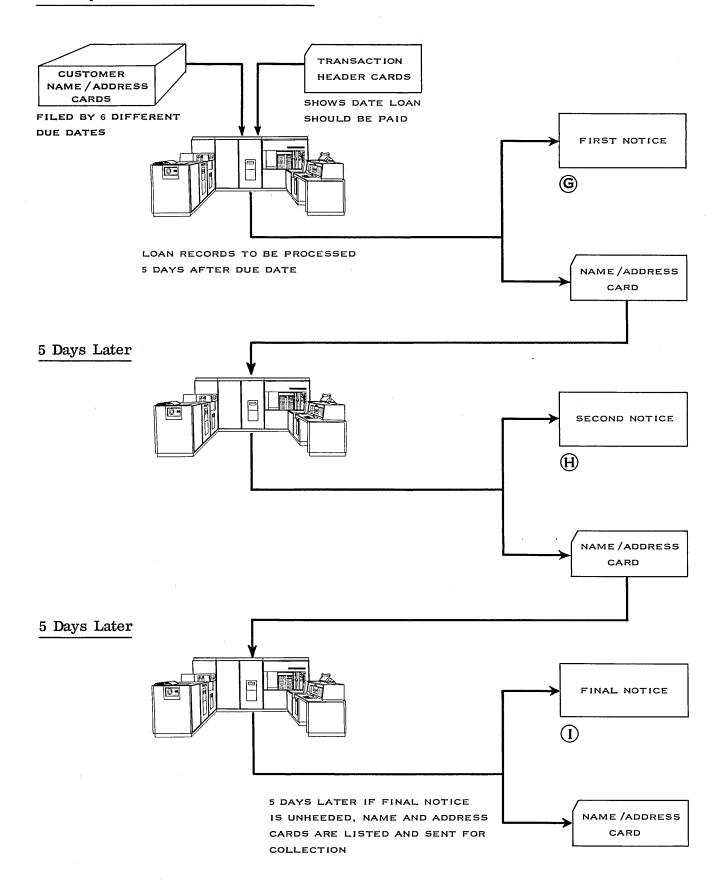
Illustration of Partial Payment Procedure:

To pay off a \$200 loan in 10 monthly payments of \$20 per month. -

	Regular		On D	isk Recor	d
Month Paid	Payment Due	Actual Pay	Present Balance	Pays Made	Paid Thru
3/58			\$200.		
4/58	\$20.	\$20.	180.	1.0	4/58
5/58	20.	20.	160.	2.0	5/58
6/58	20.	10.	150.	2.5	5/58
7/58	20.	15.	135.	3.3	6/58
8/58	20.	15.	120.	4.0	7/58
9/58	20.	20.	100.	5.0	8/58

Formula: Actual : Regular Payment Due = Pays Made

DELINQUENCY NOTICE PROCEDURE



First Notice

Did You Forget?

Just a reminder that according to our records your account is not in an up-to-date status. Your correct payment amount was due several days ago. Please make your payment at once. By so doing you avoid possible late charges. Protect your credit reputation. It is a valuable asset.

ANY COUNTY TRUST COMPANY ANY STATE ANY CITY ,

F. LINCOLN SMITH SALEM RD.

00-AB123-5

SUTTON, PENNA.

35.67
IF YOUR PAYMENT HAS ALREADY BEEN MADE DISREGARD THIS REMINDER.



Second Notice

SECOND NOTICE

Again your attention is called to the fact that your account is not in an up-to-date status. Only immediate payment of the proper amount will save you the additional expense of late charges.

The promptness of your payment record determines your credit reputation. Good credit is a valuable asset.

ANY COUNTY TRUST COMPANY ANY CITY ANY STATE

LINCOLN SMÍTH SALEM RD. SUTTON, PENNA.

00-AB123-5

\$ 38.87 PAYMENT AMOUNT

1.94 LATE CHARGE



Final Notice

DEMAND NOTICE

2415

Our records indicate that your installment account is considerably in arrears. As we have not heard from you in respect to our previous notices, you are advised that your account is being placed in the hands of our Collection Department. This action may be prevented only if the proper payment amount and the late charges as indicated are forwarded by return mail.

ANY COUNTY TRUST COMPANY ANY CITY

F. LINCOLN SMITH SALEM RD. SUTTON, PENNA.

00-AB123-5

PAYMENT AMOUNT

LATE CHARGE

TOTAL DUE



RAMAC is programmed to:

- 1. Search for Loan record.
- 2. Look at date Paid Thru.
- 3. If less than date on Transaction Header card, print First Notice.
- Add a "1" to First Notice field.
- 5. Punch another Name/Address card.

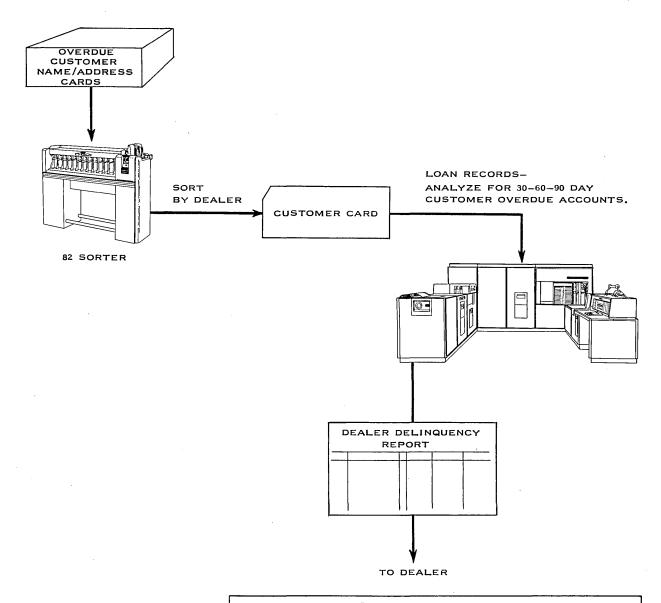
RAMAC is programmed to:

- 1. Search for Loan record.
- 2. Look at date Paid Thru.
- 3. If less than date on Transaction Header card, add "1" to Second Notice field.
- Add 5% of payment amount (but not exceeding \$5) to Unpaid Late Charges Due.
- Print Second Notice and punch Name/Address card.

RAMAC is programmed to:

- 1. Search for Loan record.
- 2. Look at date Paid Thru.
- 3. Add "1" to Third Notice field.
- Print Third Notice and punch Name/Address

DEALER DELINQUENCY REPORT — Prepared Monthly



RAMAC performs the following:

- 1. Seeks Dealer record.
- Seeks Customer record and analyzes Paid Thru for number months delinquent.
- Prints delinquent customers on individual Dealer report sheets.

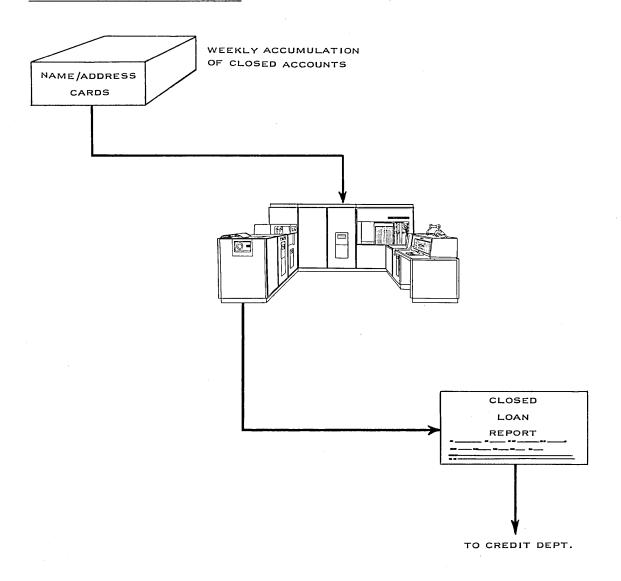
DEALER DELINQUENCY REPORT ANY COUNTY TRUST COMPANY

01235

AVERAGE MOTORS 101 PONDFIELD STREET SUTTON, PENNA. JUL 1958

ACCOUNT NUMBER	NAME	MO. DEL.	AMOUNT DUE	BALANCE	DLR. NO.
12-30001-1	JOSEPH NORRIS 112 VALLEY ROAD SUTTON, PENNA.	3	70.02	70.02	010
12-33330-3	DAVID PARSONS 811 THORN STREET WORCESTER, PENNA.	1	37.65	1,993.10	010

CLOSED ACCOUNT REPORT — Prepared once a Week



RAMAC performs the following:

- 1. Seeks Loan record.
- 2. Verifies for zero balance.
- 3. Seeks Dealer record.
- 4. Decreases total number of accounts by "1".
- Blanks out Loan record on disk file. (This sector address now available for a new loan).

	CLOSED LOAN REPORT CODE NO. 65 ANY COUNTY TRUST COMPANY
NAME ADDRESS	F. LINCOLN SMITH 00-AB123-5 SALEM RD. SUTTON, PENNA.
TERMS	30a \$ 38.89 \$ 1,166.70
W. or H.	
A	PCSFHAHIREJECTED
RATING	AFSY
REMARKS	
FORM 3315	

TIMING OF THE JOB

Volumes and process times of the routines might be generally established as follows:

Routine	Daily Input <u>Volume</u>	Approximate Process Time
New Loans	140 cards	40 minutes
Payments	1300 cards	45 minutes
Customer Delinquency Notice Preparation:		
a. First Notice	4000 cards	1 hour
b. Second Noticec. Third and Final Notice	600 cards 350 cards	20 minutes 10 minutes
Dealer Delinquency Report	2000 cards	70 minutes

PERIPHERAL EQUIPMENT

One of each of the following IBM machines might be required as peripheral equipment for all of the routines cited:

402 Accounting Machine

24 Card Punch

548 Interpreter

514 Reproducing Punch

82 Sorter

85 Collator

BENEFITS FROM THE RAMAC APPROACH

Many years of IBM punched card experience in the area of Installment Loans have provided definite advantages such as these:

- 1. Preparation of payment coupons.
- 2. Elimination of manual calculating, posting and other intermediate steps required for maintaining and controlling the accounting records.
- 3. Speedier preparation of accounting and analytical reports and statements.
- 4. Increased collection of late charges through better record-keeping and better administrative tools.

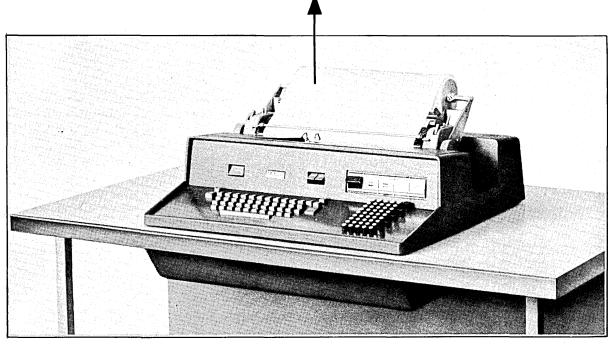
Now, however, the use of RAMAC in the illustration set forth here, furnishes an even more intriguing list of advantages:

- 1. RAMAC makes it possible to add considerably more volume growth with minimum additional manpower and machine costs.
- 2. "Dealer Plan" percentages are available on disks to verify the calculation of discount amounts.
- 3. Card handling and use of peripheral equipment are lessened. An effective use of the on-line printer to speed up document preparation has been demonstrated.
- 4. Clerical operations have been reduced through the inherent features of random in-line processing.
- 5. Dealer Reports now become available with minimum strain and costs, and many of the accounting statements (such as Trial Balance) become by-products of the RAMAC procedure.
- 6. Signaling of customer delinquencies is automatic.
- 7. Marginal dealers become subject to instant review. The bank can now analyze a dealer's indirect liability with assurance that the most current picture is represented.
- 8. RAMAC takes over departmental detail in such areas as the Discount Section, New Loans, Loan Analysis, Rebate, Credit, and History Record Departments. This means that the department manager can not only concentrate on his more important policy decisions and projects, but can operate with a smaller staff.

- 9. A dealer can be immediately notified of the status of his delinquent accounts by reference to Dealer Delinquency Reports.
- 10. Any of the branch offices may telephone to the RAMAC Console Operator at the main office, requesting an immediate answer to the status of a customer account.
- 11. The former ledger card lookup was tedious and difficult. Now, loan and rebate inquiries are available through RAMAC at lightning speed.
- 12. Greater accuracy exists through use of internally programmed audit checks.
- 13. Rebate amounts, broken down into Bank Retention, Dealer Reserve, and Special Reserve, as well as late charges, are available for ready reference each month on every account. In this way, net payoff amounts can be quickly obtained for a customer waiting at the teller's window.

INQUIRY FROM BANKING FLOOR - REMOTE LOCATION

			ĺ	Curre	nt Rebat	e		
Acct. No.	Monthly Pay Amt.	Date Pd. thru	Bal. of Note	Bank Ret.	Dlr. Res.	Spec. Res.	Unpaid Late Chgs.	Net Payoff Amount
2-33001-1	12.17	1/59	146.04	9.07	6.80	2.27	.62	128.52
			(A)	(B)	(C)	(D)	(E)	*



305 RAMAC Inquiry Station

