



University of Wisconsin Credit Union, 1433 Monroe Street, Madison, Wisconsin.

Landmark Research, Inc.

[s.l.]: [s.n.], [s.d.]

<https://digital.library.wisc.edu/1711.dl/NZBZRQ4J3G6FN9C>

<http://rightsstatements.org/vocab/InC/1.0/>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.

Landmark
Research
Inc.

August 9, 1979

Thomas L. Turk
James A. Graaskamp

Mr. Ed Baranowski
University of Wisconsin Credit Union
1433 Monroe Street
Madison, Wisconsin 53711

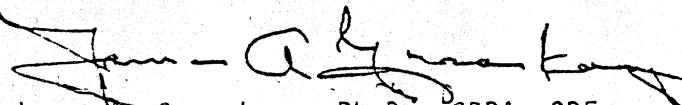
Dear Ed:

With this note we are pleased to transmit our final report on space needs and real estate strategies for the University of Wisconsin Credit Union into 1985. We want to thank you for all of the time and patient responses to our continued questionings for various facts and assumptions, and in particular we hope you will thank Shirley Krier for all of her work in educating us to Credit Union accounting matters. Perhaps you should both be recognized as co-researchers.

Nevertheless full responsibility for this report is accepted by Alan Hembel, Fred Campbell, Jean Davis, and myself. Should you have further questions, call on any of us, particularly Jean Davis who coordinated all of us.

We have attempted to provide our very best professional craftsmanship for forecasting Credit Union financial reflections and of regional economic conditions at a time of rapid change in the banking industry. Nevertheless such estimates are only educated guesses as to future dimensions of your enterprise. We would appreciate your further comment and criticism of this report so that we can improve on services to the University of Wisconsin Credit Union and the Credit Union movement in general.

Respectfully submitted,



James A. Graaskamp, Ph.D., SRPA, CRE
Urban Land Economist

JAG/dbb

TABLE OF CONTENTS

Letter of Transmittal

Table of Contents

List of Tables & Exhibits

I. Statement of the Report Objectives	page 1
II. U.W. Credit Union Growth Projections and Pressure on Facilities	2
A. Basic Technique	2
B. Analysis of Membership Growth Potential	2
C. Growth Potential From Greater Intensity of Use	5
D. Analysis of Membership	5
E. Forecast of Total Assets	7
F. Financial Operations Forecast	7
G. The Critical Reserve Allocation	9
H. Analysis of Financial Operations by Location	12
I. Employee Forecasts for Space Planning	14
J. Initial Space Needs Forecast	14
III. Present Status of U.W. Credit Union Facilities	18
A. Monroe Street Office	18
B. 1301 University Avenue	22
C. The Peterson Building Office	28
D. The Clinical Services Center	37
IV. Alternative Facility Strategies and Constraints	37
A. Criteria for Facility Modifications	42
B. Monroe Street Office	42
C. Alternative Home Office Sites	46

TABLE OF CONTENTS (continued)

D. 1301 University Avenue	47
E. Peterson Building Office	47
F. Clinical Science Center Office	48
G. Automatic Teller Machines	48
V. Conclusions and Recommendations	51

LIST OF TABLES AND EXHIBITS

I.	U.W. Credit Union Penetration Ratio Into Potential U.W. Market (1974-78)	Page 3
II.	Credit Union Membership Forecasts (1980-1989)	4
III.	Average Distribution of New Members for Two Year Period Based on Monthly Entries by U.W. Credit Union	6
IV.	Credit Union Asset Forecasts	8
V.	U.W. Credit Union Historic Operating Ratios	10
VI.	Financial Data and Forecasts	11
VII.	Activity and Volume Distribution of the C.U.'s Operations	13
VIII.	Ratios of U.W. Credit Union Full-Time Employees to Total Assets and to Membership (1970-1978)	15
IX.	U.W. Credit Union Employee Forecasts Allocated by Function	16
X.	U.W. Credit Union Floor Area Requirements Projected For 1980, '85 and '89	17
XI.	U.W. Credit Union Consumer Survey Sample Summary	19
XII.	Credit Union Locations - Sampling Pattern	20
XIII.	Summary Sheet - Monroe, Faculty/Staff	24
XIV.	Summary Sheet - Monroe, Students	26
XV.	Summary Sheet - Mid-Campus, Faculty/Staff	29
XVI.	Summary Sheet - Mid-Campus, Students	31
XVII.	Summary Sheet - Peterson, Faculty/Staff	33
XVIII.	Summary Sheet - Peterson, Students	35
XIX.	Summary Sheet - CSC, Faculty/Staff	38
XX.	Summary Sheet - CSC, Students	40
	EXHIBIT 1 - SITE PLAN, MONROE STREET	23
	EXHIBIT 2 - PARKING LOT #16	43
	EXHIBIT 3 - SITE PLAN, MONROE STREET	45

I. STATEMENT OF THE REPORT OBJECTIVES

U.W. Credit Union has experienced steady growth in membership due to the expansion of its potential membership base in terms of student, faculty, staff, their families, as well as former students. At the same time the average account value and transaction amount have increased to reflect general increases in wage and price levels. While the credit union charter would permit operations throughout the state at various U.W. locations, UWCU operates primarily in Madison with a branch at the U.W. Green Bay campus. There are plans to consider the Milwaukee campus as well, but this study has focused solely on space needs for Madison and the Madison home office. A planning horizon for five and ten years into the future was chosen as the maximum range within which forecasting is a useful exercise. The need for facilities was adjusted to these forecasts of membership, asset and income levels, employee patterns, and the space and facility requirements that are implied by alternative prospects for growth.

Within that framework it is then possible to review existing facilities, identify alternative possibilities for expansion, replacement, or additional locations and facilities that would provide a basis for recommendations that must be "member-service oriented, cost effective, and legally possible." (Letter of February 21, 1979 from E. Baranowski)

This study is organized to first provide a forecast of Credit Union growth prospects that can be converted to possible personnel needs and further restated to convert activity and personnel needs to space and facility requirements. These requirements in turn can be segmented by location and type in order to define limits on alternatives available to the Credit Union when planning for modification of facilities. These forecasts are treated in detail in Section II. Section III then examines the present status of facilities and space in Madison, both on and off the campus, and their role in future operations and the problems inherent in them. Section IV will establish alternative choices available to Credit Union management and suggest criteria for decision making by the Board. Section V will conclude with certain recommendations which seem reasonable and apparent to the analysts.

II. U.W. CREDIT UNION GROWTH PROJECTIONS AND PRESSURE ON FACILITIES

A. Basic Technique

Projections of membership and transactions to be converted to asset, income, and personnel levels must begin with a statistical review of recent trends, say five years, and then evaluate the possibility that underlying factors will remain steady or shift with a pronounced impact on initial projections. This section will examine, in order, membership potential and actual market penetration and the forecast. The membership forecast will permit projections of assets, transactions, and credit union expectations for income and dividends.

B. Analysis of Membership Growth Potential

The U.W. Credit Union charter broadly defined the eligible membership potential to be the faculty staff, employees, and students and their families at the time of entry. Once an eligible member has left the UW, they can nevertheless maintain existing credit union accounts, so that despite a relatively transient membership base, there is some residual increment in membership and share balances.

Reference to Table I will indicate that student enrollment has shown slight increase in the last few years and the ratio of total employment at the University has been remarkably stable at 41-45% of enrollments in the recent past. We do not see any legislative push to alter University budgets significantly in the immediate future. However, austerity in federal budgets could reduce research funds for the University and the State Legislature is growing restive in terms of funding new University ventures. The official line is that the University will plateau at about 40,000 and decline in the 1980's. University bureaucrats will attempt to subvert enrollment declines and budget reductions. Therefore in Table I we have taken full-time non-student employment, modified it by an arbitrary family size factor and a residual account or turnover factor of 10% to determine total potential members.

When the actual membership is compared to this potential estimate, Table I shows that the capture rate of actual members to potential members is a steady 29.5% plus or minus 1%. This rate of capture is not only steady but in line with national credit union experience. Two basic approaches were used to forecast actual membership totals. The first was a simple straight line regression forecast whereby the actual total membership data was fitted to a time series line to produce the following equation:

$$\hat{y} = \text{Estimated Members} = 22676 + 369.5 \times \\ \text{where } x = \text{number of year in sequence}$$

This approach provides a coefficient of determination or measure of "goodness of fit" of .9716 (1.0 is the highest attainable). The forecast generated by this formula is Column A in Table II. The second approach involved developing a coefficient which related

TABLE I

U.W. CREDIT UNION PENETRATION RATIO INTO POTENTIAL U.W. MARKET (1974-78)

<u>Year @</u>	<u>Non-Student Employment U. of Wisc.</u>	<u>Estimated Family Size</u>	<u>Estimated Turn-over Factor</u>	<u>+</u>	<u>Student Enrollment</u>	<u>=</u>	<u>Total Potential Members</u>	<u>Total Actual Members</u>	<u>Actual Members ÷ Potential Members</u>
1974	12439	2.70	1.10		36915		73859	20355	.2756
1975	12383	2.70	1.10		38545		75323	23197	.3080
1976	12757	2.70	1.10		37924		75812	22682	.2992
1977	13032	2.70	1.10		39022		77727	22942	.2952
1978	13611	2.70	1.10		39430		79855	23421	<u>.2933</u>

$$\bar{x} = .2943$$

$$S.D. = .0119$$

TABLE 11
CREDIT UNION MEMBERSHIP FORECASTS (1980-1989)

<u>Year</u>	<u>Column A Linear Forecasts</u>	<u>Column B Model Forecasts</u>	<u>Column C Planning Forecasts</u>
1979	23754	23724	23800
1980	24124	24088	24100
1981	24493	24605	24600
1982	24863	24934	24900
1983	25232	25369	25400
1984	25602	25777	25800
1985	25971	26182	26200
1986	26341	26594	26600
1987	26710	27003	27000
1988	27080	27411	27400
1989	27449	27819	27800

potential membership and actual members as indicated in Table I. Then future levels of non-student employment at the University were forecasted by a similar linear regression equation and combined with the enrollment forecast of the U.W. Department of Budgeting and Planning enrollment forecasts through 1989. Following the same format as in Table I, the Credit Union potential membership forecast in Column B, Table II, titled Model Forecast, was generated. Because Column B used the mean capture rate, and due to the potential error in linear regression techniques, Column C in Table II was generate to smooth the planning forecast to the nearest 100 members.

C. Growth Potential From Greater Intensity of Use

There appears to be significant potential for more use of the Credit Union by its members. When the effect of the Credit Unions dormant accounts is factored out the averages of asset \$/member, shares/member, and loan \$/member appear below those of similar size credit unions. Students typically have small savings accounts and small loan capacities, and since the students predominate, these ratios may always be lower than appropriate for a membership base where most members have full-time employment. Nevertheless, University people are price and service sensitive as well as co-op minded so that Credit Union efficiencies should encourage growing use of its services by its members.

D. Analysis of Membership

Since the composition of total membership has a significant impact on the nature of credit union activities, it is necessary to segment planning forecasts by type of membership. The current status of all members is not known, but a detailed analysis of membership status at the time they become Credit Union members was available in monthly data over the past two years. These averages and the standard deviation per month have been reported in Table III. The higher standard deviation among student classifications is a reflection of beginning semester peaks and low summer enrollments, while employees tend to be more evenly distributed throughout the year. Despite monthly variations, the overall composition of new members was constant and no significant trends or changes in overall composition of new members could be identified.

While new accounts were opened in large numbers during August, September, and January, there was a significant number of closings in November and December and a gradually growing inventory of dormant accounts which develop as members do not close accounts which lapse into inactivity. Indeed, the ratio of dormant accounts to total accounts has averaged .2152 since 1976 with a standard deviation of only 1.2%. While both deposits and loaned amounts could be expected to differ among full-time employees and students, unfortunately, it is not known to what degree membership status shifts following entry. Since the ratio of new members remains relatively constant, we will assume that the overall membership composition also remains constant as each type of member has the same propensity to leave

TABLE III

AVERAGE DISTRIBUTION OF NEW MEMBERS FOR TWO YEAR PERIOD
BASED ON MONTHLY ENTRIES BY U.W. CREDIT UNION

<u>Classification</u>	<u>Average Percentage of New Members (Monthly Basis)</u>	<u>Standard Deviation</u>
Faculty & Administration	8.49%	2.01
Teaching Assistants, others	7.85%	2.65
Health Services	6.18%	2.28
Physical Plant	1.36%	.73
Civil Service	6.64%	2.50
Graduate Students	14.36%	4.22
Undergraduate Students	35.99%	6.49
Alumni	6.51%	1.96
Family	5.95%	2.30
Other	6.64%	4.03

the credit union or permit his account to become dormant. This is a key assumption in the use of average asset dollar/member in a forecast of total assets which follows.

E. Forecast of Total Assets

Average asset dollar member ratios were developed for the past five years and applied to a linear regression formula to generate the following equation:

$$y = \text{Estimated Asset/Member} = 609.33 + 149x$$

where x = a variable representing sequential years
and $r^2 = .9937$

Table IV shows the basis of the asset to member ratio and forecasted values for 1979 to 1989. Compare the 1979 asset total of \$32.3 million to the asset total reported by UWCU as of June 30, 1979 to test the reasonableness of the projection. Note that asset estimates were rounded in the projection to the nearest \$100,000. These estimates will serve as a basis for anticipated revenues, expenses, and personnel requirements which follow. It is a key assumption which could be modified and the impact tested on recommendations which follow should management of the Credit Union feel that they are not appropriately conservative. However, the growth factor is about 11 or 15% and inflation will contribute at least 8% of the distortion to average dollar amounts so that in real dollars, the projected growth rate is a much more modest 2 or 3% as reflected in membership growth. It remains to be seen how legislative and legal limitations on credit unions, savings and loans, and banks may modify their competitive positions in the next five years and therefore alter the capture rate of the credit union, which was assumed to be constant for these purposes.

F. Financial Operations Forecast

Financial operating forecasts are required to develop the size of the capital budget which the Credit Union can afford to commit to a building project without incurring adverse financial consequences. The key items which must be forecasted are: Income, Expenses, Dividends and Reserve Contributions. The primary purpose of these forecasts is to develop a Projected Net Surplus figure. The Projected Net Surplus figure represents the amount of funds which are forecasted to be available and could be applied to a variety of uses such as additional dividends, interest rebates, undivided earnings, reserve contributions or additional costs relating to a building project. The financial feasibility of a building project for the Credit Union is determined by means of testing the total costs of the contemplated project against the Projected Net Surplus. If at any time the Projected Net Surplus should become significantly negative for a substantial period of time, the project would be unfeasible inasmuch as it would necessitate either an increase in the Credit Union's loan rates, lowering of the dividend rate, reduction in reserves, or some other membership benefit. The Projected Net Surplus is the cornerstone of the financial feasibility analysis, and if any real

TABLE IV
CREDIT UNION ASSET FORECASTS

<u>Year</u>	<u>Assets Per Member</u>	<u>X</u>	<u>Members</u>	<u>=</u>	<u>Total Assets</u>
1975	\$ 764		23,197		\$16,832,357
1976	891		22,682		19,002,292
1977	1,076		22,942		22,640,484
1978	1,200		23,421		28,102,387
FORECASTED VALUES*					
1979	1,356		23,800		32,300,000
1980	1,505		24,100		36,300,000
1981	1,654		24,600		40,700,000
1982	1,803		24,900		44,900,000
1983	1,953		25,400		49,600,000
1984	2,102		25,800		54,200,000
1985	2,251		26,200		59,000,000
1986	2,401		26,600		63,900,000
1987	2,550		27,000		68,850,000
1988	2,699		27,400		74,000,000
1989	2,849		27,800		79,200,000

*Rounded to nearest 100,000

estate decision or building project would reduce the Projected Net Surplus by a factor of 1.25 the project would be classified as financially unfeasible for the Credit Union.

The basic formula employed to develop estimates of the Credit Union's Projected Net Surplus is as follows:

$$A(S/A) \left[(L/S)(I/L) \left((1-E/I) - (R/I) - (B/I) \right) - (D/S) \right] = P.N.S.$$

Where:

A = Total Assets

S = Total Shares

L = Total Loans

I = Total Gross Income

E = Total Operating Expense

D = Dividends (includes interest on C.D.S.)

R = Reserve Transfer

B = Interest Rebate

P.N.S = Projected Net Surplus

This basic formula, and variations of it, can also be used to develop estimates of any of the above factors, such as Income, Expenses, Dividends, Reserve Transfers, Shares and Loans.

As a basis for future projections, the UWCU's past operating history was studied and reduced to significant historic operating ratios which are reported, averaged, and converted to planning ratios in Table V. The conversion of historical trends and averages to a planning ratio is a way of making assumptions which are consistent with patterns unique to this Credit Union and nevertheless reasonably conservative relative to peak periods of growth and activity for the Credit Union.

G. The Critical Reserve Allocation

Currently the Credit Union might wish to contribute heavily to reserves so that the regular reserve to risk assets ratio would remain above 6% and avoid unnecessary future charges to the regular reserve so that the Credit Union might have the option of lower reserve contributions (say 5% of income) during the period that any expansion of real estate assets was phased in. An expansion or building program is just the period when demands on the Credit Union income stream will be at its peak, since additional expenses will precede future growth in revenues and assets.

Table VI shows the dollar amounts of past income expense, reserve contributions, dividends and net surplus of the past six years on which projections for 1979-1989 are made assuming maintenance of a 5.0% dividend rate and three alternative reserve rates at 10%, 7.5%, or 5% of gross income.

TABLE V
U.W. CREDIT UNION HISTORIC OPERATING RATIOS

Year	Shares ¹ ÷ Assets	Loans ÷ Shares	Total ÷ Loans	Expense ÷ Total Income	Dividends ² ÷ Shares	Reserves ÷ Total Income
1973	.8796	1.0131	.0908	.3977	.0443	.0845
1974	.9481	.8470	.1076	.3378	.0502	.1121
1975	.9500	.8815	.1053	.3374	.0541	.0801
1976	.9408	1.0166	.0900	.3880	.0506	.0653
1977	.9171	1.0565	.0884	.3785	.0501	.0855
1978	<u>.9560</u>	<u>.9978</u>	<u>.0947</u>	<u>.3706</u>	<u>.0494</u>	<u>.1066</u>
x	.9319	.9688	.0961	.3683	.0501	.0890
S.D.	.0290	.0839	.0083	.0255	.0033	.0174
Planning Ratios	<u>.9500</u>	<u>1.0000</u>	<u>.0950</u>	<u>.3700</u>	<u>.0500</u>	<u>N/A</u>

- 1) C.D.'s are included in shares
- 2) Interest on C.D.'s are included in dividends, but interest on borrowed money is included as an expense

TABLE VI
FINANCIAL DATA AND FORECASTS

<u>Year</u>	<u>Total Income</u>	<u>Total Expenses</u>	<u>Reserve Contribution</u>	<u>Dividends</u>	<u>Net Surplus</u>
1973	\$1,050,981	\$ 418,027	\$ 88,779	\$ 544,175	0
1974	1,338,570	452,110	150,125	736,335	0
1975	1,561,913	526,948	125,145	909,821	0
1976	1,738,708	674,592	113,515	961,601	-11,000
1977	2,115,432	800,675	180,796	1,133,962	0
1978	2,538,714	940,739	270,591	1,327,385	0

Projected Net Surplus
For Given Reserve Contribution Rates

					<u>10%</u>	<u>7.5%</u>	<u>5%</u>
1979	\$2,915,075	\$1,078,578	\$291,508*	\$1,534,250	\$10,740	\$ 83,617	\$156,494
1980	3,276,075	1,212,148	327,608	1,724,250	12,070	93,972	175,874
1981	3,673,175	1,359,075	367,318	1,933,250	13,533	105,362	197,192
1982	4,052,225	1,499,323	405,223	2,132,750	14,929	116,235	217,541
1983	4,476,400	1,656,268	447,640	2,356,000	16,492	128,402	240,312
1984	4,891,550	1,809,874	489,155	2,574,500	18,022	140,310	262,599
1985	5,324,750	1,970,158	532,475	2,802,500	19,618	152,736	285,855
1986	5,766,975	2,133,781	576,698	3,035,250	21,247	165,421	309,596
1987	6,213,713	2,299,074	621,371	3,270,375	22,893	178,235	333,578
1988	6,678,500	2,471,045	667,850	3,515,000	24,605	191,568	358,530
1989	7,147,800	2,644,686	714,780	3,762,000	26,334	205,029	383,724

*Note: The reserve contribution figures in this column were calculated at the 10% of gross income rate.

The basic method used to determine the required regular reserve allocation is as follows: Immediately before the payment of each dividend, the gross earnings should be determined, from this amount there shall be set aside sums as a regular reserve in accordance with the following schedule:

- a. Ten (10%) percent of gross income until the regular reserve equals five (5%) percent of total risk assets; then
- b. Seven (7%) percent of gross income until the regular reserve equals six (6%) percent of total risk assets; then
- c. Five (5%) percent of gross income until the regular reserve equals seven (7%) percent of total risk assets.

The net surplus after reserves is the maximum amount appropriate for the annual costs of acquiring additional space and facilities and is very sensitive to reserve policies. Overspending on real estate would adversely affect the permissible dividend rate which would have some influence on capture rate and rate of growth.

Conservatism would suggest it would be unwise to incur additional facilities costs in excess of surplus realized at 7.5% reserve contribution rate. Thus the 7.5% column in Table VI becomes a critical constraint on space and facility costs to be incurred to meet expansion needs.

H. Analysis of Financial Operations by Location

UWCU operations are generated at four locations. The relative distribution of business activity and dollar volumes among the various locations has been summarized in Table VII. The data in Table VII was generated from an analysis of the credit Union's monthly data for a 13 month period. Prior to that time, data was kept in a slightly different format and all payroll deductions by the University were attributed to the office in the Peterson Building, thus distorting activity indices, etc. Thus, the figures in Table VII do not include payroll transfers or mailroom volumes.

The results indicate that the total number of transactions is roughly divided between the Monroe Street office and the other locations, particularly the Peterson Building but the dollar amount of these transactions greatly favors Monroe Street. Green Bay was included rather than distort the significance of percentages by reallocating Madison business. Small deposits and monthly mortgage payments are made at the remote locations but large loans and savings deposits apparently take place at Monroe Street. Perhaps those members with higher incomes are driving in from the suburbs and appreciate the parking and the drive-in window while the other sites on campus are a matter of convenience for students and clerical staff. An analysis of the monthly data on operations indicated that percentages of activities for new members, loan disbursements and other payments as well as savings deposits and withdrawal volume tended to remain constant. Monthly variations for the locations in total tended to be large and cyclical with regard to the school year. Preferences

TABLE VII

ACTIVITY AND VOLUME DISTRIBUTION
OF THE C.U.'S OPERATIONS
January 1, 1978-January 31, 1979

<u>Activity or Volume</u>	Average Total Monthly Activity or Volume	Percent of Total Activity Volume and/or Average Amounts by Location			
		Monroe St.	A.W. Peterson	Health Services (Mid-Campus)	Green Bay
MEMBERSHIP					
Average total new members per month	414	49.98%	34.54%	6.62%	8.87%
LOANS					
Average <u>number</u> of loans disbursed per mo.	1,177	68.22%	19.11%	7.23%	5.03%
Average <u>total amount</u> of loans disbursed per mo.	\$1,182,298	77.54%	13.47%	4.18%	4.81%
Average <u>loan size</u> disbursed per mo.	\$998	\$1,141	\$679	\$578	\$997
Average <u>number</u> of loan <u>repayments</u> per mo.	4,957	39.11%	46.49%*	3.58%	3.64%
Average <u>total amount</u> of loan <u>repayment</u> per mo.	\$ 731,521	57.16%	35.42%	3.96%	3.60%
Average <u>size</u> of loan <u>repayment</u> per mo.	\$148	\$ 221	\$112	\$150	\$139
SAVINGS					
Average <u>number</u> of savings <u>deposits</u> per mo.	9,146	45.39%	39.56%	10.04%	2.71%
Average <u>total amount</u> of savings <u>deposited</u> per mo.	\$3,153,153	58.19%	32.13%	7.95%	1.80%
Average <u>size</u> of savings <u>deposits</u> per mo.	\$343	\$ 436	\$265	\$264	\$220
Average <u>number</u> of savings <u>withdrawals</u> per mo.	11,544	36.18%	46.05%	13.91%	3.50%
Average <u>total amount</u> of savings <u>withdrawals</u> per mo.	\$2,008,921	61.99%	27.83%	7.13%	2.30%
Average <u>size</u> of savings <u>withdrawals</u> per mo.	\$175	\$ 302	\$110	\$ 88	\$119

Note: Separate accounting for mail and payroll deductions has apparently reduced this to an average of 11.27% for the 3 months that separate accounting occurred.

for particular location by any particular type of member was not discernable except in terms of the average amount of the transactions. For lack of current membership data it was assumed that the same patterns revealed in Table VI would continue for planning purposes.

I. Employee Forecasts for Space Planning

Assets and membership provide a basis for estimating general employee requirements of the Credit Union, barring any sharp change in banking techniques. A general employee count was forecasted based on the historical ratio of asset \$/employees, members/employees, and the historic employee count in full-time equivalence, since many of the positions are filled by part-time individuals. This data is available on Table VIII. The relationship of assets to employees has been reasonably constant since 1975 but somewhat low, nevertheless, and the membership per employee also seems slightly unfavorable relative to norms for the industry. These patterns may be explained by the low asset position of the dominant student membership, students which cause a pattern of frequent transactions for relatively minor amounts of deposits and withdrawals. The trends in Table VIII provided the basis for establishing a least squares trend line and then using the formulas to predict the total employee count in Table IX. Three alternative forecasts were combined into a single estimate over time. This total employment forecast was then allocated between the various departments relative to historical percentages and certain shifts in pattern which were noted in Table IX. These allocations could be altered by management decisions for staffing and represents only full-time equivalence. Job positions as teller, office-clerical, community service and marketing typically have the highest number of part-time employees and where noted, these were counted as one-half an employee.

J. Initial Space Needs Forecast

A preliminary general space estimate related to future business volumes can be generated by applying general space standards to the employee forecast by function and aggregating into an overall space need forecast. Such a forecast provides a preliminary benchmark which can be modified by management policy, shifts in technology such as the introduction of drive-in facilities, remote automatic teller kiosks, or possibly subcontracting some functions to an accounting firm, etc. Table X shows a component space forecast for years 1980, 1985, and 1989. Each estimate shows the increment in space required and the total working and support areas at all locations. The rate of increase could be dampened to the degree that any of the assumptions in the basic logic model can be modified by management, particularly in terms of asset dollars per employee and employee per member due to some inflationary increase in the dollar per transaction. If the rate of increase in dollar per transaction is higher than the general increase in wages, there should be some evidence in growing efficiency in terms of payroll expense per member and per transaction.

TABLE VIII

RATIOS OF U.W. CREDIT UNION FULL-TIME EMPLOYEES
TO TOTAL ASSETS AND TO MEMBERSHIP (1970-1978)

<u>Year</u>	<u>Assets ÷ Employees</u>	<u>Members ÷ Employees</u>	<u>Employee Count (Full-time)</u>
1970	515,809	885	15
1971	611,788	907	16
1972	556,967	755	21
1973	564,556	755	23
1974	619,403	814	25
1975	681,465	892	26
1976	651,573	732	31
1977	646,077	655	35
1978	726,077	633	37

TABLE IX
U.W. CREDIT UNION EMPLOYEE FORECASTS ALLOCATED BY FUNCTION

Year	Management	Accounting	Tellers	Loans	Collection	Sub-office	Comm. Service	Marketing	Total Full Time (Includes Part Time)
1979	4	5 (6)	9 (11)	5	3 (4)	9 (10)	4 (5)	3 (5)	42 (50)
1980	4	5 (6)	10 (13)	5	3 (4)	10 (11)	5 (7)	3 (5)	45 (55)
1981	5	5 (6)	11 (14)	6	3 (4)	11 (12)	5 (7)	3 (5)	49 (59)
1982	5	5 (6)	11 (14)	6	4 (5)	11 (12)	5 (7)	4 (6)	51 (61)
1983	5	6 (7)	12 (15)	7	4 (5)	12 (13)	6 (8)	4 (6)	56 (66)
1984	6	6 (7)	13 (16)	7	4 (5)	13 (14)	6 (8)	4 (6)	59 (69)
1985	6	7 (8)	14 (18)	8	4 (5)	14 (16)	6 (8)	4 (6)	63 (75)
1986	6	7 (8)	15 (19)	8	5 (6)	15 (17)	7 (9)	5 (8)	68 (81)
1987	7	7 (8)	16 (20)	9	5 (6)	16 (18)	7 (9)	5 (8)	72 (85)
1988	7	8 (9)	17 (21)	9	5 (6)	17 (19)	8 (11)	5 (8)	76 (99)
1989	8	8 (9)	18 (23)	10	6 (7)	18 (20)	8 (11)	6 (9)	82 (90)

Note: The numbers in parenthesis represent the full-time employee forecast plus anticipated part-time counting as is of an employee.

TABLE X
U.W. CREDIT UNION FLOOR AREA REQUIREMENTS PROJECTED FOR 1980, '85 AND '89

WORKING AREAS	1980 Projected Levels			1985 Projected Levels			1989 Projected Levels		
	Employees	Standard	Area(sf)	Employees	Standard	Area(sf)	Employees	Standard	Area(sf)
Management	4	@ 200	800 sf	6	@ 200	1,200 sf	8	@ 200	1,600 sf
Accounting	6	@ 110	660 sf	8	@ 110	880 sf	9	@ 110	990 sf
Tellers	11	@ 65	715 sf	18	@ 65	1,170 sf	23	@ 65	1,495 sf
Loans	5	@ 125	625 sf	8	@ 125	1,000 sf	10	@ 125	1,250 sf
Collection	4	@ 110	440 sf	5	@ 110	550 sf	7	@ 110	770 sf
Branch Office	10	@ 125	1,250 sf	16	@ 125	2,000 sf	20	@ 125	2,500 sf
Comm. Service	5	@ 110	550 sf	8	@ 110	880 sf	11	@ 110	1,210 sf
Marketing	5	@ 110	550 sf	6	@ 110	660	9	@ 110	990 sf
Sub totals	<u>50</u>		<u>5,590</u> sf	<u>75</u>		<u>8,340</u> sf	<u>97</u>		<u>10,805</u> sf
Circulation Factor 1.15			1.15			1.15			1.15
Total Work Area			<u>6,429</u> sf			<u>9,591</u> sf			<u>12,425</u> sf
SUPPORT AREAS									
Lobby @ 135 sf per teller			1,485 sf or 0*			2,430 sf or 400 sf			3,105 sf or 400 sf
Lounge/training @ 40 sf per H.O. Employee $\div 3$			535 sf			790 sf or 535 sf**			1,030 sf or 535 sf
Files/storage @ 15 per H.O. Employee			600 sf			885 sf			1,155 sf
Board Room @ 25 sf \times 15			375 sf			375 sf			375 sf
Washrooms			300 sf			300 sf			300 sf
Sub totals			<u>3,295</u> sf	<u>1,810</u> sf		<u>4,780</u> sf	<u>2,495</u> sf		<u>5,965</u> sf <u>2,765</u> sf
Total Working and Support Areas			<u>9,725</u> sf	<u>8,240</u> sf		<u>14,371</u> sf	<u>12,086</u> sf		<u>18,390</u> sf <u>15,190</u> sf
Existing Space (excluding Green Bay)			<u>6,075</u> sf	<u>6,075</u> sf		<u>9,725</u> sf	<u>8,240</u> sf		<u>14,371</u> sf <u>12,086</u> sf
New Additional Space Required			3,650 sf	2,165 sf		4,646 sf	3,846 sf		4,019 sf 3,104 sf

*Additional lobby space per teller may not be a necessity depending on customer load distribution over time and shift away from Monroe Street.

**Additional lounge and training areas may be unnecessary given branch locations which can use University lounge space.

The present total space that the Credit Union occupy is, 6,075 s.f., this amount is distributed as follows:

Monroe Street location	5,200 s.f.
A.W.P. location	685 s.f.
1301 University Avenue	100 s.f.
C.H.S. location	<u>90 s.f.</u>
Total	6,075 s.f.

When this existing space is compared to forecasted space requirements in Table X, it would appear that there will be a need for 2,165-3,650 additional sq. ft. in the next 24 months. By 1985-6 further space requirements could mushroom to an additional 3,846-4,600 sq. ft. depending on assumptions about lobby space per teller, and lounge and training facilities which typically do not expand at a linear rate with additional employment. Nor is it clear that employment will expand to 1985 levels if the public accepts and the industry provides improved automatic teller equipment. Certainly the 1989 projection is questionable in terms of the number of tellers and branch employees given the potential for change in banking methods through electronic data processing from remote ATM's and shared computer facilities for the Credit Union movement. The immediate space need problems amount to approximately 2,400 sq. ft. to be further allocated and defined by analysis of existing facilities and their status.

III. PRESENT STATUS OF U.W. CREDIT UNION FACILITIES

Each Credit Union Office was visited, its transaction volume reviewed, its customers surveyed, and staff interviewed for comments and suggestions as to improvements which might be appropriate. This information has been digested and summarized by location below and supplemented with various tables and maps as appropriate. Dimensions of on-site member survey are provided in TABLES XI and XII.

A. Monroe Street Office

The Monroe Street Office is a new one-story structure providing 5,200 s.f. of office space with 105 feet of frontage. It receives heavy membership use and 49% of these members drive to the office. It is also the central accounting office and management center for all Credit Union operations so that both the customer areas and management areas are becoming too small for current operations.

Expansion of the facility is constrained by the refusal of owners to the southwest to sell contiguous land, a railroad track to the rear of the site and University owned lands to the northeast. The structure is not designed to accept a second floor for vertical expansion. Vertical expansion would be possible with an expensive truss system to carry second floor load down to grade outside present existing walls.

TABLE XI

U.W. CREDIT UNION CONSUMER SURVEY SAMPLE SUMMARY

A. U.W. Credit Union membership as of May 1979 24,115

Less: dormant accounts 4,839

ACTIVE MEMBERSHIP 19,276

B. Population sampled: Members transacting business inside the four credit union offices*

1. Monroe Street
2. 1301 University Ave./a.k.a. Mid-Campus
3. Clinical Science Center/a.k.a. CSC
4. Peterson Building

*Population excludes those members using ATM

C. Total number of members approached 783

Total number of refusals 72

Total number of interviews 711

% of population (active members) sampled:

711/19,276 = 3.69%

D. Percent of membership type at each location

	Monroe	Mid-Campus	Peterson	CSC
Total Sample	189	209	212	101
Faculty Staff	20.6% 23.3	14.8% 33.0	9.4% 30.2	12.9% 72.3
Total Faculty/Staff	<u>43.9%</u>	<u>47.8%</u>	<u>39.6%</u>	<u>85.2%</u>
Graduate Students Undergraduate Students	23.3% 21.2	40.7% 10.5	29.7% 21.2	8.9% 5.9
Total Students	<u>44.5%</u>	<u>51.2%</u>	<u>50.9%</u>	<u>14.8%</u>
Total Alumni	<u>11.6%</u>	<u>1.0%</u>	<u>9.5%</u>	<u>0.0%</u>

TABLE XII

E. Sampling pattern

CREDIT UNION LOCATIONS								
Date of Interviews	Monroe		Mid-Campus		Peterson		CSC	
	Time	Hours	Time	Hours	Time	Hours	Time	Hours
Wed. 7/11/79	11-5	(6.0)	11-4	(5.0)	11-4:30	(5.75)	10:45-12:15 1-4:30	(5.0)
Thurs. 7/12/79	10-5	(7.0)	11-4	(5.0)	10:45-4:30	(5.75)	9:15-12:15 1-4:30	(6.5)
Fri. 7/13/79	1-5	(4.0)	11-4	(5.0)	10:30-1 3-4:30	(4.0)	10:15-12:15	(2.0)
Total Hours at Each Location	17.0		15.0		15.5		13.5	
Number of Members Approached	207		224		242		110	
Refusals	18		15		30		9	
Number of Interviews Completed	189		209		212		101	
Interviews/Hour** at Each Location	11.12		13.93		13.67		7.48	

**Caution: Though the rate of interviews completed at each location is somewhat indicative of membership use of that facility, differences among interviewers also can account for rate differences.

F. Ideal location for ATM

Of the 711 members interviewed, 48.5% (345) preferred a reliable and convenient ATM. The choices are summarized:

<u>Number of Members</u>		<u>Ideal Location</u>
24%	82	State St. Mall/Memorial Union/Memorial Library/Univ. Bookstore
16%	54	1301 University Ave./Univ. Ave. @ Randall & Charter/Old Hospital
13%	46	Clinical Science Center
12%	42	Peterson Building
9%	31	Union South
9%	30	Monroe Street
5%	17	Bascom/Commerce/Social Science
1%	5	University/Park
1%	5	Downtown
	2	Chemistry Building
	2	Eagle Heights
	2	Hilldale
	1	Law School
	1	Pharmacy School
	1	WARF
	1	Bio Chem
	1	Regent Street
	1	VA Hospital
	1	Waisman Center
	1	Dorm Area
	1	University Square
	1	Russell Lab
	1	Art Department

Site use is further restricted by a driveway entrance on the southwest side which must loop to a 17 foot wide blacktop driveway on the northeast side which must serve both the drive-up window and as an exit for twenty cars of parking at the rear. (See Exhibit 1.) 49% of the members doing business at the Monroe Street Office drive cars to the site and 49% of those are dissatisfied with accessibility of the drive-up window. Many others ride bikes and requested adequate bike rack storage. Negotiation of an easement over University lands to a Randall Street exit would be prohibited by Section 10.08 of the City of Madison Ordinances which permits a maximum of two driveways per 600 feet of frontage. A Randall Street exit would necessitate closing the driveway on the southwest side.

Closing of the drive would provide an area 15' x 128' for expansion of office space for management by 1,900 sq. ft.

The shortage of lobby space could be adjusted by providing more acceptable drive-in facilities, attracting more member activity to the office at 1301 University Avenue, or diverting basic transactions such as cash withdrawals and deposits to automatic teller facilities at other points on campus. Those options are limited in part by the strong preference of many members for the personal contact and service currently offered by the Credit Union as contrasted to other financial institutions in the City of Madison. Moreover, nearly 70% of loan disbursals are made at the Monroe Street Office and these are not easily automated or conducted from an auto.

The reader is referred to survey research results relative to Monroe Street in TABLES XIII and XIV for further detail. Note that nearly half of the students traveled from home to the Credit Union and nearly half of those students drove cars. Nevertheless, the students found newfangled ideas like an ATM much more acceptable than did faculty and staff.

B. 1301 University Avenue

This location is a very popular office despite relocation of many health service staff and despite a minimum size of approximately 90 sq. ft. The rent is \$400 per year (\$4.44 per sq. ft.), leaving a significant value surplus for funding improvements. The building is now fully owned by the U.W. Regents who acquired partial interests. Separate statistics were not available for TABLE VII on transaction volume. Those interviewed at other locations were under the misunderstanding that it had been or would be closed and a large number of members didn't know it existed. Those users, both faculty and students, were concered that it might be closed and showed considerable affection and respect for the personnel of that office. At the same time, 50% of those who would accept an ATM selected this Mid-Campus Office as an ideal location and another 33% divided their choice between Union South and the Ag School. Of those who would accept a conveniently located ATM, 50% of the faculty/staff and 79% of the students indicated they would reduce their use of the office facility.

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XIII

Location Monroe

Membership Type Faculty/Staff

Number in Sample 83 Remarks: 1. Of the 46% of the faculty/staff who favor an ATM 55% would use the Monroe St. Office less frequently if an ATM was conveniently located. 2. Approximately 5% of both the faculty/staff and students cash checks at the Monroe St. Office; at the other offices cashing checks account for 17-43% of the transactions.

30%	25	Less than once a month
25%	21	1-2 times a month
35%	29	3-4 times a month (weekly)
7%	6	Several times a week
3%	2	N.A.
		1. How often each month do you visit a University Credit Union office?
		2. What is the basis for your membership in the Credit Union?
	39	Faculty
	44	Staff
		Undergraduate student
		Graduate student
		Alumnus
		3. Where were you just before you came to the Credit Union today?
26%	22	Home (Obtain address or nearest X-street)
57%	47	Campus (Obtain bldg/area name)
17%	14	Other (Obtain address or name of area)
		4. Which of the following words best describes the convenience of this location for your credit union needs?
52%	43	Very convenient
37%	31	Moderately convenient
11%	9	Inconvenient
		5. What campus location of a credit union office would be the most convenient for you?
		Locations listed on back.

Av. travel time 6. How many minutes did it take you to get here? Minutes
from: (From your last location)
Home-10.86 min.; Campus-5.36 min.; Other-8.75 min.

7. How did you travel here today?

- 46 Car
- 24 Walk
- 2 Bus
- 9 Bike
- 2 Other (Cycle)
(If response is car, ask question 8; otherwise, go to question 9.)

8. Would a more accessible automated drive-up facility at this location better serve your needs?

- 16 Yes
- 30 No

9. When a teller window is busy, how long are you willing to wait for service?

- 41 More than 5 minutes
- 33 3-5 minutes
- 5 1-3 minutes
- 0 30-60 seconds
- 1 Less than 30 seconds or I'll not wait
- 3 N.A.

25%	21	Withdrawal
22%	18	Deposit
5%	4	Cash check
1%	1	Transfer funds between accounts
2%	2	Loan payment
13%	11	Loan inquiry and/or negotiation
12%	10	Other
20%	16	Multiple transactions
46%	38	11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?
54%	45	No
		(If no, ask reasons why not)
		Of 45 no:
	20	Prefer personal contact
	4	Current machine malfunctions
	2	Temptation to spend too much money
	2	Dislike machines/cards
	1	Don't trust for deposits
	1	Can't handle some transactions
	2	Never used/don't want to
	5	Convenient as is
	0	Want to know balance & have receipts
	1	Not private enough/prefer incoors
	0	Don't like withdrawal increments
	0	Requirements for cards too rigid
		(If yes, continue interview; otherwise, stop interview.)
	12.	Of 38 yes: What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on separate sheet.
	13.	How many times each month would you use a conveniently located automatic teller?
	2	Less than once a month
	11	1-2 times a month
	17	3-4 times a month
	7	Several times a week
	3%	14. N.A.
		What is the average amount of cash you withdraw at one time? (To have right size bills in teller) $\geq \$20 = 34/15 = 1/10 = 2$
	15.	If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?
	23	Less than once a month
	11	1-2 times a month
	3	3-4 times a month (weekly)
	0	Several times a week
	2%	1 N.A.
		Change in Frequency of Office Use
55%	21	Less frequent use
37%	14	No change in use
5%	2	More frequent use
	3%	1 N.A.

QUESTION 5

	N=43	N=31	N=9
If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>	<u>Inconvenient</u>
Then ideal location is:	Monroe St. 38 CSC 2 Univer/Park 1 Bacteriology Lab 1 1301 Univ. 1	Monroe St. 8 Peterson 4 1301 University 7 CSC 3 Ag. Campus 2 Memorial Union 1 Central Campus 1 West Dayton 1 Van Hise 1 St. Mary's 1 Place w/more parking 1 N.A. 1	CSC 3 Peterson 3 Downtown 1 Van Hise 1 Place w/more parking 1

COMMENTS FROM MEMBERS

1. Likes parking that is available at Monroe
2. University Ave. Office parking impossible
3. Not aware of 1301 University Ave. Office; thought it closed
4. Drive-up window access too narrow, service is too slow, and teller should be assigned only to that window. (Comments repeated many times)
5. Ingress-egress is a problem on Monroe; would like access to Randall St.
6. Need more parking spaces
7. Lines extremely long on busy days

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XIV

Location Monroe

Membership Type Students

Number in Sample 84 Remarks: 1. 64% of the students sampled came to this Credit Office from places other than the U.W. campus. 2. Of the 62% who prefer a conveniently located ATM, 75% would use the Monroe St. Office less frequently. 3. Students divided evenly as to the most ideal location for an ATM: Monroe St. (23%), Union South (23%), and the Mall/Memorial Union (25%).

1. How often each month do you visit a University Credit Union office?

7% 6 Less than once a month
 35% 29 1-2 times a month
 31% 31 3-4 times a month (weekly)
 20% 17 Several times a week

1% 1 N.A.

2. What is the basis for your membership in the Credit Union?

Faculty
 Staff
 Undergraduate student
 Graduate student
 Alumnus

3. Where were you just before you came to the Credit Union today?

45% 38 Home _____
 (Obtain address or nearest X-street)
 36% 30 Campus _____
 (Obtain bldg/area name)
 19% 16 Other _____
 (Obtain address or name of area)

4. Which of the following words best describes the convenience of this location for your credit union needs?

50% 42 Very convenient
 43% 36 Moderately convenient
 7% 6 Inconvenient

5. What campus location of a credit union office would be the most convenient for you?

Locations listed on back.

Av: travel time 6. How many minutes did it take
from: _____ you to get here? Minutes _____
Home-8.11 min.; Campus ^{(Ent. 5.93 min); Deref 12.9 min.}

7. How did you travel here today?
35 Car
13 Walk
1 Bus
14 Bike
1 Other

(If response is car, ask question 8; otherwise, go to question 9.)

8. Would a more accessible automated drive-up facility at this location better serve your needs?

24
II

9. When a teller window is busy, how long are you willing to wait for service?

48 More than 5 minutes
 34 3-5 minutes
 24 1-3 minutes
 0 30-60 seconds
 0 Less than 30 seconds or I'll not wait

—

10. What kind of transaction will you make today?
25% 21 a. Withdrawal
26% 22 b. Deposit
6% 5 c. Cash check
1% 1 d. Transfer funds between accounts
1% 1 e. Loan payment
10% 8 f. Loan inquiry and/or negotiation
6% 5 g. Other

25% 21 Multiple transactions
11% 9 11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?
62% 52 Yes
38% 32 No
(If no, ask reasons why not)
Of 32 no:
16 Prefer personal contact
1 Current machine malfunctions
0 Temptation to spend too much money
3 Dislike machines/cards
9 Don't trust for deposits
3 Can't handle some transactions
0 Never used/don't want to
3 Convenient as is
0 Want to know balance & have receipts
0 Not private enough/prefer indoors
0 Don't like withdrawal increments
Requirements for cards too rigid

(If yes, continue interview; otherwise, stop interview.)

12. Of 52 yes:
What campus location for a walk-up automatic teller would be most convenient for you?

13. How many times each month would you use a conveniently located automatic teller?

3 Less than once a month
9 1-2 times a month
28 3-4 times a month
11 Several times a week

14. What is the average amount of cash you withdraw at one time?
(To have right size bills in teller)
$$\geq \$20 = 31/15 = 5/10 = 5/5 = 2$$

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?

22 Less than once a month
22 1-2 times a month
6 3-4 times a month (weekly)
0 Several times a week

2 H.A.

Change in Frequency of Office Use

39 Less frequent use
10 No change in use
0 More frequent use
3 N.A.

QUESTION 5

N=42

N=36

N=6

If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>	<u>Inconvenient</u>
Then ideal location is:			
	Monroe St. 30	Monroe St. 9	Peterson 3
	Peterson 5	Peterson 8	Monroe 1
	Univ. Ave. 3	Univ. Ave. 7	Univ. Ave. 1
	Union South 1	Union South 3	N.A. 1
	Eagle Heights 1	CSC 2	
	Lyndon Dr. 1	Med. Science Lib. 1	
	Chamberlain 1	Library Mall 2	
		Fitchburg 1	
		Bascom/Soc. Sci. 2	
		Place w/parking 1	

COMMENTS FROM MEMBERS

1. Bike racks needed
2. Several didn't know of 1301 University Ave. and CSC offices
3. Use Monroe because parking is a problem at CSC
4. Too much red tape to get help at office
5. Should allow more than one transaction at drive-up window
6. Drive-up window takes too long
7. Need to label entrance for drive-up

Unfortunately, it is almost impossible to detect the Credit Union Office from the street and many persons bypass it for the Monroe Street Office as a result. Those who do know about 1301 University Avenue, live and work within three minutes travel time by bike or by foot. Enhancement of this site in terms of visibility from the street and terms of size would divert some pressure from the tellers at Monroe Street and the site would lend itself to advertising the existing TYME facility at nearby Union South, further migrating personnel costs and expanding the hours for deposits and withdrawals. Union South is open these hours during the regular semester:

6:30 A.M. to 11:00 P.M. Monday through Thursday
6:30 A.M. to 12:00 A.M. Friday
8:00 A.M. to 12:00 A.M. Saturday
10:00 A.M. to 11:00 P.M. Sunday

For additional survey comments and patterns, see TABLES XV and XVI.

C. The Peterson Building Office

The Peterson Building Office of 700 sq. ft. is well established. It is leased for \$1,500 a year (\$2.14 per sq. ft.), a net rent representing amortization of \$30,000 of leasehold improvements by the University. This lease format is an excellent prototype for expansion of 1301 University. As TABLE VII indicates, it accounts for 35% of new members and 20% of loans disbursed. There is a significant difference between convenience for faculty and for students. More than 80% of the faculty use the Credit Union while on campus during the week and nearly half visit the office weekly. 60% of the faculty would prefer an ATM for deposits and withdrawals. On the other hand, nearly half the student members came from home or other locations with travel times more than five minutes away. Students were more likely to wish for service on weekends and evening hours than were the faculty. That factor was reflected in the statistic that nearly half of the faculty/staff who would use an ATM thought the Peterson Building is an ideal place for it while 33% chose the Memorial Union and Mall as more convenient. However, among the students, 60% also preferred ATM but only 19% selected the Peterson Building and 53% preferred the Union/Mall/Library areas, probably because they would be accessible more hours of the week.

Staff space is minimal and competes for space with a shortage of University administration area. There is no opportunity for drive-in banking, hours are limited by University hours, and accessibility by car greatly limited by University campus shortages and the present reconstruction of the Lake Street parking ramp. For other details from the survey and summary comments, see TABLES XVII and XVIII.

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XV

Location Mid-CampusMembership Type Faculty/Staff

Number in Sample 100 Remarks: 1. 93% of the faculty/staff members sampled walk to the Mid-Campus office; average travel time is 3 minutes. 2. The 30% who favor ATM would decrease the frequency of their office visits by 50% if an ATM was conveniently located. 3. The transactions were evenly divided among withdrawals (24%), deposits (24%), check cashing (27%) and other/multiple (23%).

1.	How often each month do you visit a University Credit Union office?
5%	<u>5</u> Less than once a month
28%	<u>28</u> 1-2 times a month
37%	<u>37</u> 3-4 times a month (weekly)
30%	<u>30</u> Several times a week
2%	<u>2</u> Home (Obtain address or nearest X-street)
96%	<u>96</u> Campus (Obtain bldg/area name)
2%	<u>2</u> Other (Obtain address or name of area)
96%	<u>96</u> Very convenient
4%	<u>4</u> Moderately convenient <u>1</u> Inconvenient
5.	What campus location of a credit union office would be the most convenient for you? <u>Locations listed on back.</u>

Av. travel time from:
Home-17.5 min.; Campus-3.3 min.; Other-4.0 min.

7	How did you travel here today?
<u>2</u> Car	
<u>93</u> Walk	
<u>3</u> Bus	
<u>2</u> Bike	
<u>0</u> Other	

(If response is car, ask question 8; otherwise, go to question 9.)

8.	Would a more accessible automated drive-up facility at this location better serve your needs?
<u>0</u> Yes	
<u>2</u> No	

9.	When a teller window is busy, how long are you willing to wait for service?
<u>50</u> More than 5 minutes	
<u>39</u> 3-5 minutes	
<u>10</u> 1-3 minutes	
<u>0</u> 30-60 seconds	
<u>0</u> Less than 30 seconds or I'll not wait	
<u>1</u> N.A.	

10. What kind of transaction will you make today?

24%	<u>24</u> a. Withdrawal
24%	<u>24</u> b. Deposit
27%	<u>27</u> c. Cash check
0%	<u>0</u> d. Transfer funds between accounts
1%	<u>1</u> e. Loan payment
1%	<u>1</u> f. Loan inquiry and/or negotiation
5%	<u>5</u> g. Other

18. Multiple transactions

18%	<u>18</u> 11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?
30%	<u>30</u> Yes

70 No
(If no, ask reasons why not)

Of 70 no:

28	28 Prefer personal contact
9	<u>9</u> Current machine malfunctions
4	<u>4</u> Temptation to spend too much money
6	<u>6</u> Dislike machines/cards
12	<u>12</u> Don't trust for deposits
8	<u>8</u> Can't handle some transactions
4	<u>4</u> Never used/don't want to
14	<u>14</u> Convenient as is
4	<u>4</u> Want to know balance & have receipts
0	<u>0</u> Not private enough/prefer indoors
1	<u>1</u> Don't like withdrawal increments
0	<u>0</u> Requirements for cards too rigid

(If yes, continue interview; otherwise, stop interview.)

Of the 30 yes:

12. What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on

separate sheet.
13. How many times each month would you use a conveniently located automatic teller?

0%	<u>0</u> Less than once a month
23%	<u>7</u> 1-2 times a month
43%	<u>13</u> 3-4 times a month
33%	<u>10</u> Several times a week

14. What is the average amount of cash you withdraw at one time?
(To have right size bills in teller)

$$\frac{1}{20} = 1 \quad \frac{1}{15} = 1 \quad \frac{1}{10} = 5 \quad \frac{1}{5} = 3$$

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?

30%	<u>9</u> Less than once a month
50%	<u>15</u> 1-2 times a month
10%	<u>3</u> 3-4 times a month (weekly)
7%	<u>2</u> Several times a week
3%	<u>1</u> N.A.

Change in Frequency of Office Use

50%	<u>15</u> Less frequent use
47%	<u>14</u> No change in use
0%	<u>0</u> More frequent use
3%	<u>1</u> N.A.

QUESTION 5

N=96

N=4

If current location is:

Very ConvenientModerately Convenient

Then ideal location is:

Mid-Campus	
1301 University	92
Ag. Campus	2
Near Bardeen Lab	1
Student Union	1

Mid-Campus	
1301 University	4

COMMENTS FROM MEMBERS

1. Really like the personnel; very pleasant and helpful!!
2. PLEASE DON'T CLOSE THIS OFFICE
3. Never have to wait too long
4. Would like extended hours at this location

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XVI

Location Mid-CampusMembership Type Students

Number in Sample 107 Remarks: 1. 100% of the student members sampled travel by bike or by foot; the average travel time is 3 minutes. 2. Of the 40% who prefer ATM, 79% would use the Mid-Campus Office less frequently if an ATM was conveniently located. 3. Transactions were made as follows: Withdrawals (39%), deposits (27%), cash checks (19%), and other/multiple (14%).

1. How often each month do you visit a University Credit Union office?

<u>1%</u>	<u>1</u> Less than once a month
<u>17%</u>	<u>18</u> 1-2 times a month
<u>36%</u>	<u>42</u> 3-4 times a month (weekly)
<u>43%</u>	<u>46</u> Several times a week

2. What is the basis for your membership in the Credit Union?

<u>— Faculty</u>
<u>— Staff</u>
<u>22</u> Undergraduate student
<u>85</u> Graduate student

Alumnus

3. Where were you just before you came to the Credit Union today?

<u>6%</u>	<u>7</u> Home (Obtain address or nearest X-street)
<u>90%</u>	<u>96</u> Campus (Obtain block/area name)
<u>4%</u>	<u>4</u> Other (Obtain address or name of area)

4. Which of the following words best describes the convenience of this location for your credit union needs?

<u>97%</u>	<u>104</u> Very convenient
<u>3%</u>	<u>3</u> Moderately convenient
	<u>— Inconvenient</u>

5. What campus location of a credit union office would be the most convenient for you?

Locations listed on back.

Av. travel time 6. How many minutes did it take you to get here? Minutes (From your last location)
from: home-7.1 min.; Campus-3.29 min.; Other-2.75 min.

7. How did you travel here today?

<u>0</u> Car
<u>96</u> Walk
<u>0</u> Bus
<u>11</u> Bike
<u>0</u> Other

(If response is car, ask question 8; otherwise, go to question 9.)

8. Would a more accessible automated drive-up facility at this location better serve your needs?

<u>0</u> Yes
<u>0</u> No

9. When a teller window is busy, how long are you willing to wait for service?

<u>52</u> More than 5 minutes
<u>43</u> 3-5 minutes
<u>11</u> 1-3 minutes
<u>0</u> 30-60 seconds
<u>0</u> Less than 30 seconds or I'll not wait

10. What kind of transaction will you make today?

<u>42</u>	<u>a</u> Withdrawal
<u>29</u>	<u>b</u> Deposit
<u>20</u>	<u>c</u> Cash check
<u>0</u>	<u>d</u> Transfer funds between accounts
<u>0</u>	<u>e</u> Loan payment
<u>0</u>	<u>f</u> Loan inquiry and/or negotiation
<u>4</u>	<u>g</u> Other

11. Multiple transactions

11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?

43 Yes

64 No

(If no, ask reasons why not)

Of 64 no:

24 Prefer personal contact

<u>4</u>	Current machine malfunctions
<u>5</u>	Temptation to spend too much money
<u>13</u>	Dislike machines/cards
<u>10</u>	Don't trust for deposits
<u>12</u>	Can't handle some transactions
<u>3</u>	Never used/don't want to
<u>8</u>	Convenient as is
<u>5</u>	Want to know balance & have receipts
<u>0</u>	Not private enough/prefer indoors
<u>2</u>	Don't like withdrawal increments
<u>1</u>	Requirements for cards too rigid

(If yes, continue interview; otherwise, stop interview.)

Of 43 yes:

12. What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on separate sheet.

13. How many times each month would you use a conveniently located automatic teller?

<u>0</u>	Less than once a month
<u>6</u>	1-2 times a month
<u>20</u>	3-4 times a month
<u>17</u>	Several times a week

14. What is the average amount of cash you withdraw at one time?

(To have right size bill in teller)

$\geq \$20=22/15=4/10=1375=4$

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?

<u>16</u>	Less than once a month
<u>17</u>	1-2 times a month
<u>9</u>	3-4 times a month (weekly)
<u>1</u>	Several times a week

Change in Frequency of Office Use

<u>34</u>	Less frequent use
<u>21</u>	No change in use
<u>02</u>	More frequent use

QUESTION 5

N=104

N=3

If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>	
Then ideal Location is:			
Mid-Campus		Mid-Campus	
1301 University	96	1301 University	2
Peterson	1	Ag Campus	1
Langdon/State	1		
Union South	2		
Social Science	1		
Eagle Heights	1		
Ag. Campus	1		
Chemical Bldg.	1		

COMMENTS FROM MEMBERS

1. Like this location for ATM if it could be used after hours
2. Came from Monroe St. because it was too busy there

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XVII

Location Peterson Membership Type Faculty/Staff

Number in Sample 84 Remarks: 1. The faculty/staff using the Peterson Office most strongly preferred an ATM (61%); 73% of these members believed they would use the Peterson Office less frequently if a conveniently located ATM was available. 2. 92% of the faculty/staff members walked to the Peterson Office; less than 5% drove cars.

1.	How often each month do you visit a University Credit Union office?
5%	4 Less than once a month
26%	22 1-2 times a month
49%	41 3-4 times a month (weekly)
19%	16 Several times a week
1%	1 N.A.
2.	What is the basis for your membership in the Credit Union?
20	Faculty
64	Staff
	Undergraduate student
	Graduate student
	Alumnus
3.	Where were you just before you came to the Credit Union today?
5%	4 Home (Obtain address or nearest X-street)
81%	68 Campus (Obtain bldg/area name)
14%	12 Other (Obtain address or name of area)
4.	Which of the following words best describes the convenience of this location for your credit union needs?
76%	64 Very convenient
19%	16 Moderately convenient
5%	4 Inconvenient
5.	What campus location of a credit union office would be the most convenient for you?

Locations listed on back.

Av. travel time 6. How many minutes did it take you to get here? Minutes
from: Home-7.25 min.; Campus-3.22 min.; Other-7.40 min.

7. How did you travel here today?
4 Car
7 Walk
3 Bus
2 Bike
Other
(If response is car, ask question 8; otherwise, go to question 9.)

8. Would a more accessible automated drive-up facility at this location better serve your needs?
4 Yes
0 No

9. When a teller window is busy, how long are you willing to wait for service?
50 More than 5 minutes
22 3-5 minutes
8 1-3 minutes
0 30-60 seconds
0 Less than 30 seconds or I'll not wait
2 N.A.

Membership Type Faculty/Staff

10.	What kind of transaction will you make today?
29%	24 a. Withdrawal
22%	19 b. Deposit
25%	21 c. Cash check
0%	10 d. Transfer funds between accounts
1%	0 e. Loan payment
0%	0 f. Loan inquiry and/or negotiation
6%	9 g. Other
17%	14 Multiple transactions
61%	11 Would you prefer to use a reliable, conveniently located walk-up automatic teller? 51 Yes 39 No (If no, ask reasons why not)
0	Of 33 no: 8 Prefer personal contact 1 Current machine malfunctions 2 Temptation to spend too much money 5 Dislike machines/cards 7 Don't trust for deposits 0 Can't handle some transactions 8 Never used/don't want to 0 Convenient as is 1 Want to know balance & have receipts 0 Not private enough/prefer incards 0 Don't like withdrawal increments 0 Requirements for cards too rigid
0	1 N.A.

(If yes, continue interview; otherwise, stop interview.)
Of 51 yes:

12. What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on separate sheet.

13. How many times each month would you use a conveniently located automatic teller?
10% 5 Less than once a month
24% 12 1-2 times a month
39% 20 3-4 times a month
27% 14 Several times a week

14. What is the average amount of cash you withdraw at one time?
(To have right size bills in teller)
$$\frac{S20}{15} = 3/10 = 16/5 = 8$$
 N.A. = 3

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?
51% 26 Less than once a month
39% 20 1-2 times a month
0% 20 3-4 times a month (weekly)
0% 26 Several times a week

Change in Frequency of Office Use
73% 37 Less frequent use
27% 14 No change in use
0% 0 More frequent use

QUESTION 5

N=64

N=16

N=4

If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>	<u>Inconvenient</u>	
Then ideal location is:	Peterson 54 Memorial Union 4 Library/Mall 3 Humanities 1 Commerce 1 University Ave. 1	Peterson 9 Mid-Campus 2 Monroe St. 1 Park near Beltline 1 Russell Lab 1 Bascom 1 Memorial Union 1	Memorial Union 1 Neuro. Center 1 on E. Wash. 1 East Side 1 N.A. 1	

COMMENTS FROM MEMBERS

1. Would use ATM only if new balance was given at time of transaction
2. Would like added convenience of ATM, but not to replace office
3. Uses Monroe St. office when this office is closed
4. Strongly in favor of ATM
5. Need extended hours and weekend access
6. Would like drive-in window at Peterson

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XVIII

Location Peterson

Membership Type Students

Number in Sample 108 Remarks: Of the student members sampled at the Peterson Office, 71% of the transactions were fairly evenly divided between withdrawals and deposits; cashing checks accounted for another 17% of the transactions. 2. Of the 59% who prefer an ATM, 73% would use the Peterson Office less frequently if an ATM was conveniently located.

1. How often each month do you visit a University Credit Union office?
 2% 2 Less than once a month
 35% 38 1-2 times a month
 37% 40 3-4 times a month (weekly)
 25% 27 Several times a week
 1% 1 N.A.
2. What is the basis for your membership in the Credit Union?
 Faculty
 Staff
 Undergraduate student
 Graduate student
 Alumnus
3. Where were you just before you came to the Credit Union today?
 22% 24 Home (Obtain address or nearest X-street)
 52% 56 Campus (Obtain bldg/area name)
 25% 27 other (Obtain address or name of area)
 1% 1 N.A.
4. Which of the following words best describes the convenience of this location for your credit union needs?
 67% 72 Very convenient
 30% 32 Moderately convenient
 3% 4 Inconvenient
5. What campus location of a credit union office would be the most convenient for you?
Locations listed on back.

Av. travel time 6. How many minutes did it take from: _____
 from: _____
 Home-10.50 min.; Campus-6.00 min.; Other-5.83 min.

7. How did you travel here today?
 8 Car
 7 Walk
 8 Bus
 10 Bike
 10 Other
 (If response is car, ask question 8; otherwise, go to question 9.)
8. Would a more accessible automated drive-up facility at this location better serve your needs?
 5 Yes
 2 No
 1 N.A.
9. When a teller window is busy, how long are you willing to wait for service?
 70 More than 5 minutes
 29 3-5 minutes
 8 1-3 minutes
 0 30-60 seconds
 0 Less than 30 seconds or I'll not wait
 1 N.A.

10. What kind of transaction will you make today?
 34% 37 Withdrawal
 31% 34 Deposit
 17% 18 Cash check
 0% 0 Transfer funds between accounts
 0% 0 Loan payment
 0% 0 Loan inquiry and/or negotiation
 3% 3 Other
11. Multiple transactions
 15% 16 Would you prefer to use a reliable, conveniently located walk-up automatic teller?
 59% 64 Yes
 41% 44 No
 (If no, ask reasons why not)
 Of 44 no:
 13 Prefer personal contact
 2 Current machine malfunctions
 13 Temptation to spend too much money
 6 Dislike machines/cards
 5 Don't trust for deposits
 0 Can't handle some transactions
 0 Never used/don't want to
 5 Convenient as is
 0 Want to know balance & have receipts
 0 Not private enough/prefer indoors
 0 Don't like withdrawal increments
 0 Requirements for cards too rigid

(If yes, continue interview; otherwise, stop interview.)
 Of 64 yes:
 12. What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on separate sheet.

13. How many times each month would you use a conveniently located automatic teller?
 3% 2 Less than once a month
 11% 7 1-2 times a month
 45% 26 3-4 times a month
 41% 26 Several times a week

14. What is the average amount of cash you withdraw at one time?
 (To have right size bits in 1/1=1/1=1/1=1
 $\geq \$20=35/10=15/5=1/1=1/1=1$

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?
 36% 23 Less than once a month
 55% 35 1-2 times a month
 5% 3 3-4 times a month (weekly)
 5% 3 Several times a week
 1% 1 N.A.

Change in Frequency of Office Use
 73% 47 Less frequent use
 25% 16 No change in use
 0% 0 More frequent use
 2% 1 N.A.

QUESTION 5

	N=72	N=32	N=4
If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>	<u>Inconvenient</u>
Then ideal location is:	Peterson 51 Memorial Union 6 Union South 2 Monroe 1 Mid-campus 1 1301 University 1 Library/State 2 Berge/Botany 2 Ag Campus 1 Park & University 1 First Wisconsin 1 CSC 1 University YMCA 1 East side 1 N.A. 1	Peterson 21 Bascom 2 Mid-Campus 1 1301 University 2 Eagle Heights 2 CSC 1	Peterson 2 (1 on main floor 1 Memorial Union 1 N.A. 1

COMMENTS FROM MEMBERS

1. Need parking space
2. Monroe drive-up too slow
3. Need week-end hours
4. Need to advertise "off-hours"; too many come at same time
5. Need night depository

D. The Clinical Services Center (New Health Science Megastructure)

This office is the newest in the Credit Union chain and represents a 90 sq. ft. space. This recent lease with the University cost \$2,000 per year and includes corridor open area for a leased Credit Union ATM station. The ATM handles many deposits and withdrawals so that staff can process other transactions, serving members through a sliding glass window out into the corridor. Since the Health Center is not fully occupied and is otherwise remote from campus, it provided the smallest sample of members in the survey; a great majority (85%) were faculty and staff members who came to the office from within the building. The survey was conducted during a payroll week and therefore, 43% of the transactions involved check cashing. A significant number of persons (42%) accept the present ATM operation. Since an ATM must be protected from the weather, be at a location which is open for extended hours, and be serviceable from the rear, this location is ideal for ATM installation with a minimum of physical alteration.

Constraints on use include an "understanding" with the University not to advertise the location so as to place additional burden on Health Science Center parking facilities. Choice of space prevented location near the cafeteria preferred by users. Nevertheless a map locating facility within the Health Center Complex would be useful as additional employees relocate into the huge Complex. For additional customer survey details, see TABLES XIX and XX. Credit Union management perceives the high rent of \$22.22 per sq. ft. per year as indicative of hardening, arms-length treatment of the Credit Union by University Administration and as a warning as to future problems in negotiation for on-campus space.

IV. ALTERNATIVE FACILITY STRATEGIES AND CONSTRAINTS

In the abstract, management has a wide variety of choices including replacement of the Monroe Street facility, expansion of that facility, diverting membership use to other existing locations, diverting management space to satellite leased facilities, or diverting standard transactions such as cash withdrawals and deposits to automated teller machines (ATM's). In practice, however, the management's options are greatly circumscribed by the financial net surplus projections presented in TABLE VI. Assuming a continued contribution to reserves of 10% of gross income, there remains only \$10,000-\$13,000 of revenue available for additional occupancy costs over the next three years. Should the Board choose to reduce reserve contribution rates to 7.5% of gross income, total occupancy costs could rise a maximum of \$90,000 but such a policy would be somewhat inconsistent with the conservative reserve pattern of the UWCU Board of Directors.

A \$90,000 commitment to real estate costs or leased ATM's seems risky until the legal status of Credit Union draft accounts (checking accounts) is clarified by legislative action or inaction on the part of Congress which

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XIX

Location CSC Membership Type Faculty/Staff

Number in Sample 86 Remarks: 1. The majority (73%) of faculty/staff members visit the office at least weekly. 2. 87% found the present location very convenient and 94% consider it the ideal location. 3. Of the 42% who favor ATM, 58% would change the frequency of office use if the ATM was conveniently located.

1. How often each month do you visit a University Credit Union office?
 4% 3 Less than once a month
 23% 20 1-2 times a month
 42% 36 3-4 times a month (weekly)
 31% 27 Several times a week

2. What is the basis for your membership in the Credit Union?
 13 Faculty
 73 Staff
 Undergraduate student
 Graduate student
 Alumnus

3. Where were you just before you came to the Credit Union today?
 1% 1 Home
 (Obtain address or nearest X-street)
 91% 78 Campus CSC
 (Obtain block/area name)
 8% 7 other
 (Obtain address or name of area)

4. Which of the following words best describes the convenience of this location for your credit union needs?
 87% 75 Very convenient
 13% 11 Moderately convenient
 0% 0 Inconvenient

5. What campus location of a credit union office would be the most convenient for you?
Locations listed on back.

Av. travel times. How many minutes did it take you to get here? Minutes
 from: (From your last location)
 Inside building-2.2 min.; Outside bldg.-9.4 min.

7. How did you travel here today?

1 Car
84 Walk
0 Bus
0 Bike
0 Other
 (If response is car, ask question 8; otherwise, go to question 9.)

8. Would a more accessible automated drive-up facility at this location better serve your needs?
3 Yes
85 No

9. When a teller window is busy, how long are you willing to wait for service?
20 More than 5 minutes
54 3-5 minutes
10 1-3 minutes
2 30-60 seconds
0 Less than 30 seconds or I'll not wait

10. What kind of transaction will you make today?
 15% 13 a. Withdrawal
 13% 11 b. Deposit
 43% 37 c. Cash check
 12% 10 d. Transfer funds between accounts
 2% 2 e. Loan payment
 5% 4 f. Loan inquiry and/or negotiation
 5% 4 g. Other

11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?
 42% 36 Yes
 58% 50 No
 (If no, ask reasons why not:
 Of 50 no:

23 Prefer personal contact
10 Current machine malfunctions
2 Temptation to spend too much money
1 Dislike machines/cards
8 Don't trust for deposits
1 Can't handle some transactions
5 Never used/con't want to
7 Convenient as is
0 Want to know balance & have receipts
0 Not private enough/prefer indoors
1 Don't like withdrawal increments
0 Requirements for cards too rigid

(If yes, continue interview; otherwise, stop interview.)

12. Of the 36 yes:
 12. What campus location for a walk-up automatic teller would be most convenient for you? Locations summarized on a

separate sheet.
 13. How many times each month would you use a conveniently located automatic teller?
 8% 3 Less than once a month
 22% 8 1-2 times a month
 28% 10 3-4 times a month
 42% 15 Several times a week

14. What is the average amount of cash you withdraw at one time?
 (To have right size bills in teller)

$$\$20=26/15=2/10=4$$

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?
 28% 10 Less than once a month
 33% 12 1-2 times a month
 25% 9 3-4 times a month (weekly)
 14% 5 Several times a week

Change in Frequency of Office Use
 58% 21 Less frequent use
 36% 13 No change in use
 6% 2 More frequent use

QUESTION 5

N=75

N=11

If current location is:

Very ConvenientModerately Convenient

Then ideal location is:

CSC	72*	CSC	9
Mid-Campus		Mid-Campus	
1301 University	2	1301 University	2
WARF	1		

* 11 suggested better locations within CSC with the cafeteria as most popular

COMMENTS FROM MEMBERS

Window should be bigger

QUESTIONNAIRE
FOR
UNIVERSITY OF WISCONSIN CREDIT UNION
CONSUMER PREFERENCES

SUMMARY SHEET

TABLE XX

Location CSC Membership Type Students

Number in Sample 15 Remarks: 1. The sample is small. 2. The majority of members work in the building; 100% walked to the CSC Office. 3. Of the 47% who favor an ATM, 43% would use the office less frequently if an ATM was conveniently located.

1. How often each month do you visit a University Credit Union office?

7% 1 Less than once a month
20% 3 1-2 times a month
53% 8 3-4 times a month (weekly)
20% 3 Several times a week

10. What kind of transaction will you make today?

33% 5 Withdrawal
20% 3 Deposit
13% 0 Cash check
0% 0 Transfer funds between accounts
0% 0 Loan payment
0% 0 Loan inquiry and/or negotiation
0% 0 Other

Multiple transactions

11. Would you prefer to use a reliable, conveniently located walk-up automatic teller?

47% 7 Yes
53% 8 No

(If no, ask reasons why not)

Of 8 no:

7 Prefer personal contact
0 Current machine malfunctions
0 Temptation to spend too much money
0 Dislike machines/cards
0 Don't trust for deposits
0 Can't handle some transactions
0 Never used/don't want to
0 Convenient as is
0 Want to know balance & have receipts
0 Not private enough/prefer indoors
0 Don't like withdrawal increments
0 Requirements for cards too rigid

2. What is the basis for your membership in the Credit Union?

Faculty
Staff
Undergraduate student
Graduate student
Alumnus

3. Where were you just before you came to the Credit Union today?

7% 1 Home
(Obtain address or nearest X-street)
86% 13 Campus
(Obtain bldg/area name)
7% 1 Other
(Obtain address or name of area)

4. Which of the following words best describes the convenience of this location for your credit union needs?

87% 13 Very convenient
13% 2 Moderately convenient
0 Inconvenient

5. What campus location of a credit union office would be the most convenient for you?

Locations listed on back.

(If yes, continue interview; otherwise, stop interview.)

Of 7 yes:

What campus location for a walk-up automatic teller would be most convenient for you? Locations Summarized on a

separate sheet.

13. How many times each month would you use a conveniently located automatic teller?

0% 0 Less than once a month
14% 1 1-2 times a month
72% 5 3-4 times a month
14% 1 Several times a week

14. What is the average amount of cash you withdraw at one time?

(To have right size bills in teller)

2 \$20=6/10=1

15. If a reliable convenient automatic teller is available, how often each month would you come inside a Credit Union office?

14% 1 Less than once a month
29% 2 1-2 times a month
43% 3 3-4 times a month (weekly)
14% 1 Several times a week

Change in Frequency of Office Use

43% 3 Less frequent use
57% 4 No change in use
0% 0 More frequent use

QUESTION 5

N=13

N=2

If current location is:	<u>Very Convenient</u>	<u>Moderately Convenient</u>
Then ideal location is:		
	CSC 10	CSC 2
	Old Med. Cntr. 1	
	Waisman Center 1	
	Monroe St. 1	

NO COMMENTS GIVEN

must provide legislation by the end of 1979 if this service is to remain a significant contributor toward Credit Union activity and growth. As a State chartered Credit Union, management is confident that the "checking account" service will survive in Wisconsin.

A. Criteria for Facility Modifications

For operating economy as well as service to members, the following space criteria seem appropriate:

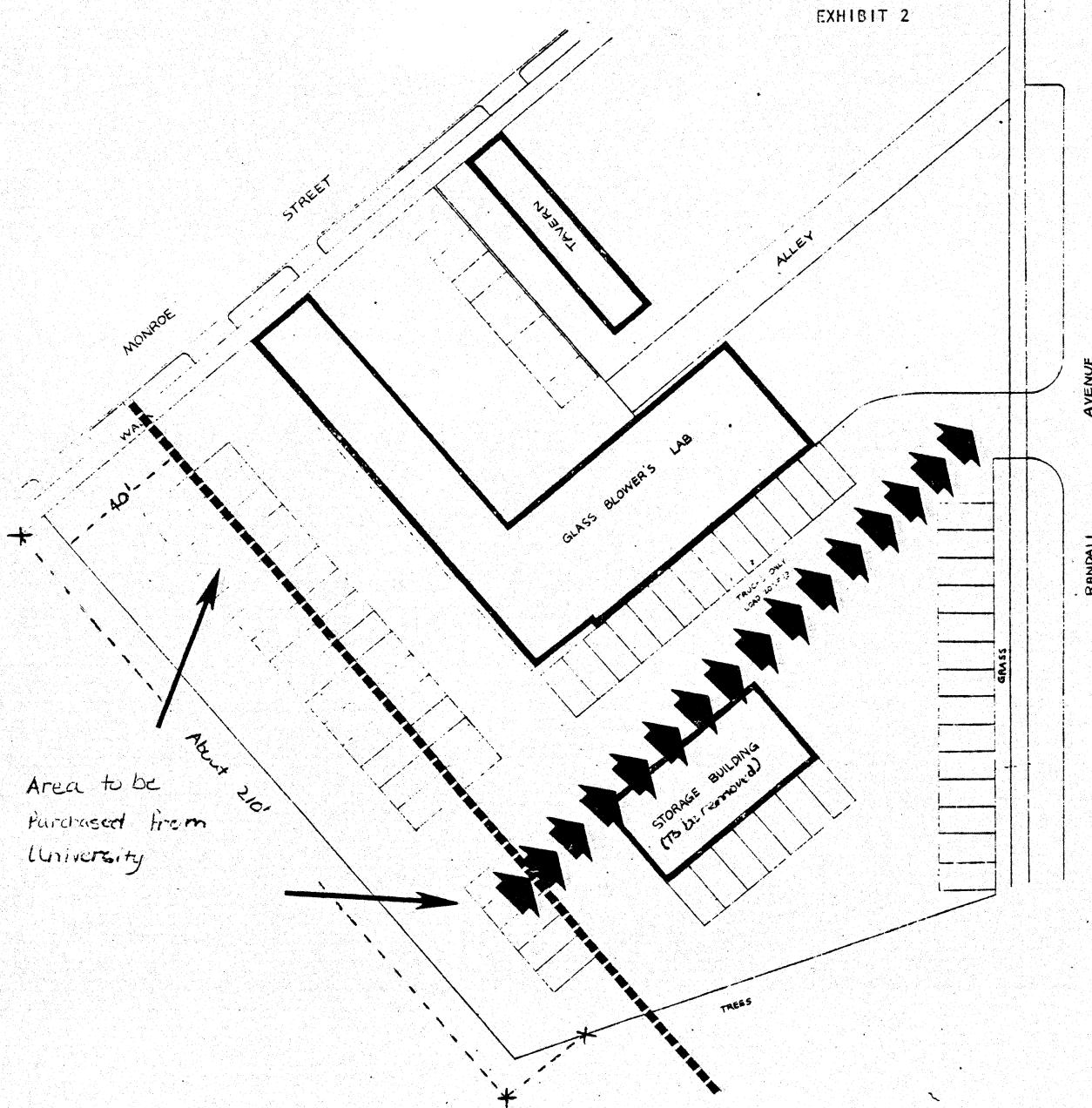
1. Retain the existing Monroe Street facility as the cost of replacement with a larger building and larger site at current prices would produce a marginal cost for increased space far higher than judicious remodeling of the existing building.
2. Improve automobile access, traffic flow, and drive-up window facilities at Monroe Street to reduce parking problems and the number of persons in existing lobby. Enhance membership awareness of parking adjacent to other Credit Union facilities by means of maps in Carillon or a separate envelope stuffer.
3. Improve visibility of Credit Union on campus and prefer spaces leased/contributed by University of Wisconsin at rates more economical than ownership or leasing in the private market. University rents avoid real estate taxes and high land costs at points best serving membership. This implies reestablishing closer ties with University Administration.
4. Introduce use of ATM's at student oriented locations for withdrawals and off-hour deposits. Careful cost effective study is needed in terms of the relationship between the TYME system, leasing of the IBM System, and the current higher than average cost of teller personnel experienced by the Credit Union.

B. Monroe Street Office

Improvement of Monroe Street facilities requires more land and better auto circulation. Conversations with Ed Hopkins of the University Planning and Construction Office and Len Vaness, Associate Vice Chancellor, indicated University priorities for the lands to the northeast of the Credit Union, housing the Glass Blower's Lab and a storage building, (See EXHIBIT 2) have changed so in June they indicated consideration of selling a portion of it and providing an easement to Randall. The University master plan is presently undergoing modification and so it is urgent that representatives of the Credit Union initiate the acquisition of approximately 8,500 sq. ft. and an easement, preferably with removal of the storage building. Ed Hopkins indicated the University might sell to the middle of the parking rows as indicated by the dotted line and create an easement indicated by black arrows. In July, James Edsall indicated to Credit Union management that the University might use the facilities for the Science Department. At the same time an offer by Credit Union management for land to the south had not been acknowledged by the present owners. Tim Phillips of University Parking indicated



EXHIBIT 2



PARKING LOT N. 16



NEAR MONROE ST. AND RANDALL AVE.

SCALE 1" = 20'

LOT N. 16 BY MONROE AND RANDALL AVE.

LOT N. 17E WEST OF MECH. ENGR. BLDG.

JAN 18, 1978 BY T.A.F.

there are 77 parking stalls, 67 are assigned, and any revision like the above would cost 35 parking stalls. Such a loss would be difficult but not insurmountable.

1. Partial sale reduces the options of University use of the remaining parcel and it may be possible to purchase the entire parcel and lease it back to the University for the Glass Blower's Lab. The University and the Credit Union should commission appraisals to set the price and the rent on the property with and without lab. The additional frontage, parking area, and access to Randall Street would increase the value of the existing Credit Union parcel and extend the useful life of this central location indefinitely.
2. Assuming access to Randall Street, the entrance driveway would need to be closed and that would provide first floor area expansion room for approximately 3,300 s.f. of floor space related to managerial areas of the existing building (See EXHIBIT 3).
3. Bike racks should be provided at the rear entrance.
4. A drive-in banking station should be added separate from the Credit Union building at the rear of the lot so that queueing of waiting cars would not interfere with all vehicles entering the widened entrance way on Monroe Street. The old driveway and a portion of the new 40 foot strip would be used for angle parking by customers while employees would utilize the revised parking layout at the rear of the building.
5. Remodeling of lobby and teller area is not deemed necessary if recommendations for Mid-Campus Office and Peterson site are implemented.
6. If the University will not deal with the Credit Union on the parcel which is outside the express boundaries of south campus expansion, then a meeting with Vaness and Koltes is recommended to clarify the future operating relationship of the University and the Credit Union. If the University's long term objectives are to dispossess the Credit Union of on-campus space, that would have a significant impact on strategy. To this point it has been assumed that the University would attempt to communicate closely with the Credit Union as is characteristic of many sponsor-Credit Union personnel relationships.
7. Should it appear this relationship cannot be restored, then a premium price for the triangle of land to the south of the Credit Union would be justified in order to improve parking, drive-in teller access, and to permit expansion of the existing building as a one-story facility. The narrow cash margins after reserves require that the Credit Union real estate program exploit the low sunk costs of existing facilities rather than to extend Credit Union capacity unnecessarily by construction of new home office facilities at some other location.

MONROE ST. 11

The logo for True North, featuring a stylized globe with a dashed equator and a dashed meridian. The words "TRUE NORTH" are written in a bold, sans-serif font, with "TRUE" on the top line and "NORTH" on the bottom line, positioned to the left of the globe.



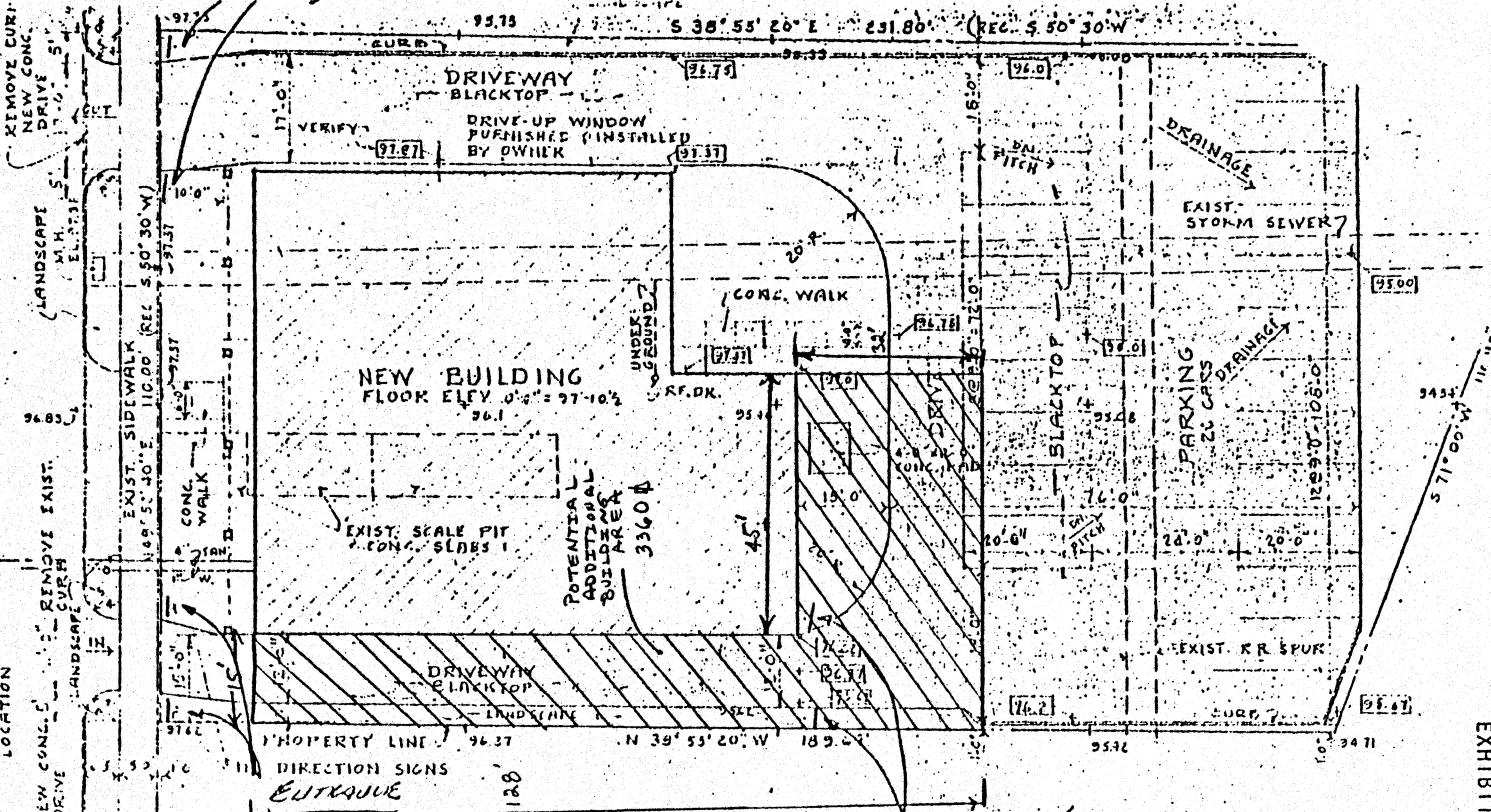
SITE PLAN

FILE: 1:20-CV-541

ENTRANCE ONLY
DO NOT EXIT

100.0 EXIST GRADE
100.0 ESTAB. GRADE

EXHIBIT 3



C. Alternative Home Office Sites

Management had tentatively considered relocation from Monroe Street to several alternative locations, notably the old First Wisconsin Bank Building on the southwest corner of University Avenue or a site to the west of campus on University Avenue, in the vicinity of the Shorewood Shopping Center to Midvale Boulevard. Also considered was purchase of the Stadium Square Complex.

1. We appraised the University branch of the First Wisconsin a year before it sold to the Foundation, and in our opinion, the Foundation paid too much. The building has inadequate parking to support a demand for any commercial office space other than University use. The traffic pattern now established makes the use of the drive-in facilities awkward at best and more discouraging than the present Credit Union facility. Even the potential pedestrian traffic is suspect, given congestion at that corner, the pedestrian bridge available between Vilas Hall and Humanities Buildings, and the growing importance of Lake Street for student flow from the dormitories. Even First Federal Savings and Loan of Madison had second thoughts and decided to remain at the University Square Shopping Center in the 700 block.
2. Purchase of the Stadium Square facility would also be a rescue of investors who bought dearly but not well. The building is land-locked by a heavy traffic intersection and is separated from its surface parking lot by an intimidating pedestrian route which is up-hill, over railroad tracks, and past long vacant lot frontage. Basement parking is inadequate for needs and even though the Class B office space market is very tight in the campus area, this building continues to have significant vacancies. Where could customers park conveniently or drive up to a tellers window?
3. The Credit Union cannot consider the expense of western University Avenue sites on the basis of either marketing or financial judgment. Clearly the marginal cost of additional space, given current land and building costs compared to historical costs of Monroe Street, would create excessively high marginal costs for additional space. From a marketing standpoint such a location would lose identification with the campus without gaining strong identification with the suburbs. It would not reflect routes to home or work of many faculty and would be clearly beyond the normal operating territory of most students, two-thirds of whom live within a mile of campus. Inconvenience in finding lending services and the like would cause more students and faculty to favor savings and loan or the possibility of a "peoples" bank discussed in the past as an opportunity in the campus area. Thus a suburban location, ostensibly for faculty and staff, would require a counterpart facility for students about where the Badger Tavern is now located, and that would be expensive, difficult, and incompatible with the egalitarian principles of the Credit Union movement.

4. Alternatives to the Monroe site assume sale of that facility at top dollar, but who needs a land-locked facility with inadequate parking, except the University?

D. 1301 University Avenue

The Mid-Campus Office is well located to intercept much of the walk-in traffic clogging the Monroe Street Office. The space should be enlarged to 400 sq. ft. and supported with additional staff for lending and new memberships. Not only should the continuing existence of this office and the personalities of staff be immediately advertised in your Carillon or special stuffer, but recognition should be enhanced with better signage now and store-front renovation soon.

1. The building facade is a store front replaced with redwood boards during the era of student disturbances. The Credit Union could negotiate with the University so that the Credit Union would be permitted to make leasehold improvements to enhance the visibility, friendliness, and capacity of this most valuable site.
2. If long-term plans of the University yet to be formed, force the Credit Union to lose this Mid-Campus Office, it should make every effort to replace it. Alternatives that should be monitored are the corners of University and Randall presently occupied by Suburbia and the tavern site with the concrete block arch presently occupied by B.J.'s at 320 N. Randall. These spaces have a history of high turnover. Rental of such space would violate a preference for lower cost University space, however.
3. An alternative Mid-Campus site would be in Bascom Hall, in an alcove adjacent to the vending machine area. This location would be convenient to faculty and student alike and inside where temperature and security would be more favorable to an ATM installation for off-hour use. These alcoves are presently unassigned space, windowless, and approximately 180 s.f. in area, open to the corridor on one side permitting a custom designed service wall facing the corridor. The general area has been recently remodeled and refurbished.

E. Peterson Building Office

The Peterson Building Office is an important link in the delivery of Credit Union services and occupies space highly desired by the administration. Its hours are circumscribed by University office hours and it lacks visibility to those who seldom frequent the Peterson Building. Because of the security controls on the Peterson Building, an ATM would not be efficiently utilized at the present site. In the long run, the Credit Union might have four options:

1. Relocate to other University space as part of the student services package at the University Club. The Club is scheduled for remodeling to provide an elevator, ramped access for the handicapped, and internal circulation for student services.

2. Relocate to the Memorial Union, perhaps utilizing part of the old barber shop to provide an outside entrance and a secure location for the Credit Union's own ATM in lieu of TYME.
3. Relocate into a portion of the new building constructed by Arby's on Lake Street since Arby's has closed down a portion of its first floor space. This would provide a central location favored by a majority of those who use the facility and permit off-hour use of an ATM requested by 60% of Peterson users. The location is reasonably secure because of heavy pedestrian traffic at most hours of the day and night. It is not in accord with the principle of staying on campus wherever possible.
4. Relocate to a small addition to the Peterson Building facing University Avenue and adjacent to the alley. The alley would provide a drive-up unit and the Credit Union space could have a walk-up ATM. Since the Credit Union entrance would be to the right of the present University Avenue entrance, it would be directly accessible from the outside and therefore unlimited by Peterson hours and visible to faculty and students in this high density area. It could be handled architecturally to fit the precast design of the one-story Peterson wing. Obviously, it would take some negotiation but the University would regain much needed office space; indeed, the University might consider some expansion of this south wing for its own use. Remodeling of the south entrance is presently contemplated to remove architectural barriers for the handicapped.

F. Clinical Science Center Office

The principal current problems with the Clinical Science Office are the size of the facility (90 s.f.) and the lack of education of members as to how to use it. How many members know where to find it in the complex? Has management considered maintaining hours at the Health Center appropriate to the dinner hour of second shift workers and Saturday mornings since medical staffs tend to work a variety of shifts and daily schedules? Since size is not easily altered, the Credit Union should better inform membership with use of a stuffer previously mentioned. Given the out-patient and visitor's load, the state-wide TYME facility currently in use at the CSC, compared to a Credit Union ATM, seems the most logical choice in the near future.

The trade-offs among office floor space, cost of tellers, convenient office hours, greater use of TYME and/or a private Credit Union system are the focus of a discussion of automatic teller machines.

G. Automatic Teller Machines

Cost effective space planning is complicated by the shifting distribution of transactions among locations due to relocation of Health Sciences, shifting preferences for automatic teller equipment, and issues implied by the use of averages in the cost accounting

comparisons of personal teller transactions, owned/leased TYME machines, and service charges on non-owned TYME machines. Currently Credit Union accountants estimate a personal transaction cost of \$.65-.70 as compared to a \$1.81 on the leased ATM and \$2.12 per transaction on the non-owned TYME facilities. These costs are tentative, pending further refinement of ATM costs to allocate start-up costs and low volume correctly. Questionnaires indicate preference of faculty members for personal service and students for ATM. Since pressure for additional space during the next decade at the Credit Union is caused in part by the high ratio of employees to shared deposits, loan balances, membership, and transactions, adequate information to anticipate the role of ATM's is still needed.

1. Presently the U.W. Credit Union can provide qualified members with a TYME Card. There are 215 TYME outlets in Wisconsin, two of which are leased to and maintained by the U.W. Credit Union at the Monroe Street and Clinical Science offices. Financial institutions using TYME are retrenching from original enthusiasm and the current network may be revised. For each transaction, the issuer of the TYME Card pays \$.35 to the owner/lessee of the facility plus another \$.05 per transaction is paid to the central TYME computer switch, presently operated by A. O. Smith Company in Milwaukee. Approximately 1,950 cards have been issued and Shirley Krier indicates over the past six months the TYME cost per cardholder is about \$2.12 per transaction and that there are about 3.1 transactions per cardholder. Withdrawals outnumber deposits four to one, but the dollar volume of deposits has exceeded withdrawals.

PRELIMINARY USE DATA ON UWCU ATM'S
February - June, 1979

	<u>Monroe Street</u>			<u>Clinical Science Center</u>		
	Number	Amount	Average Transaction	Number	Amount	Average Transaction
Deposits	504	\$67,543	\$134	465	\$165,035	\$355
Withdrawals	<u>1,903</u>	65,580	34	<u>2,062</u>	117,980	57
Total		\$2,407			\$2,527	

2. The University of Wisconsin Credit Union is currently leasing on 60-month terms two Mosler ATM's and a controller at a cost of \$1,632 a month plus monthly maintenance of about \$578, for five day a week coverage, during normal working hours with a downtime of at least 5%. Downtime is attributable to paper jams, exhausting of cash supply, and limitations on capacity of switching.

Despite heavy front end installation costs, Shirley Krier estimates that the transaction cost on these two machines is about \$1.81 per transaction because people can use their TYME Cards from other financial institutions to transact bank business on the Credit Union machine, spreading fixed costs to more users which generates \$.35 for the Credit Union. That utilization would be higher if these units were closer to staff and student densities or areas frequented by visitors to campus. The shared ATM at Monroe Street and the new installation at Clinical Science have about the same number of transactions, but there are higher volumes of deposits for staff payrolls at the Clinic. The Clinic provides more opportunity for visitors, from out-of-town to generate \$.35 for the Credit Union than does the less-well known Randall office.

3. Possible dissatisfaction with TYME by user and institution alike may be that it uses first generation equipment which could be improved based on recent experience. One such redesign is the IBM 3624 System. Without touting the system and for purposes of illustration only, some cost data on the IBM System is provided. It is alleged that the new IBM System is more reliable, that the cash box system is easier to service because of the servicing and customer relation problems it presented in the competitive field.
4. To provide a basis for capital costs comparisons of a private Credit Union teller system, we asked Bruce Dober of the IBM Data Processing Division in Madison to prepare an illustrative cost configuration for the following concept using the latest IBM 3600/3624 system. Details are in the APPENDIX A. Using a 3601 Controller which communicates with all teller locations throughout the campus, seven units were hypothesized:

3 current teller locations
2 proposed campus locations
1 drive-up location
1 walk-up (Monroe Street Office)

The total purchase price would be \$188,529 with a minimum monthly lease charge of \$1,440 a month. A variety of combinations are possible to reduce cost and lease charges. Nevertheless, it would take 3,600 transactions per month on TYME facilities at 40¢ each to justify that investment, not counting telephone costs, Credit Union service costs, and Credit Union space at ATM locations.

Cost accounting information is just beginning to appear on ATM's and is being developed on a transaction basis for over-the-counter transactions. Competition among local banks, savings and loans, and the Credit Union for ATM facilities on campus has already become apparent in the lease negotiations at Memorial Union relative to Commercial State Bank and at the Clinic. It would seem that the major gap in TYME facilities circling the campus is on Bascom Hill or at the mid-campus location. -

Real estate analysis for final conclusions must wait on cost parameters or assumptions of cost per transaction to be provided by the Credit Union management.

V. Conclusions and Recommendations

Consistent with the statement of report objectives, the analysts make the following recommendations in light of the request that real estate space planning be "member-service oriented, cost effective, and legally possible."

- A. By 1981 the U.W. Credit Union may need an additional 2,400 square feet of space or some additional automation of deposit and withdrawal transactions with an additional 3,800-4,500 square feet in five years thereafter.
- B. Improved customer service requires a greater presence and visibility of the Credit Union on campus. This is consistent with economy if the University Administration views the Credit Union as an extension of University personnel and student services, and therefore permits improvement of on-campus facilities at a rental rate dictated primarily by marginal improvement costs and utility expense.
 1. Credit Union officials should confer with University Administration and reestablish closer working ties with University space planning and campus management personnel.
 2. Credit Union should press for a total of 400 square feet and storefront remodeling at 1301 University Avenue, improvements to be funded by the Credit Union in exchange for a ten year lease or other reasonable term acceptable to the University. This remodeling should include exterior graphics.
 3. Simultaneously Credit Union should negotiate for placement of a Credit Union owned ATM at an alcove in Bascom Hall adjacent to vending machine area, at grade on the west end of Bascom. This, plus the previous recommendation reflects our opinion that Charter Street will remain the center of gravity for student and faculty dispersion densities for the next ten years.
 4. Simultaneously, with achievement of the above, the Credit Union should issue an envelope stuffer with maps and photographs of each office or ATM installation on campus for distribution to both members and new students and faculty, particularly faculty and staff to renew recognition of that unique campus family relationship enjoyed by the U.W. Credit Union.
- C. The second most pressing problem is to find land to permit expansion of Monroe Street Administrative Offices, and to improve drive-in banking, and more generous, better organized parking. Negotiations should proceed simultaneously with owners of Stadium Square for a portion of their parking lot or the entire triangular parcel, and

with the University for all or part of the site presently occupied by the Glass Blower Lab. We prefer the latter site because it would permit a drive through from Monroe Street to Randall Street and more efficient utilization of land area.

- D. A major constraint on replacement of the Monroe Street facility is the necessity of maintaining reserve contributions of at least 7.5% of gross at this time. The second constraint is the doubt in the minds of key members of the Credit Union Board as to the continued willingness of the University Administration to favor the Credit Union as an extension of University personnel policy with on-campus sites.
- E. In the long run the Credit Union may wish to negotiate for the opportunity to fund an extension of the Peterson Building toward University Avenue to expand that facility and provide access to a drive-in window in that alley and a walk-up window close to University Avenue and outside University security doors so that it can maintain six day service or provide ATM access.
- F. Future space requirements will depend in part on the trade-off that can be made between increasing personnel to provide personal service as a competitive advantage and second generation automatic teller outlets with their by-product of automated accounting. Cost accounting techniques are just now being employed to measure relative costs of tellers, owned ATM's, and cooperative ATM service on a per transaction basis and per hour of service available basis. Space projections beyond 1985 are not sharp enough for planning purposes until the curvilinear functions of personnel, deposits, loan transaction levels and other variables can be determined.

A P P E N D I X A

[REDACTED]

IBM

International Business Machines Corporation

P.O. Box 7308
3113 West Beltline Highway
Madison, Wisconsin 53707
608/274-7000

July 18, 1979

James A. Graaskamp, Professor
University of Wisconsin
School of Business
1155 Observatory Drive
Madison, WI 53706

Dear Jim:

As an aid to your evaluation of automated tellers for the University of Wisconsin Credit Union, I've enclosed a configuration of an IBM 3600/3624 System. The features as listed may not entirely reflect your requirements and you may wish to add or delete some. This configuration should give you an idea though, as to the cost involved.

As we discussed earlier this configuration consists of seven sites:

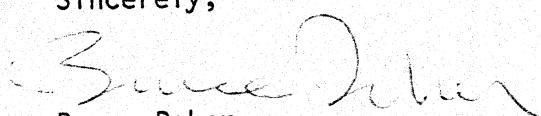
- 3 current teller locations
- 2 proposed campus locations
- 1 drive-up location
- 1 walk-up (Monroe Street Office)

Also included is the 3601 Controller which communicates with the teller locations.

I've also enclosed a Physical Planning Manual which will help you determine space and temperature requirements for this system.

If you require additional information or have any questions, please call.

Sincerely,



Bruce Dober
Marketing Representative

vr:3-5:3365

Enclosure

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 1
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES,
 1 DRIVE-UP LOCATION, 1 WALK-UP (MONROE ST.), + CONTROLLER

UNIT	MDL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY	LEASE CHARGES
							MLC2	
3601	803	FINANCE CONTROLLER	1	690	14600.00	98.50	587	
	9491	FIRST 3601 ON 370X	1	NC	NC	NC	NC	
	9413	HOST MEDIUM-9TRACK 1600 BPI	1	NC	NC	NC	NC	
	6302	SDLC COM.FEAT.WITHOUT CLOCK	1	12	358.00	2.50	10	
	8K0623	BSC STARTER DISKETTE	1	75 S	75.00	N/0	75 S	
	8K0598	BINARY SYNCHRONOUS COMM	1	NC	NC	NC	NC	
	3701	EIA INTERFACE	1	12	318.00	4.00	10	
	9881	VOLTAGE 115V NON-LOCK PLUG	1	NC	NC	NC	NC	
	4735	ADDITIONAL LOOP FEATURE	1	12	318.00	2.00	10	
	9495	LOOP ATTD CTF-S/DES	1	NC	NC	NC	NC	
				726*	15669.00*	107.00*	617*	

(PURCHASE OPTION - 55 PCT)

CURRENT ATM LOOP

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 2
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES,
 1 DRIVE-UP LOCATION, 1 WALK-UP (MONROE ST.) + CONTROLLER

UNIT MDL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
					MLC5	
3624	012 CONSUMER TRANS. FACILITY	1	N/O	15400.00	141.00	680
	9491 1ST POSITION DESIGNATOR	1	NC	NC	NC	NC
	7820 TERMINAL LOOP FEATURE	1	N/O	1160.00	10.00	48
	9063 LOOP SPEED -- 2400 BPS	1	NC	NC	NC	NC
	9402 LOGO PANEL ACC.(SHIP PRIOR)	1	N/O	48.00 P	N/O	N/O
	8201 TRANSACTION STMT PRINTER	1	N/O	2280.00	23.50	148
	9911 POWER 112V 60HZ 1 PHASE	1	NC	NC	NC	NC
	9357 MAXIMUM FUNCTION KEYBOARD	1	NC	NC	NC	NC
	9301 KEYBOARD ARR.-NUMERIC KEYPAD	1	NC	NC	NC	NC
	3243 DEPOSITORY, THROUGH-THE-WALL	1	N/O	2140.00	7.50	70
	3245 DEPOSITORY PRINTER	1	N/O	500.00	15.00	38
	1490 BEZEL - RECESSED +	1	N/O	303.00 P	N/O	N/O
	3951 FRONT PRESS PANEL +	1	N/O	215.00 P	N/O	N/O
	3961 FRONT TRIM BORDER-W/HOLDER +	1	N/O	237.00 P	N/O	N/O
	3902 HEAVY DUTY ENCL-DUAL FN +	1	N/O	2290.00 P	N/O	N/O
	4902 PEDESTAL - DUAL FN ENCL +	1	N/O	393.00 P	N/O	N/O
	9703 KYBD CENTERLINE HEIGHT-52"	1	NC	NC	NC	NC
	9091 CURRENCY: 5, 10, 20 DOLLARS	2	NC	NC	NC	NC
	9110 CURRENCY CARTRIDGE +	2	N/O	670.00 P	T+M	N/O
		--*		25636.00*	197.00*	984*

(PURCHASE OPTION - 50 PCT)

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 3
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES,
 1 DRIVE-UP LOCATION, 1 WALK-UP (MONROE ST.) + CONTROLLER

UNIT	MDL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY	LEASE CHARGES
						MLC5		
3624	012	CONSUMER TRANS. FACILITY	2	N/O	30800.00	282.00	1360	
	9492	2ND POSITION DESIGNATOR	2	NC	NC	NC	NC	
	7820	TERMINAL LOOP FEATURE	2	N/O	2320.00	20.00	96	
	9063	LOOP SPEED -- 2400 BPS	2	NC	NC	NC	NC	
	9402	LOGO PANEL ACC. (SHIP PRIOR)	2	N/O	96.00 P	N/O	N/O	
	8201	TRANSACTION STMT PRINTER	2	N/O	4560.00	47.00	296	
	9911	POWER 112V 60HZ 1 PHASE	2	NC	NC	NC	NC	
	9357	MAXIMUM FUNCTION KEYBOARD	2	NC	NC	NC	NC	
	9301	KEYBOARD ARR.-NUMERIC KEYPAD	2	NC	NC	NC	NC	
	3243	DEPOSITORY, THROUGH-THE-WALL	2	N/O	4280.00	15.00	140	
	3245	DEPOSITORY PRINTER	2	N/O	1000.00	30.00	76	
	1490	BEZEL - RECESSED +	2	N/O	606.00 P	N/O	N/O	
	3951	FRONT PRESS PANEL +	2	N/O	430.00 P	N/O	N/O	
	3961	FRONT TRIM BORDER-W/HOLDER +	2	N/O	474.00 P	N/O	N/O	
	3902	HEAVY DUTY ENCL-DUAL FN +	2	N/O	4580.00 P	N/O	N/O	
	4902	PEDESTAL - DUAL FN ENCL +	2	N/O	786.00 P	N/O	N/O	
	9703	KYBD CENTERLINE HEIGHT-52"	2	NC	NC	NC	NC	
	9091	CURRENCY: 5, 10, 20 DOLLARS	4	NC	NC	NC	NC	
	9110	CURRENCY CARTRIDGE +	4	N/O	1340.00 P	T+M	N/O	
			--*	51272.00*	394.00*	1968*		

(PURCHASE OPTION - 50 PCT)

CAMPUS ATMS/DRIVE UP/WALKUP

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 4
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES,
 1 DRIVE-UP LOCATION, 1 WALK-UP (MONROE ST.) + CONTROLLER

UNIT MOL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
					MLC5	
3624	012 CONSUMER TRANS. FACILITY	2	N/O	30800.00	282.00	1360
	9492 2ND POSITION DESIGNATOR	2	NC	NC	NC	NC
	7820 TERMINAL LOOP FEATURE	2	N/O	2320.00	20.00	96
	9063 LOOP SPEED -- 2400 BPS	2	NC	NC	NC	NC
	9402 LOGO PANEL ACC. (SHIP PRIOR)	2	N/O	96.00 P	N/O	N/O
	8201 TRANSACTION STMT PRINTER	2	N/O	4560.00	47.00	296
	9911 POWER 112V 60HZ 1 PHASE	2	NC	NC	NC	NC
	9357 MAXIMUM FUNCTION KEYBOARD	2	NC	NC	NC	NC
	9301 KEYBOARD ARR.-NUMERIC KEYPAD	2	NC	NC	NC	NC
	3243 DEPOSITORY, THROUGH-THE-WALL	2	N/O	4280.00	15.00	140
	3245 DEPOSITORY PRINTER	2	N/O	1000.00	30.00	76
	1490 BEZEL - RECESSED +	2	N/O	606.00 P	N/O	N/O
	3951 FRONT PRESS PANEL +	2	N/O	430.00 P	N/O	N/O
	3961 FRONT TRIM BORDER-W/HOLDER +	2	N/O	474.00 P	N/O	N/O
	3902 HEAVY DUTY ENCL-DUAL FN +	2	N/O	4580.00 P	N/O	N/O
	4902 PEDESTAL - DUAL FN ENCL +	2	N/O	786.00 P	N/O	N/O
	9703 KYBD CENTERLINE HEIGHT-52"	2	NC	NC	NC	NC
	9091 CURRENCY: 5, 10, 20 DOLLARS	4	NC	NC	NC	NC
	9110 CURRENCY CARTRIDGE +	4	N/O	1340.00 P	T+M	N/O
		--		51272.00*	394.00*	1968*

(PURCHASE OPTION - 50 PCT)

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 5
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES.
 1 DRIVE-UP LOCATION, 1 WALK-UP (MONROE ST.), + CONTROLLER

UNIT	MDL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
						MLC5	
3624	012 CONSUMER TRANS. FACILITY		1	N/O	15400.00	141.00	680
	9492 2ND POSITION DESIGNATOR		1	NC	NC	NC	NC
	7820 TERMINAL LOOP FEATURE		1	N/O	1160.00	10.00	48
	9063 LOOP SPEED -- 2400 BPS		1	NC	NC	NC	NC
	9402 LOGO PANEL ACC. (SHIP PRIOR)		1	N/O	48.00 P	N/O	N/O
	8201 TRANSACTION STMT PRINTER		1	N/O	2280.00	23.50	148
	9911 POWER 112V 60HZ 1 PHASE		1	NC	NC	NC	NC
	9357 MAXIMUM FUNCTION KEYBOARD		1	NC	NC	NC	NC
	9301 KEYBOARD ARR.-NUMERIC KEYPAD		1	NC	NC	NC	NC
	3243 DEPOSITORY, THROUGH-THE-WALL		1	N/O	2140.00	7.50	70
	3245 DEPOSITORY PRINTER		1	N/O	500.00	15.00	38
	1491 BEZEL - NON-RECESSED +		1	N/O	259.00 P	N/O	N/O
	3951 FRONT PRESS PANEL +		1	N/O	215.00 P	N/O	N/O
	3961 FRONT TRIM BORDER-W/HOLDER +		1	N/O	237.00 P	N/O	N/O
	3902 HEAVY DUTY ENCL-DUAL FN +		1	N/O	2290.00 P	N/O	N/O
	4902 PEDESTAL - DUAL FN ENCL +		1	N/O	393.00 P	N/O	N/O
	9701 KYBD CENTERLINE HEIGHT-42"		1	NC	NC	NC	NC
	9091 CURRENCY: 5, 10, 20 DOLLARS		2	NC	NC	NC	NC
	9110 CURRENCY CARTRIDGE +		2	N/O	670.00 P	T+M	N/O
			--		25592.00*	197.00*	984*

(PURCHASE OPTION - 50 PCT)

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 6
 CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES.
 1 DRIVE-UP LOCATION, 1 WALK-UP(MONROE ST.) + CONTROLLER

UNIT	MDL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
							MLCS
3624	001	CONSUMER TRANS. FACILITY	1	N/O	12150.00	95.00	523
	9492	2ND POSITION DESIGNATOR	1	NC	NC	NC	NC
	7820	TERMINAL LOOP FEATURE	1	N/O	1160.00	10.00	48
	9063	LOOP SPEED -- 2400 BPS	1	NC	NC	NC	NC
	9402	LOGO PANEL ACC.(SHIP PRIOR)	1	N/O	48.00 P	N/O	N/O
	8201	TRANSACTION STMT PRINTER	1	N/O	2280.00	23.50	148
	9911	POWER 112V 60HZ 1 PHASE	1	NC	NC	NC	NC
	9357	MAXIMUM FUNCTION KEYBOARD	1	NC	NC	NC	NC
	9301	KEYBOARD ARR.-NUMERIC KEYPAD	1	NC	NC	NC	NC
	3233	DEPOSITORY, LOBBY	1	N/O	2615.00	7.50	84
	3245	DEPOSITORY PRINTER	1	N/O	500.00	15.00	38
	9091	CURRENCY: 5, 10, 20 DOLLARS	1	NC	NC	NC	NC
	9110	CURRENCY CARTRIDGE +	1	N/O	335.00 P	T+M	N/O
			--*		19088.00*	151.00*	841*

(PURCHASE OPTION - 50 PCT)

--- ----- -----

JULY 17, 1979 IBM 3600/3624 AUTOMATED TELLER SYSTEM PAGE 7
CONFIGURATION INCLUDES 3 CURRENT SITES PLUS 2 CAMPUS SITES,
1 DRIVE-UP LOCATION, 1 WALK-UP(MONROE ST.), + CONTROLLER

UNIT MOL/FC	DESCRIPTION	QTY	MAC/MRC	PURCHASE	MMMC	MONTHLY LEASE CHARGES
	SYSTEM TOTALS		726*	188529.00*	1440.00*	
	MONTHLY LEASE CHARGE 2 YEARS TOTAL			617.00*		
	MONTHLY LEASE CHARGE 5 YEARS TOTAL			6745.00*		
	SINGLE USE CHARGE TOTAL			75.00*		
	PURCHASE ONLY TOTAL			25275.00*		
	MMMC FOR PURCHASE ONLY			TM*		
	TOTAL SYSTEM MINIMUM MONTHLY CHARGE:			7362.00*		
	THE TOTAL SYSTEM MINIMUM MONTHLY CHARGE EXCLUDES SINGLE USE CHARGES AND PURCHASE ONLY MACHINES. THE TOTAL SYSTEM CHARGE IS CALCULATED BY TOTALLING THE LOWER OF EITHER THE MRC OR THE MINIMUM MLC FOR EACH MACHINES.					

THE PRICES STATED ARE FOR YOUR INFORMATION ONLY AND ARE
SUBJECT TO CHANGE. APPLICABLE TAXES ARE NOT SHOWN. LEASE
OF IBM MACHINES WILL BE BY THE AGREEMENT FOR LEASE OR RENTAL
OF IBM MACHINES AND ITS SUPPLEMENT SIGNED BY THE CUSTOMER
AND IBM. RENTAL OF IBM MACHINES WILL BE BY THE AGREEMENT
FOR LEASE OR RENTAL OF IBM MACHINES SIGNED BY THE CUSTOMER
AND IBM OR BY THE AGREEMENT FOR IBM MACHINE SERVICE IF SUCH
AGREEMENT WAS SIGNED BY THE CUSTOMER AND IBM PRIOR TO APRIL
4, 1977 AND THE MACHINES ARE ANNOUNCED AS ELIGIBLE FOR
RENTAL UNDER THIS AGREEMENT. PURCHASE OF IBM MACHINES WILL
BE BY AGREEMENT SUBSEQUENTLY SIGNED BY THE CUSTOMER AND IBM.
PRICE PROTECTION PROVISIONS ARE STATED IN THE APPLICABLE IBM
AGREEMENTS AND/OR AMENDMENTS.

NC - NO CHARGE

N/O - NOT OFFERED

S - SINGLE USE CHARGE NOT INCLUDED IN TOTAL

Systems

GA26-1658-2
File No. S370-15

**IBM 3624
Consumer Transaction Facility
Installation Manual –
Physical Planning**



Preface

This publication contains machine specifications, plan views, and other preliminary physical planning information for the IBM 3624 Consumer Transaction Facility.

Preinstallation planning, cabling information, safety, and other installation requirements that apply to the IBM 3614 Consumer Transaction Facility also apply to the 3624. This information is presented in the *IBM 3600 Finance Communication System Installation Manual—Physical Planning*, GA27-2766.

Third Edition, March 1979

This publication, GA26-1658-2, is a major revision of and obsoletes GA26-1658-1. Changes to the text and figures are indicated by a vertical line to the left of the change.

Specifications contained in this publication are subject to change. Before using this publication for installation and operation of IBM equipment, consult your local IBM sales and installation planning representatives for detailed information about product availability and installation.

Copies of this and other IBM publications can be obtained through your IBM representative or your branch office.

A form for reader's comments has been provided at the back of this publication. If the form has been removed, address comments to IBM Corporation, Department A60, 5600 Cottle Road, San Jose, California 95193.

© Copyright International Business Machines Corporation 1978, 1979

Contents

Site Preparation	1	3624 Consumer Transaction Facility	
Customer Responsibilities	1	(Models 1 and 11), Lobby	6
IBM Responsibilities	1	Specifications	7
Site Selection	1	3624 Consumer Transaction Facility	
Locking Provisions (3624)	2	(Models 2 and 12), Through-The-Wall	8
Depository	2	Specifications	9
Terminal Monitoring System	2	Installation	10
		3624 Cabling Schematic	15

Site Preparation

Information that applies to both the 3614 and 3624 Consumer Transaction Facilities is described in the *IBM 3600 Finance Communication System Installation Manual—Physical Planning*, GA27-2766. This information includes:

- Preinstallation planning
- Product and environmental safety
- Floor planning
- Specifications for loop cables
- Specifications for communications cables
- Modem specifications
- Communication channel specifications

The following information, described in this manual, applies only to the 3624.

- Installation responsibilities — customer
- Installation responsibilities — IBM
- Locking provisions
- Terminal monitoring system
- Machine specifications
- Plan views

CUSTOMER RESPONSIBILITIES

The customer is responsible for all building modifications necessary for installing the 3624. These include the following:

- Installing the branch circuit wiring.
- Providing for installation of telephone lines and equipment.
- Installing and protecting the signal cables.
- Procuring, installing, and protecting the alarm and monitor cables. (These cables are not supplied by IBM.)
- Providing connections to, and power requirements for, the alarm and control systems. Cable and power installation should be completed prior to machine delivery.
- Designing, procuring, installing, and maintaining the supporting structure for 3624 Model 1 or 11 units ordered without the IBM lobby pedestal or depository.
- Installing the heavy duty enclosure and mounting stand for 3624 Models 2 and 12.
- Installing the front trim border and bezel, front dress panel, logo, and lamp assembly on 3624 Models 2 and 12.

- Placing the currency dispensing mechanism and depository in the heavy duty enclosure and mounting the I/O module on the left side of the 3624 Model 2 or 12.
- Replacing the logo lamps.
- Installing the keylock cylinder in the security lock on the 3624 Model 1 or 11.
- Procuring and installing currency cartridge keylocks.
- Rekeying and/or replacing keylocks provided with the storage cabinet, if desired.
- Providing maintenance, storage, and control of the currency cartridges.
- Bolting the storage cabinet to the heavy duty enclosure and mounting stand.
- Adjusting the trim plate between the I/O module and the storage cabinet.
- Providing and installing weather-tight sealant between the trim border and the wall on 3624 Models 2 and 12.

IBM RESPONSIBILITIES

IBM is responsible for:

- Connecting the signal cables to the 3624.
- Connecting the terminal monitor cable (except the heavy duty enclosure alarm grids) to the 3624.
- Connecting and routing the interconnecting cables between the currency dispenser, I/O module, and depository mechanism on the 3624 Models 2 and 12.
- Conducting the initial checkout of the terminal.
- Connecting the wiring for the logo lamp.
- Aligning the currency dispensor and deposit mechanism to the heavy duty enclosure.

SITE SELECTION

Before selecting a location for the 3624, consider the following requirements and possible site restrictions:

- A designated employee must have access to the rear of the terminal to load currency, change the code, and remove jams.
- Service representatives require access to the rear of the terminal for performing preventive and corrective maintenance.
- The site selected for installation of the 3624 Models 2 and 12 should provide the user with protection from adverse weather conditions, such as precipitation, wind, high or low temperature extremes, and solar radiation.

- Exposure of the front face of the terminal to high radiant heat loads, combined with high ambient air temperature, can cause terminal surfaces to become very hot to the touch [in excess of 140 °F (60 °C)]. Shading of the front of the 3624 will reduce surface temperatures to approximately that of the outside air. A hood is installed on the user guidance display to protect the display from high incident light sources and to provide additional user information privacy. The hood can be adjusted by the user for best viewing. The hood is removable by the financial institution if it is not needed.
- The area in front of the terminal should be well lighted for user convenience and to discourage vandalism.
- High incident-light intensities, such as might be caused by direct sunlight, should be avoided. The display can be read easily under normal branch office lighting conditions. Normal indirect office lighting of 50 to 100 footcandles (538 to 1076 lumens/m² or lux) should present no problem.

LOCKING PROVISIONS (3624)

3624 Models 1 and 11: These machines are shipped with a key lock mounted in the rear door handle. This lock is a Southco Inc. lock (lock no. 92-21-109-72). Southco Inc. is in Lester, Pennsylvania.

Provisions are made in the rear cover for installing of a security key lock. The customer is responsible for procurement and installation of this lock. Machines shipped to countries in Europe, Middle East, and Africa are designed to accept DOM Cylinder Lock Works lock (lock no. 382-01). DOM Cylinder Lock Works is located in Cologne, Germany. Machines shipped to other areas are designed to accept Medeco Security Locks Inc. locks (lock no. 60-1155-3412, cam no. 102). Medeco Security Locks Inc. is located in Salem, Virginia.

The rear cover of the lobby pedestal or lobby depository feature housing is shipped with a panel mounted key lock. This lock is a Chicago Lock Co. lock (lock no. 1801). The Chicago Lock Company is located in Chicago, Illinois.

3624 Models 2 and 12: The I/O module, storage cabinet and document feed mechanism are shipped with panel key locks installed. These three locks are Chicago Lock Co. locks (lock no. 1801).

The envelope holder is shipped with a panel key lock installed. This lock is a Chicago Lock Co. lock (lock no. 1210).

A combination lock is provided with the heavy duty enclosure. A second combination lock or a dial key lock is available at time of manufacture. The combination of the combination locks should be changed by the customer prior to placing the terminal in use.

3624 All Models: Each currency cartridge has provisions for installing a key lock. The cartridge is shipped with a plastic plug in the lock hole and a special lock cam. Units shipped to Europe, Middle East, and Africa are designed to accept a DOM Cylinder Lock Works lock (lock no. 21.52.58 RC 252). Units shipped to other locations are designed to accept a Chicago Lock Co. lock (lock no. 3786-90-5).

Each currency cartridge also has provisions for installing two lead wire security seals. One is used to secure the issue door and the other secures the access cover. It is the customer's responsibility to procure and install these seals.

The currency dispensing mechanism has a mechanical interface key system to provide dispensing control of cartridges containing different currency denominations. The key system may be secured with a lead wire security seal if desired. It is the customer's responsibility to procure and install the seal and change the key position.

Two round holes are provided in the rear door of the depository. These holes will accommodate padlocks with a shackle diameter of up to 5/16 inch (0.794 cm). The shackle-to-lock case clearance should be at least 3/4 inch (1.9 cm) and the shackle span should be approximately 1 inch (2.5 cm).

In general, all key locks supplied by IBM are randomly keyed. Chicago Lock Co. lock numbers 1801 and 1210 and the Southco Inc. lock may be rekeyed if desired. Rekeying of all other keylocks can only be accomplished by changing the lock or the lock cylinder. The customer is responsible for all lock rekeying desired.

Refer to the *IBM Finance Communication System, IBM 3624 Consumer Transaction Facility Accessory Owner's Manual*, GA66-0012 for additional information concerning locks supplied with accessory items.

Refer to the *IBM Finance Communication System, IBM 3624 Currency Cartridge Owner's Manual*, GA66-0005 for additional information concerning the currency cartridge.

Depository

Two round holes are provided for a lock on the rear door of the depository. These holes will accommodate padlocks with a shackle diameter of up to 5/16 inch (0.794 cm). The shackle-to-lock case clearance should be 3/4 inch (1.9 cm) or larger and the shackle span should be approximately 1 inch (2.54 cm).

TERMINAL MONITORING SYSTEM

Dry contacts located in, and controlled by, the 3624 provide capabilities for monitoring the operational status of the terminal through the use of externally powered indicators. Access to the contacts is provided through a pluggable connector mounted in the terminal.

The customer is responsible for the design, procurement, installation, and maintenance of the external system. This includes:

- The terminal monitoring wiring between the 3624 and the remote location.
- An external power source rated within 6 to 30 volts RMS (42.4 volts peak) or 6 to 24 Vdc. (This source is used to sense the open or closed status of the contacts.)
- Audible or visual indicators (and their power source).
- The connection of the alarm grid wiring to the terminal block located inside the heavy duty enclosure.

The functions that can be monitored are:

Terminal Open/Closed: A two-position contact is provided to indicate whether the terminal is available for use.

Intervention Required: The closed position of this contact indicates that the terminal requires operator attention: the power is off, the terminal is out of currency, the host system has requested intervention, or a malfunction has occurred. The contact can also close briefly (about 30 seconds) during some system operations such as initial program load, restart, or system configuration changes.

I/O Door: This contact opens when either door of the I/O module is opened.

Currency Dispenser Door: This contact opens when the door to the currency dispensing mechanism is opened.

Camera: These contacts open when the magnetic strip card is inserted in the card reader and when the card is either returned to the customer or retained by the terminal.

If the third track special feature is installed, the contacts open when the card is inserted, when the track is updated and checked, and when the card is returned or retained.

The customer is responsible for procurement and installation of the camera and its accessories.

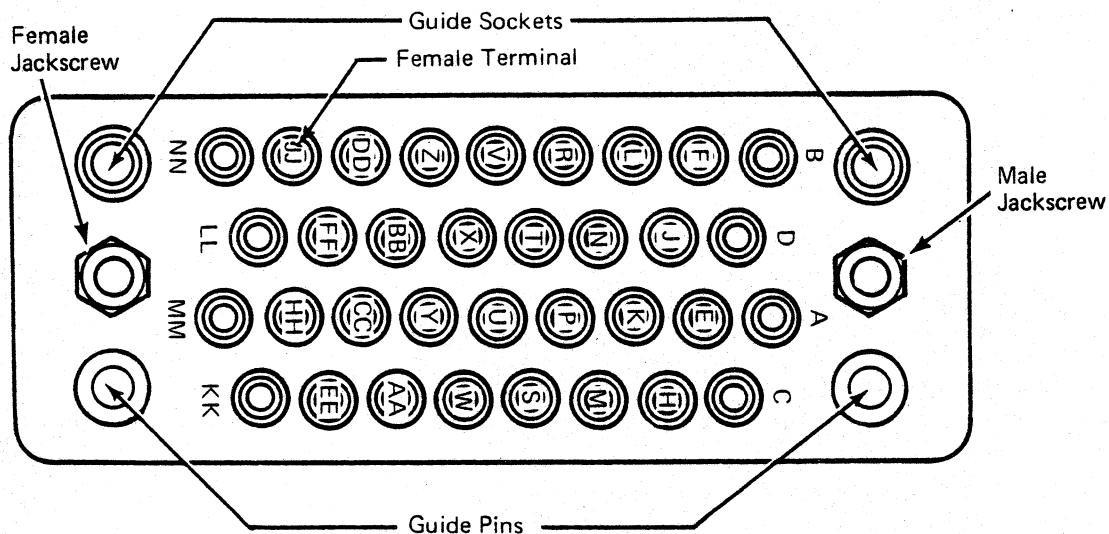
Alarm Grid: The open status of the grid indicates an attempt of forcible entry through the front protective cover of the heavy duty enclosure. (Available with Models 2 and 12 only.)

Depository Door: This contact opens when the door to the depository is opened. (Models 1 and 11 only.)

Figure 1 summarizes the specifications for the terminal monitor interface, provides the vendor part numbers for the customer-provided plug, and shows pin assignments used in the interconnecting wiring.

Customer Connector Data

The mating connector is located inside the 3624 I/O module. Customer wiring enters the module through the signal and power cable entry. (See the plan views for location.) Allow 2 inches (5.1 cm) of cable for routing inside the I/O module. Additional cable length is required for routing inside the pedestal base and/or storage cabinet.



AMP* M-series parts required:

Part Name	AMP Part No.	Quantity
M-Series, 34 Position Block	201357-1	1
Type III + # 16 Sockets	66105-1**	34 (max.)
Corner Guide Pin	200833-4	2
Corner Guide Socket	200835-4	2
Male Jackscrew	201388-1	1
Female Jackscrew	201389-1	1
Strain Relief Clamp***	201224-1	1

* AMP, Inc.

Box 3608

Harrisburg, Pa. 17105

** Socket part number shown is used for wire sizes AWG 22-20, 0.3255-0.5176 sq. mm. For wire sizes AWG 18-16, 0.8231-1.309 sq. mm, use AMP PN 66101-1.

*** Assemble for right angle cable exit from the NN-MM connector end.

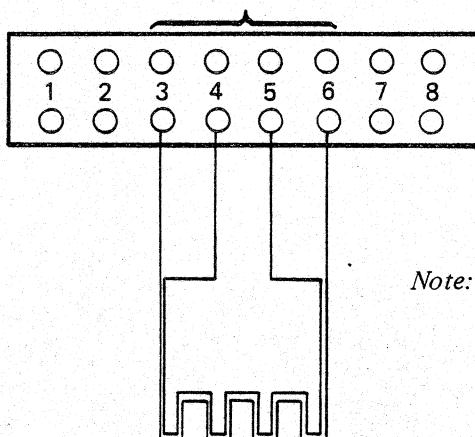
Figure 1. Terminal Monitor System Specifications (Part 1 of 2)

Function Name	Contact Type	Contact Position, 3624 Normal Operation (Terminal In Use)	Closed Circuit Resistance (Ohms)	Maximum Current (Amps)	Pin Assignment Connector Plug
Terminal Open	SPDT	Closed	0.1	0.5	A and C
Terminal Closed	SPDT	Open	0.1	0.5	B and C
Intervention Required	SPST	Open	0.1	0.5	D and E
Camera	SPST	Closed	0.1	0.5	MM and NN
I/O Door	SPST	Closed	0.1	0.5	CC and DD
Currency Dispenser Door	SPST	Closed	0.1	0.5	P and W
Depository Door (Lobby only)	SPST	Closed	0.1	0.5	HH and JJ

Note: A power source rated at 6 to 30 volts RMS (42.4 volts peak) or 6 to 42.4 Vdc must be provided by the customer to sense the contact condition. A contact bounce of several milliseconds duration can occur during make or break operations. Arc suppression devices should be provided in customer circuits when inductive components are included.

Alarm Grid Terminal Block (Heavy Duty Enclosure)

Customer wiring to terminal block.
Number 6 ring terminal recommended.



Note: The resistance of each grid loop is between 10 and 50 ohms. The maximum allowable current is 0.5 amperes.

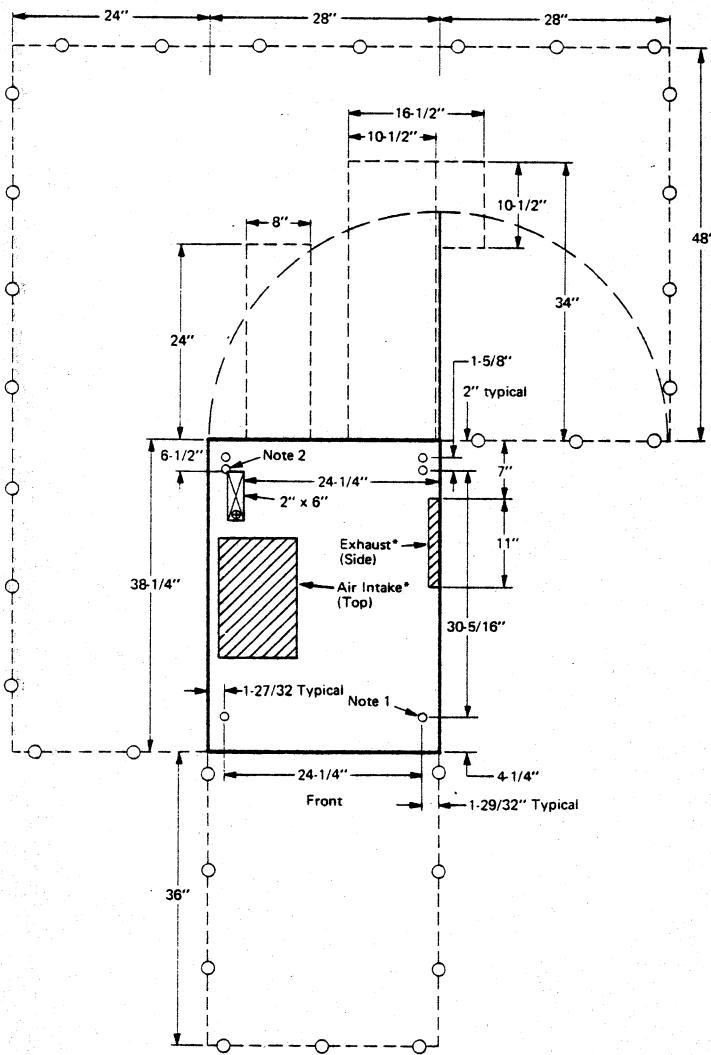
The customer-supplied current limited power supply must be between 6 and 30 volts RMS (up to 42.4 volts peak) or 6 and 42.4 Vdc.

The alarm grid terminal block is located inside the heavy duty enclosure. The customer may route the cable through the existing cable entry hole or drill a 5/16-inch (0.8 cm) maximum diameter hole in the enclosure wall.

Figure 1. Terminal Monitor System Specifications (Part 2 of 2)

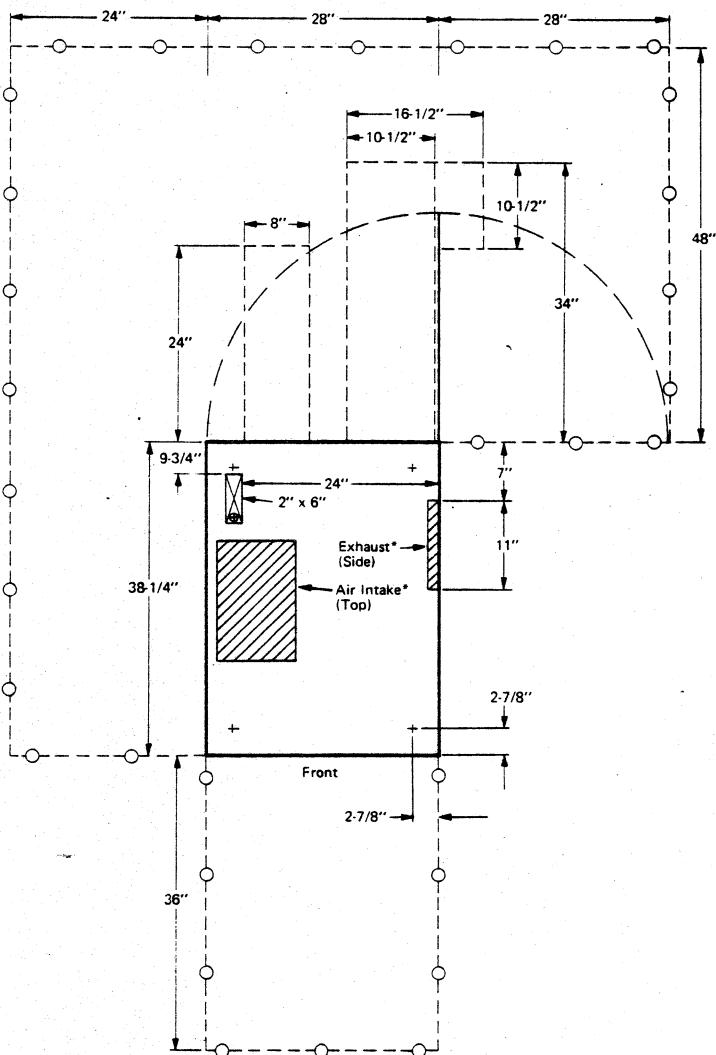
3624 CONSUMER TRANSACTION FACILITY (MODELS 1 and 11) LOBBY

Plan View (Customer Provided Mounting)



Scale: $1/2'' = 1$ foot.

Plan View (IBM Pedestal Base)



Scale: $1/2'' = 1$ foot.

- * Do not block air intake or exhaust. A minimum clearance of 4 inches (10.2 cm) is recommended.

A customer-provided mounting structure should provide a minimum vertical clearance of 24 inches (61.0 cm) in the side and rear service clearance areas below the bottom of the 3624, for the operator and service personnel. A minimum vertical clearance of 2 inches (5.1 cm) must be provided for servicing. Allow a minimum of 6 inches (15 cm) of cable for routing within the 3624 when it is mounted on a customer-provided structure. Allow a minimum of 44 inches (112 cm) of cable for routing within the 3624 and the pedestal base when the IBM pedestal base is used.

Notes:

1. Four jackscrews (M12 x 1.75 thread) are shipped installed in the corner mounting holes. Jackscrews may be removed for bolting the unit to a customer-provided structure.
2. Two M12 x 1.75 threaded holes are provided for bolting the unit to a customer-provided structure.

3624 CONSUMER TRANSACTION FACILITY (MODELS 1 and 11) LOBBY

Dimensions:

	F	S	Height without pedestal	Height with pedestal
Inches	28	38.3	38.5	76
(cm)	71	97	98	193

Inches	Centimeters
1-5/8	4.1
1-27/32	4.7
1-29/32	4.8
2	5.1
2-7/8	7.3
4-1/4	10.8
6	15.2
6-1/2	16.5
7	17.8
8	20.3
9-3/4	24.8
10-1/2	26.7
11	27.9
16-1/2	41.9
24	61.0
24-1/4	61.6
28	71.1
30-5/16	77.0
34	86.4
36	91.4
38-1/4	97.2
48	122.0

Service Clearances:

	F	R	L	Rt
Inches	36	48	24	28
(cm)	91	122	61	71

Weight: Without Pedestal 550 lb (250 kg)
 With Pedestal 750 lb (340 kg)
 With Depository 850 lb (385 kg)

Heat Output: 3100 BTU/hr (787 kcal/hr) maximum

Airflow: 270 cfm (7.8 m³/min)

Power Requirements: Single phase, 1.0 kVA max.

Volts (60 Hz)	100	110	120	127
Max. Cont. Load (Amps)	9.6	8.7	8.0	7.6
Volts (50 Hz)	100	110	127	220
Max. Cont. Load (Amps)	9.6	8.7	7.6	4.4
				4.0

Power Cord: See the Plug and Receptacle section of this manual.

Environment Operating:

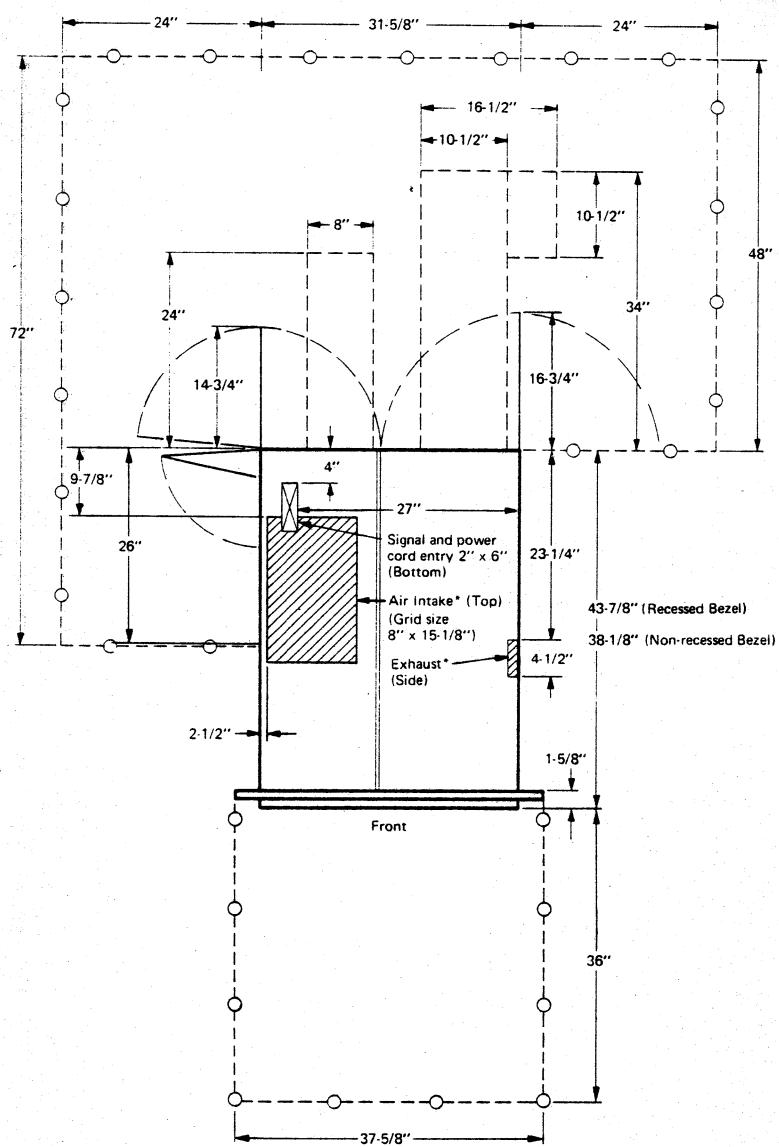
Temperature 50° to 105° F (10° to 40.6° C)
 Rel. Humidity 8 to 80%
 Max. Wet Bulb 80° F (27° C)

Environment Nonoperating (Power Off):

Temperature 40° to 125° F (4.4° to 51.7° C)
 Rel. Humidity 8 to 80%
 Max. Wet Bulb 85° F (29° C)

3624 CONSUMER TRANSACTION FACILITY (MODELS 2 and 12) THROUGH-THE-WALL

Plan View



Inches	Centimeters
1-5/8	4.2
2	5.1
2-1/2	6.4
4	10.2
4-1/2	11.4
6	15.2
8	20.3
9-7/8	25.1
10-1/2	26.7
14-3/4	37.5
15-1/8	38.4
16-1/2	41.9
16-3/4	42.5
23-1/4	59.0
24	61.0
26	66.0
27	68.6
31-5/8	80.3
34	86.4
36	91.4
37-5/8	95.6
38-1/8	96.8
43-7/8	111.4
48	122.0
72	182.9

Scale: $1/2'' = 1$ foot.

- * Do not block air intake or exhaust. A minimum clearance of 4 inches (10.2 cm) is required. Top of exhaust is 3-1/2 inches (8.9 cm) below top of heavy duty enclosure. Exhaust is 4-1/2 inches (11.4 cm) high.

A customer-provided mounting structure should provide a minimum vertical clearance of 24 inches (61 cm) in the side and rear service clearance areas below the plane of the bottom of the I/O module, for operator and service personnel. A minimum vertical clearance of 2 inches (5.1 cm) must be provided for servicing.

Allow a minimum of 30 inches (76 cm) of cable for routing within the storage cabinet and the I/O module.

3624 CONSUMER TRANSACTION FACILITY (MODELS 2 and 12) THROUGH-THE-WALL

Dimensions:

Installed dimensions with trim border, bezel with recessed front panel, and mounting base for 52 inch (132 cm) keyboard height:

	F	S	H*	R
Inches	37.6	43.8	76	31.6
(cm)	96	111	193	80

* Not including 3 inch (7.6 cm) bezel height.

Service Clearances:

	F	R	L	Rt
Inches	36	48	24	24
(cm)	91	122	61	61

Weight:

	lb	kg
Currency Dispenser I/O Module	125	57
U.S. and Canada	285	129.3
Other Countries	320	145.1
Depository	110	49.9
Heavy Duty Enclosure		
Single Function	1500	680
Dual Function	2100	953
Front Trim Border and Bezel	115	52.2

Pedestal Base for:

Single Function Enclosure keyboard height	lb	kg
42 inch (107 cm)	192	87.1
47 inch (119 cm)	232	105.2
52 inch (132 cm)	272	123.4

Dual Function Enclosure keyboard height	lb	kg
42 inch (107 cm)	100	45.4
47 inch (119 cm)	140	63.5
52 inch (132 cm)	180	81.6

Storage Cabinet Only	lb	kg
	75	34

Heat Output: 3500 BTU/hr (889 kcal/hr) max.

Airflow: 270 cfm (7.8 m³/min)

Power Requirements: Single phase, 1.14 kVA max.

Volts (60 Hz)	100	110	120	127
Max. Cont. Load (Amps)	11.4	10.3	9.5	9.0
Volts (50 Hz)	100	110	127	220
Max. Cont. Load (Amps)	11.4	10.3	9.0	5.2
				4.8

Power Cord, Plug, and Receptacle: See the Plug and Receptacle section of this manual.

Environment Operating, Inside: *

Temperature	50° to 105° F (10° to 40.6° C)
Rel. Humidity	8 to 80%
Max. Wet Bulb	80° F (27° C)

Environment Nonoperating, Inside (Power Off): *

Temperature	40° to 125° F (4.4° to 51.7° C)
Rel. Humidity	8 to 80%
Max. Wet Bulb	85° F (29° C)

Environment Operating, Outside: *

Temperature	-20° to 120° F (-29° to 48.9° C)
Rel. Humidity	0 to 100%
Max. Wet Bulb	85° F (29.4° C)

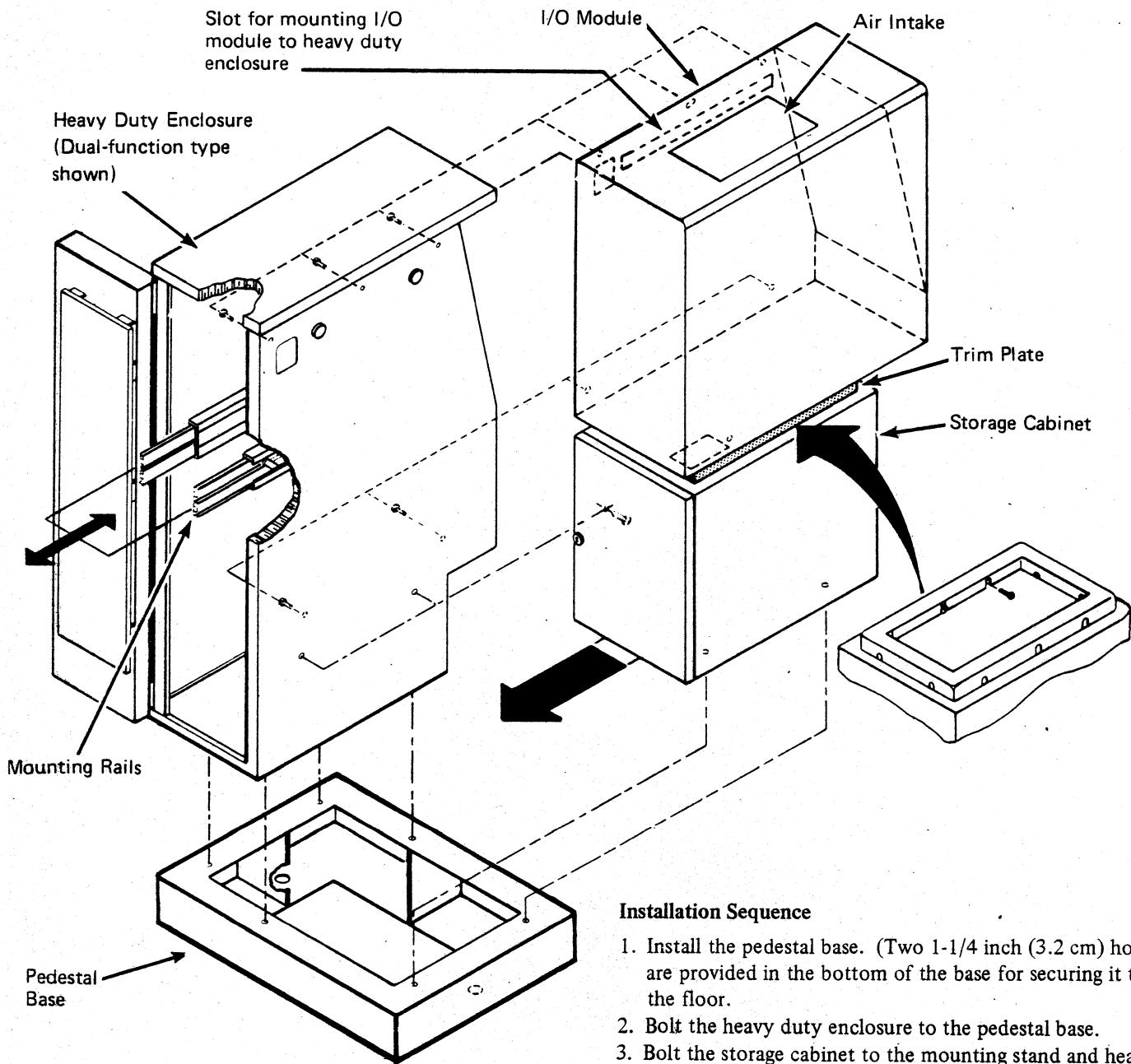
Environment Nonoperating, Outside (Standby): *

Temperature	-40° to 140° F (-40° to 60.1° C)
Rel. Humidity	0 to 100%
Max. Wet Bulb	85° F (29° C)

* Some combinations of indoor relative humidity, and outdoor temperature can cause condensation to form on the back of the trim collar, bezel, and envelope holder when exposed to room air.

3624 MODELS 2 AND 12, THROUGH-THE-WALL

Installation (Part 1 of 4)



Tools Required

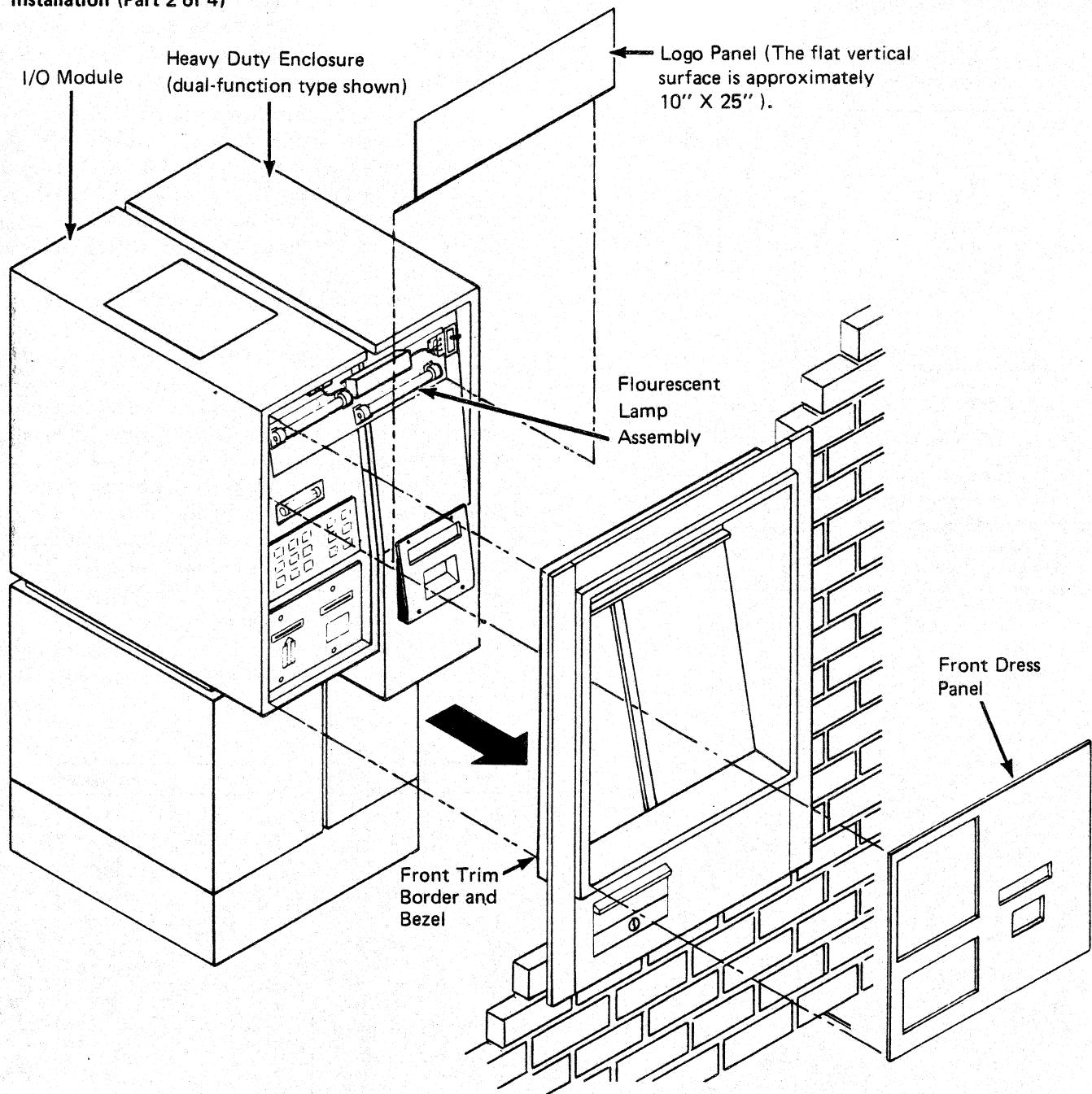
- 1-1/8 inch socket wrench
- 10 mm wrench, ratcheting-box or box-end
- Flat-blade screwdriver

Installation Sequence

1. Install the pedestal base. (Two 1-1/4 inch (3.2 cm) holes are provided in the bottom of the base for securing it to the floor.)
2. Bolt the heavy duty enclosure to the pedestal base.
3. Bolt the storage cabinet to the mounting stand and heavy duty enclosure. If the heavy duty enclosure is a single-function unit, install the divider between the storage cabinet and the filler cabinet.
4. Mount the I/O module on the left side of the heavy duty enclosure, slide it forward, and bolt it to the enclosure. The I/O module must be flush with the front of the enclosure. Do not damage the seals around the cable exit and the air intake on the I/O module.
5. Place the currency dispensing and depository mechanisms in the heavy duty enclosure.
6. Adjust the trim plate between the storage cabinet and the I/O module.

3624 MODELS 2 AND 12, THROUGH-THE-WALL

Installation (Part 2 of 4)

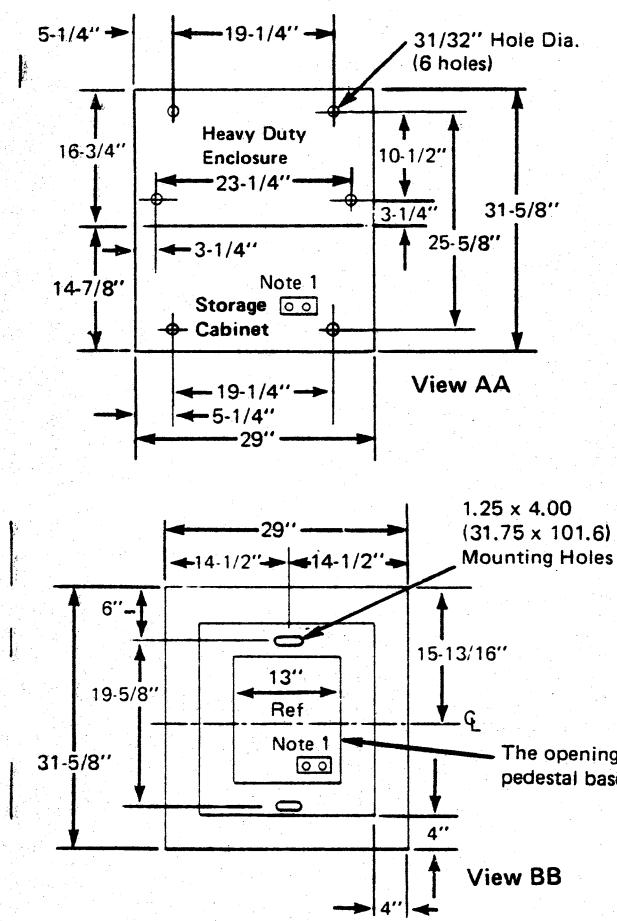
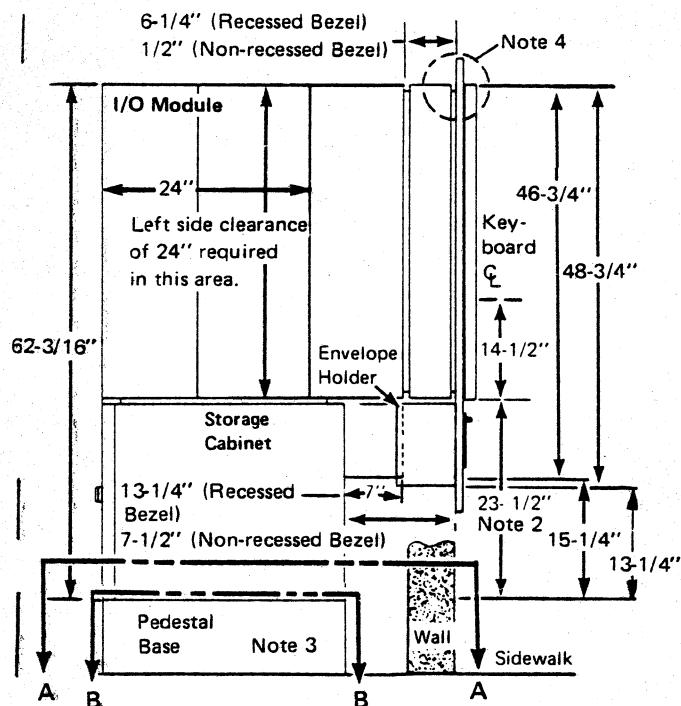


Installation Sequence

1. Assemble the front trim border, bezel, and optional envelope holder.
2. Secure the front trim border and bezel assembly to the heavy duty enclosure and I/O module and seal it to the wall.
3. Install the lamp assembly and lamps.
4. Install the front dress panel.
5. Install the logo panel.

3624 MODELS 2 AND 12, THROUGH-THE-WALL

With dual-function heavy duty enclosure



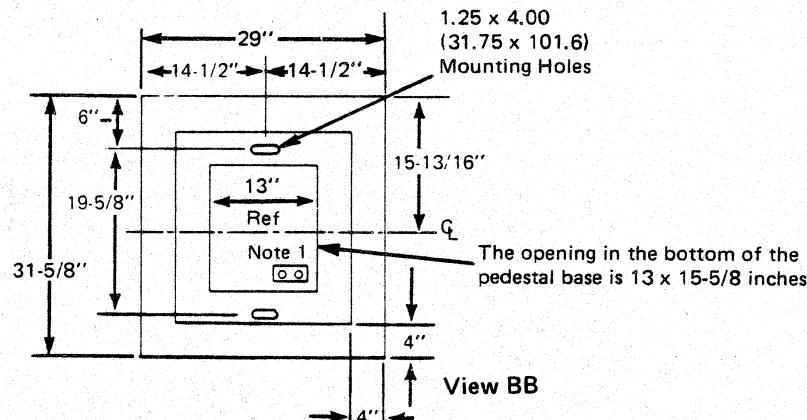
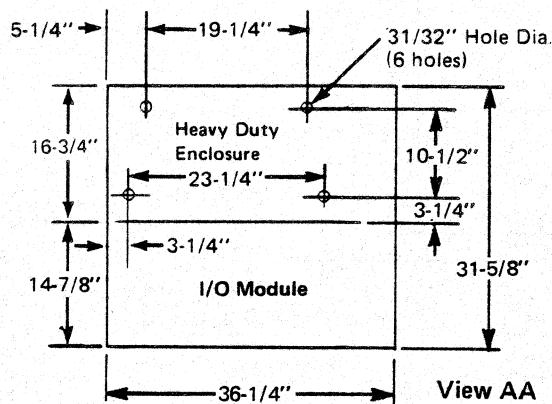
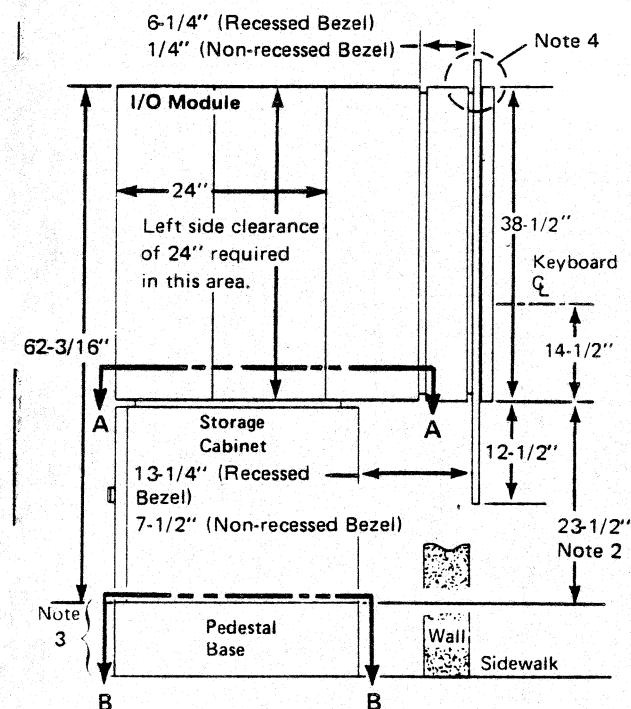
Notes:

1. Holes may be cut in the side of the pedestal base or storage cabinet to provide access for the signal, monitor, or branch circuit wiring. Mechanical protection should be provided for all wiring. Branch circuit wiring may be terminated in the bottom of the storage cabinet or pedestal base. An access hole large enough to allow the power cord to exit without removal of the power cord plug should be provided if the branch circuit receptacle is located outside the 3624.
2. The recommended keyboard height for walkup terminals is 52 inches (132 cm). The recommended keyboard height for driveup terminals is 42 inches (107 cm).
3. Pedestal bases are available in 4 inch (10.2 cm), 9 inch (22.9 cm), and 14 inch (35.6 cm) heights. Use the 14 inch pedestal base to achieve the recommended keyboard height of 52 inches above the walkway when the building floor and walkway are at the same elevation. Use the 4 inch pedestal base to achieve the recommended keyboard height of 42 inches for the driveup terminals when the 3624 is mounted on the same elevation as the driveway. Building, walkway, or driveway modification is required if recommended keyboard heights cannot be accommodated with available pedestal bases.
4. A minimum clearance of 1 inch (2.5 cm) is required above the bezel and trim collar for bezel installation.

Inch	Centimeter	Inch	Centimeter
1/2	1.3	15-5/8	39.7
31/32	2.5	15-13/16	40.2
1-1/4	3.2	16-3/4	42.5
3-1/4	8.3	19-1/4	48.9
4	10.2	19-5/8	49.8
5-1/4	13.3	23-1/4	59.0
6-1/4	16.5	23-1/2	59.7
7	17.8	24	61.0
7-1/2	19.1	25-5/8	65.1
10-1/2	26.7	29	73.7
12-1/2	31.8	31-5/8	80.3
13	33.0	38-1/2	97.8
13-1/4	33.7	46-3/4	118.7
14-1/2	36.8	48-3/4	123.8
14-7/8	37.8	62-3/16	158.0
15-1/4	38.7		

3624 MODELS 2 AND 12, THROUGH-THE-WALL

With single-function heavy duty enclosure

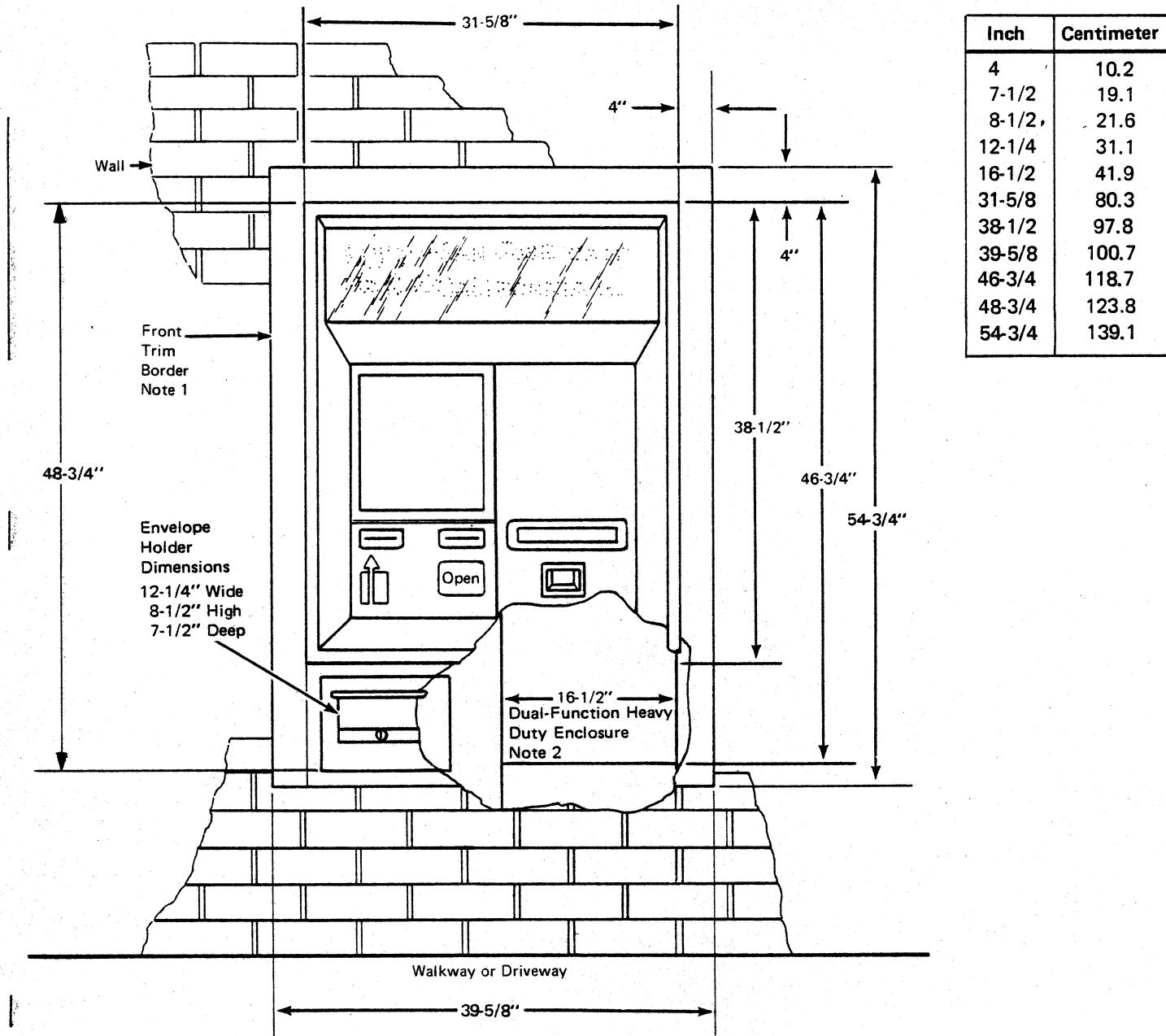


Notes:

1. Holes may be cut in the side of the pedestal base or storage cabinet to provide access for the signal, monitor, or branch circuit wiring. Mechanical protection should be provided for all wiring.
Branch circuit wiring may be terminated in the bottom of the storage cabinet or pedestal base. An access hole large enough to allow the power cord to exit without removal of the power cord plug should be provided if the branch circuit receptacle is located outside the 3624.
Power cord and signal wiring must exit from the bottom of the I/O module when installed on a customer provided pedestal.
2. The recommended keyboard height for walkup terminals is 52 inches (132 cm).
The recommended keyboard height for driveup terminals is 42 inches (107 cm).
3. Pedestal bases are available in 4 inch (10.2 cm), 9 inch (22.9 cm), and 14 inch (35.6 cm) heights. Use the 14 inch pedestal base to achieve the recommended keyboard height of 52 inches above the walkway when the building floor and walkway are at the same elevation. Use the 4 inch pedestal base to achieve the recommended keyboard height of 42 inches for the driveup terminals when the 3624 is mounted on the same elevation as the driveway. Building, walkway, or driveway modification is required if recommended keyboard heights cannot be accommodated with available pedestal bases.
4. A minimum clearance of 1 inch (2.5 cm) is required above the bezel and trim collar for bezel installation.

3624 MODELS 2 AND 12, THROUGH-THE-WALL

Installation (Part 4 of 4)



Notes:

The assembled dimensions for the part of the 3624 installed through-the-wall are:

With dual-function heavy duty enclosure and envelope holder – 31-5/8 inches wide and 48-3/4 inches high.

Without dual-function heavy duty enclosure and envelope holder – 31-5/8 inches wide and 38-1/2 inches high.

1. The trim border on the top, bottom, and sides extends beyond the outline of the assembled heavy duty enclosure, I/O module, and bezel. The wall hole size may include a liberal allowance for dimensional tolerance buildup that may occur during construction. Weather tight seal must be provided between the trim border and the wall.
2. See Through-The-Wall Installation, Part 3, for profile of the heavy duty enclosure and envelope holder.

3624 CABLING SCHEMATIC

The IBM 3600 Finance Communication System Installation Manual – Physical Planning (GA27-2766) contains the cabling information for the 3614. The 3624 and 3614 external cabling is identical.

Cables automatically supplied by IBM with associated features, no cable order required (fixed length).

Group No.	No. of Cables	From	To	Maximum Length	Notes
3680	1	3614/3624	3614/3624	1/2' (15.2 cm)	Required if a 3614/3624 is the only terminal on a remote loop; this small jumper cable is supplied automatically with the 3614/3624.

Cables supplied by IBM with associated features, cable order required (variable length). Customer must specify length in cable order.

Group No.	No. of Cables	From	To	Maximum Length	Notes
3677	1	3614/3624 integrated modem 3614/3624 loop integrated modem	CPU communication lines Communication lines	40' (12.2 m) 40' (12.2 m)	For U.S.A., Canada, and Japan (Feature Code 5500). For U.S.A., Canada, and Japan (Feature Code 8001).
3678	1	3614/3624 integrated modem 3614/3624 loop integrated modem	CPU communication lines Communication lines	40' (12.2 m) 40' (12.2 m)	For other WT countries (Feature Code 5500). For other WT countries (Feature Code 8001).
3679	1	3614/3624	External standalone modem	40' (12.2 m)	With an EIA/CCITT Interface in U.S.A. and WT countries (Feature Code 3701).

PLUG and RECEPTACLE

The types of power cords and plugs shipped with units for Canada and the U.S.A. are shown in the following table. Units for countries other than Canada and the U.S.A. are shipped without plugs to permit installation of plugs and receptacles in accordance with local standards and regulations.

Provided by IBM					Provided by Customer					
Plug Type	Water-proof	Plug Cap Types		IBM Reference	Service Rating				Inline Connector	Receptacle
		Non-lock	Lock		Volts	Amps	Phase	Wires		
H		5-15P		NEMA	125	15	1	3	5-15R	5-15R

The power cord specifications for both the 3614 and the 3624 are as follows:

Number of wires: Three, number 16 AWG, 1.309 square mm, including ground (green or green and yellow).

Conductor outside diameter: 0.076 inch (1.93 mm).

Cable outside diameter: 0.42 inch (10.7 mm).

Number of shields: 1



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601

IBM 3624 Consumer Transaction Facility
Installation Manual – Physical Planning

Order No. GA26-1658-2

READER'S
COMMENT
FORM

This manual is part of a library that serves as a reference source for systems analysts, programmers, and operators of IBM systems.

This form may be used to communicate your views about this publication. They will be sent to the author's department for whatever review and action, if any, is deemed appropriate. Comments may be written in your own language; use of English is not required.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

Note: Copies of IBM publications are not stocked at the location to which this form is addressed. Please direct any requests for copies of publications, or for assistance in using your IBM system, to your IBM representative or to the IBM branch office serving your locality.

Possible topics for comment are:

Clarity Accuracy Completeness Organization Coding Retrieval Legibility

If you wish a reply, give your name and mailing address:

Note: Staples can cause problems with automated mail sorting equipment.
Please use pressure sensitive or other gummed tape to seal this form.

— Cut or Fold Along Line

What is your occupation? _____

Number of latest Newsletter associated with this publication: _____

Thank you for your cooperation. No postage stamp necessary if mailed in the U.S.A. (Elsewhere, an IBM office or representative will be happy to forward your comments.)

Reader's Comment Form

IBM 3624 Consumer Transaction Facility Installation Manual — Physical Planning (File No. S370-15)

Cut or Fold Along Line

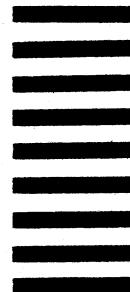
Printed in U.S.A. GA26-1658-2

Fold

Please Do Not Staple

Fold

First Class
Permit 2078
San Jose
California



Business Reply Mail
No postage stamp necessary if mailed in the U.S.A.

Postage will be paid by:

International Business Machines Corporation
Department A60
5600 Cottle Road
San Jose, California
95193

Fold

Please Do Not Staple

Fold



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601

IBM 3624 Consumer Transaction Facility
Installation Manual – Physical Planning

READER'S
COMMENT
FORM

Order No. GA26-1658-2

This manual is part of a library that serves as a reference source for systems analysts, programmers, and operators of IBM systems.

This form may be used to communicate your views about this publication. They will be sent to the author's department for whatever review and action, if any, is deemed appropriate. Comments may be written in your own language; use of English is not required.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

Note: Copies of IBM publications are not stocked at the location to which this form is addressed. Please direct any requests for copies of publications, or for assistance in using your IBM system, to your IBM representative or to the IBM branch office serving your locality.

Possible topics for comment are:

Clarity Accuracy Completeness Organization Coding Retrieval Legibility

If you wish a reply, give your name and mailing address:

Note: Staples can cause problems with automated mail sorting equipment.
Please use pressure sensitive or other gummed tape to seal this form.

— — — — — Cut or Fold Along Line — — — — —

What is your occupation? _____

Number of latest Newsletter associated with this publication: _____

Thank you for your cooperation. No postage stamp necessary if mailed in the U.S.A. (Elsewhere, an IBM office or representative will be happy to forward your comments.)

Cut or Fold Along Line

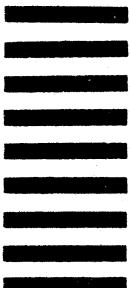
Reader's Comment Form

Fold

Please Do Not Staple

Fold

First Class
Permit 2078
San Jose
California



Business Reply Mail
No postage stamp necessary if mailed in the U.S.A.

Postage will be paid by:

International Business Machines Corporation
Department A60
5600 Cottle Road
San Jose, California
95193

Fold

Please Do Not Staple

Fold



International Business Machines Corporation
Data Processing Division
1133 Westchester Avenue, White Plains, N.Y. 10604

IBM World Trade Americas/Far East Corporation
Town of Mount Pleasant, Route 9, North Tarrytown, N.Y., U.S.A. 10591

IBM World Trade Europe/Middle East/Africa Corporation
360 Hamilton Avenue, White Plains, N.Y., U.S.A. 10601

