# RESOLUTION NO. 665

## A RESOLUTION TO AWARD THE SELECTION OF A TELEPHONE SYSTEM FOR WILSONVILLE LIBRARY.

WHEREAS, the City staff has prepared a report on the above captioned subject which is attached hereto as Exhibit "A"; and

WHEREAS, the City Council has duly considered the subject and the recommendation(s) contained in the staff report; and

WHEREAS, interested parties, if any, have had an opportunity to be heard on the subject; and

WHEREAS, upon reviewing the staff report, Council finds that the long term reliability based on the reputation and domestic location of A. T. & T. justifies the additional cost over the life of the system of Western Telephone.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Wilsonville does hereby approve the purchase of the telephone system from A. T. & T. at a cost of three thousand, nine hundred sixty-two dollars and seventy-five cents ($3,962.75).

ADOPTED by the City Council of the City of Wilsonville at a regular meeting thereof this 2nd day of May, 1988, and filed with the Wilsonville City Recorder this same date.

WILLIAM E. STARK, Mayor

ATTEST:

_Vera A. Rojas_

VERA A. ROJAS, City Recorder

SUMMARY of Votes:

| | |
|---|---|
| Mayor Stark | NO |
| Councilor Edwards | AYE |
| Councilor Braymen | AYE |
| Councilor Clarke | AYE |
| Councilor Jameson | AYE |

EXHIBIT "A"

TO:         HONORABLE MAYOR AND CITY COUNCIL

FROM:       RAY SHORTEN, FINANCE DIRECTOR

DATE:       APRIL 28, 1988

RE:         TELEPHONE SYSTEM FOR NEW LIBRARY BUILDING


Considerable time and effort was dedicated to this project by Nancy Dillon and myself as well as Walt Whelen in attempting to obtain quotes on a telephone system for the new Library that would meet the needs for years to come and provide this at a reasonable cost.

I enclose  a copy of Nancy's memo which summarizes her findings on the proposals.  I have reviewed her findings and concur with her rating of the proposals.  Although I feel very strongly about the quality of A. T. & T. service and equipment,  I feel the strong support of the Toshiba system proposed by Western Telephone from references on their system, indicate a very workable and reliable system.


RECOMMENDATION:

Authorize the purchase of telephone system for the library from Western Telephone at a cost of $2,450.00.

TO:          RAY SHORTEN, FINANCE DIRECTOR

FROM:        NANCY DILLON, ACCTG SPECIALIST/PURCHASING CLERK

DATE:        APRIL 27, 1988

RE:          RECOMMENDATION CONCERNING LIBRARY PHONE SYSTEM


First may I say that buying phone systems is comparable to buying
copy machines (you remember what a "fun" process that was) - they
all seem to have loads of added features to confuse you and in
the end you feel like you could toss them all in a hat and just
pick ........


The purchase of the phone system was very similar to the process
used for the public address system. We advertised a "Request for
Proposal" and received 11 proposals.  Since the specifications
were prepared in-house, they were less sophisticated and much
less complex  than the p.a. system but we still received a good
response and I feel confident that the equipment we choose will
be more that adequate to meet the needs of the Library staff.

The criteria as outlined in the specifications (packet attached)
depended heavily on the reliability and performance of the
equipment and the service company.  Because of our present
service situation on the City Hall system, I felt that we needed
to pay particular attention to the commitment of the vendor to
provide us with service and the needed parts, should the system
fail.

The proposals ranged in price from $2,378.41 to $5,330.00.  In
some cases, the proposal would only address the performance of
the service company and the ignore capabilities of the phone and
vice versa. As I narrowed the field, I looked for proposals that
offered me information concerning both the company and their
equipment.

Attached you will find a summary of the four proposals I felt best met our needs. From the information I gathered I feel that Western Telephone could best supply us with an efficient and reliable system, at a economical cost. The Toshiba equipment had excellent performance reports. The fact that Western Telephone feels confident to offer their service contract at such a reduced rate, says something. Although their initial purchase price was below average of those received, it seems to offer all the equipment we need. I also appreciated the letter of recommendation from Toshiba showing their commitment to furnishing equipment and parts.

My second choice would be the system from A.T. & T. In this case, we would definitely be purchasing a name that represents reliability. My only concern is how much is that name really costing us. Is it really worth $1,500? (The difference in our case between Western Telephone & A.T. & T.) If the actual price difference **guaranteed** that we would have uncomparable service and performance reliability, then I could freely recommend the more expensive A.T. & T., as it is I continue to stumble over the price difference.

| COMPANY NAME COMPANY ADDRESS | EQUIPMENT PURCHASE PRICE | CAPACITY AT INSTALLATION | MAXIMUM CAPACITY | WARRANTY | ANNUAL SERVICE CONTRACT |
|---|---|---|---|---|---|
| COMMUNICATIONS RESOURCES 15714 S.W. 72nd Portland OR 97224 | $3,296.00 | 3 Lines 7 stations | 6 lines* 16 stations** | 3 years all parts/labor | $329.00 |

* to add lines 4 thru 6  must install
  1 line card @ $102.60

** can add 1 more station automatically
   to install stations 9 - 16 install
   must install 1 card @ $72

REFERENCES:  The NEC phone system which was proposed was recommended by the  references given as being easy to use
by anyone.  Communications Resources was credited with having quick response time and the ability to
coordinate smooth ad efficient installation.

Their warranty impressed me.

One contact I made concerning the Toshiba equipment - did say that they currently had a phone system
by NEC and that it was totally discontinued and they could now only get reconditioned parts.

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| A. T. & T. 2020 S.W. 4th Portland OR | $3,962.75 | 3 lines 8 stations (initial install includes all hot jacks) | 6 lines* 16 stations* | 1 yr | $471.12/yr (guaranteed price for 2 years) |
|---|---|---|---|---|---|

*to update the system to handle all 6 lines
and 16 stations - one package could be purchased
at $530.75 to complete the update

REFERENCES:  When purchasing from A.T. & T. the one word that stood out in their customer recommendations
was reliability.  We can be assured from their name, that they will be around to supply parts and
service our equipment.  Associated Oregon Counties felt that the extra cost of their equipment
was worth it - to be assured the parts/service etc.

A.T. & T. also included in their proposal - the capabilities of a  FAX machine and how they could
be a source for our needs in this area also.

| COMPANY NAME<br>COMPANY ADDRESS | EQUIPMENT<br>PURCHASE PRICE | CAPACITY AT<br>INSTALLATION | MAXIMUM<br>CAPACITY | WARRANTY | ANNUAL<br>SERVICE CONTRACT |
|---|---|---|---|---|---|
| Western Telephone<br>7909 S.W. Cirrus Drive<br>Beaverton OR  97005 | $2,450.00 | 3 lines<br><br>8 stations | 6 lines*<br><br>16 stations* | 1 year | $56/yr |

**This rate would grow to $82 at year #10

*to establish lines 4 thru 6 - we would purchase
  1 line card @ $200.

**to establish stations 9 thru 16 - we would need
  2 station cards (4 stations ea) @ $112.50 per card

REFERENCES:  I was extremely impressed with the recommendations from the references for the Toshiba equipment
and Western Telephone.  Toshiba sent a letter of recommendation that assured us that parts would
be available for at least 7 years if they chose to discontinue this model.  The equipment  offers
many features and still be easy to operate.  I was extremely concern about the service contract
it seems "to good to be true".  But through several contacts - it seems that the equipment is so
reliable that they can be confident that it will not fail.

Jerry Taylor, Cornelius City Manager has 3 forms of the Toshiba equipment in their City Hall and other
buildings.  They purchased the equipment in February.  They were extremely impressed with Toshiba's
reputation and Western Telephone did a great job orchestrating the transition to the new system. He felt
we would be extremely happy with the system and that Western would be most accommodating*.

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| TELEPHONE SALES & COMMUNICAITON<br>2110 S.W. Jefferson Suite 200<br>Portland OR  97201 | $2,399.00 | 3 lines<br>8 stations | 6 lines<br>16 stations | 2 year | $300/yr<br>for up to<br>8 phones |
|---|---|---|---|---|---|

*to activate lines 4-6 we would need
  1 line card @ $180.00

**to increase the stations from 9 -16 we
  would need 1 circuit card @ $291.00

REFERENCES:  Again I received great references and people that were impressed with the service of the company
and the phone ease of operation.  From looking at the materials provided, I didn't see any real
features on this phone that stood out.  It is the same brand of phone as those in City Hall.

## REQUEST FOR PROPOSAL

## LIBRARY TELEPHONE SYSTEM

The City of Wilsonville will be accepting proposals for furnishing and installing a complete telephone system for the new City Library building currently under construction at 8200 S.W. Wilsonville Road, Wilsonville OR.

Detailed specifications for the proposed system may be obtained from the City of Wilsonville Finance Dept. at 30000 S.W. Town Center Loop E. or by calling 682-1011.

Proposals will be accepted until 5:00 p.m. on Tuesday, April 19, 1988. Proposals will not be accepted after this date.

Proposals received will be reviewed by City Council and the sucessful vendor may be awarded the contact at the regularly scheduled Council meeting on May 2, 1988.

The Wilsonville City Council reserves the right to reject any or all proposals if it appears to be in the best interest of the City.

Publish    Daily Journal of Commerce 4/1/88
             Canby Herald/Wilsonville Spokesman 4/6/88

## SPECIFICATIONS FOR TELEPHONE SYSTEM

The proposed telephone system for the new Wilsonville Library shall consist of a system having 2 incoming phone lines with the capabilities for six (6) lines total. The original equipment will also include six (6) desk-top telephone and one (1) wall phone, along with the installation of 11 telephone jacks at specified locations.

The system should include an intercom system between all telephones and the capability to transfer any calls to other telephones within the Library. The system should be compatible with the Ultracom CX system used in City Hall and include an extension line that would allow the capability to route any incoming or outgoing calls through the City Hall switchboard.

The proposal should include the installation of the entire system including the furnishing of all labor, wiring, connectors, jacks, etc., to complete the phone system. The final system installation must be completed prior to August 1, 1988. Once the installation is complete and is accepted by the City, the system must carry a warranty of no less than one (1) year.

The successful vendor shall be responsible for the provision of all appropriate insurance and bonding, including coverage on all of the vendor's employees.

Payment for services will be made once the entire system is installed and accepted by the City.

Please include in the proposal, at least four (4) references from other firms using the system and an estimated cost of a maintenance agreement, to be effective once the warranty period is complete.

The criteria for awarding the contract will be as follows:

1. The reliability and performance of the system as specified by the references provided.

2. The availability of service, parts and provision for maintenance service contract.

3. Warranty on the equipment and installation.

4. Overall cost to City including original equipment purchase as well as annual service contract.

5. Compatibility with current City telephone system.
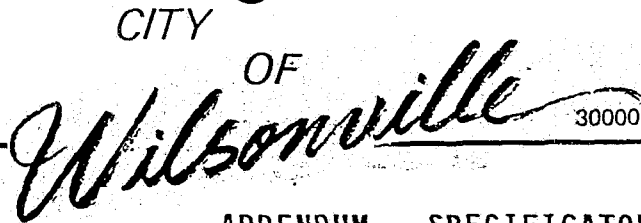
## ADDENDUM - SPECIFICATONS - TELEPHONE SYSTEM

## WILSONVILLE LIBRARY

## APRIL 7, 1988

Please consider this an addendum to the Request for Proposal for the telephone system for the City of Wilsonville new Library.

We have made a change in the actual number of phone jacks. We would ask that the proposal be prepared with 14 actual jacks (1 jack for a wall phone and the balance to be regular desk phones jacks). The general contractor will be providing and installing conduit for the system but it will be the telephone vendor's responsiblity to actually "pull the line" and do all other installation. As shown on the attached floor plan, we are asking that of the 14 jacks installed, that 8 be actual "hot" jacks when the building is complete. Please include with your proposal, an estimate of your company's hourly service rate and the estimated time that is needed to install a "hot" jack. This will allow us to compile some calculations for the future.

We do want to clarify that the proposal should include the cost and installation of an OPX line between the Library and City Hall. We understand that City Hall will probably be the orginator of this line, but we do want this expense outlined in the proposal.
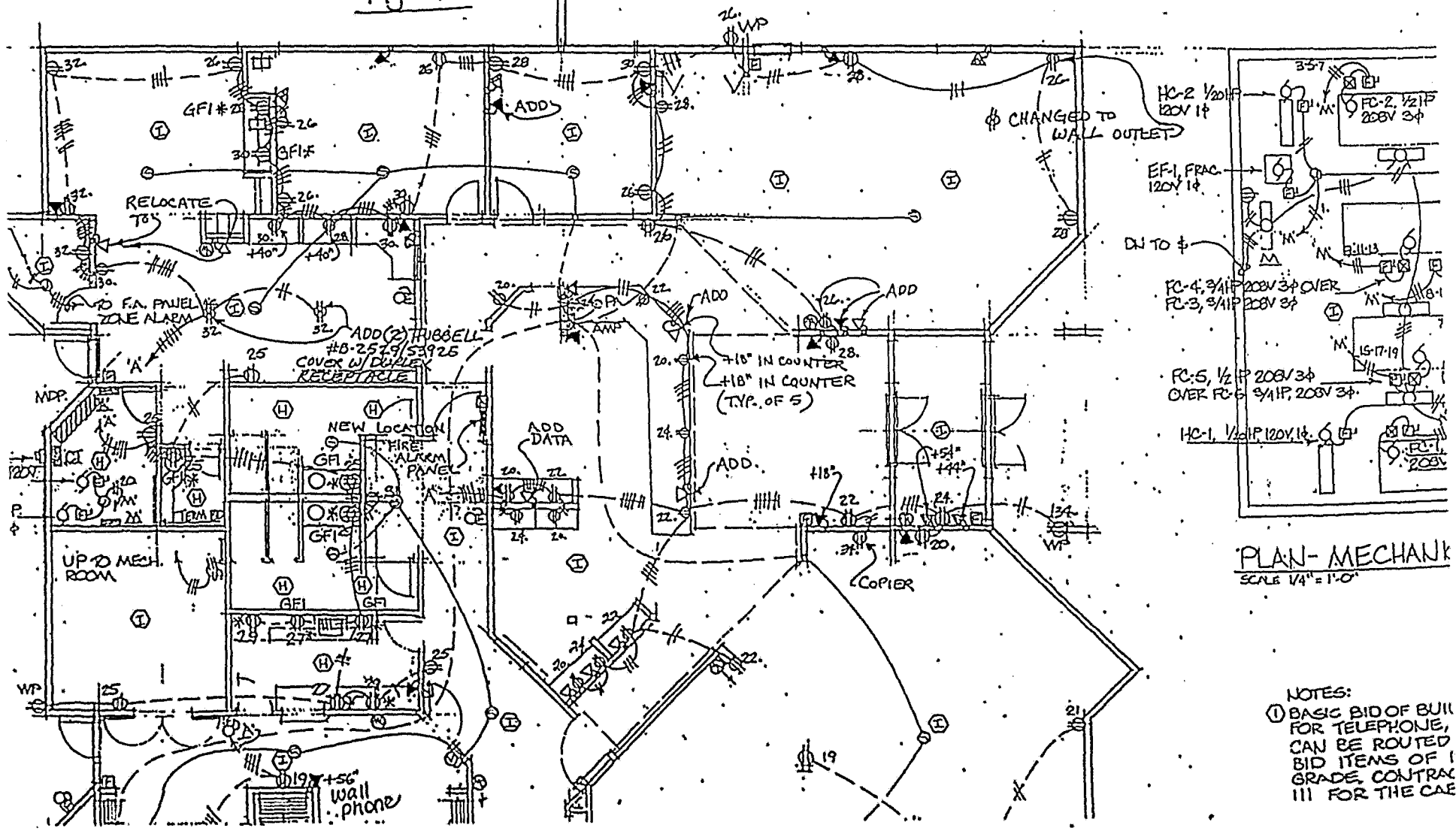
We would also stress that the City is seeking a system that will allow for quality and efficiency, but still be cost-effective. We want a system that will adequately fit our present needs, and have some growth potential, but since we are only estimating our future growth, we do not want a system that is <u>too</u> sophisticated. We would appreciate minimum and maximum capabilities of the system you propose and any other information that would assist us in making a wise choice for our new building.

Denotes "Hot" Jacks - 8 total

Denotes Jacks - installed
But not
"HOT" AT THIS TIME      6

14 jacks

Change order: #1 revised 3/24/88
Disregard previous change order 3/21/88.

FOR BIDDING
PURPOSES

GFI #2

RELOCATE
TO

ADD (2) HUBBELL
#B-2579/5392E
COVER W/ DUPLEX
RECEPTACLE

NEW LOCATION
FIRE
ALARM
PANEL

ADD
DATA

ADD
+18" IN COUNTER
+18" IN COUNTER
(TYP. OF 5)

CHANGED TO
WALL OUTLET

HC-2, 1/20 1P
120V 1∅

EF-1, FRAC.
120V 1∅

DN TO ∅

FC-4, 3/4 1P 208V 3∅ OVER
FC-3, 3/4 1P 208V 3∅

FC-5, 1/2 1P 208V/3∅
OVER FC-6, 3/4 1P, 208V 3∅

HC-1, 1/2 1P 120V, 1∅

PLAN- MECHAN
SCALE 1/4"=1'-0"

COPIER

WALL
PHONE

NOTES:
① BASIC BID OF BUI
FOR TELEPHONE,
CAN BE ROUTED
BID ITEMS OF
GRADE. CONTRAC
III FOR THE CAB
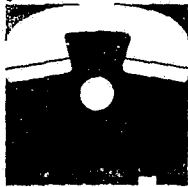
15714 S.W. 72nd, Portland, Oregon 97224 • 503/684-9095 • Fax: 503/684-1048

April 15, 1988

City of Wilsonville
30000 S.W. Town Center, Loop E
P.O. Box 220
Wilsonville, Oregon 97070
ATT: Ms. Nancy Dillon

Dear Ms. Dillon:

Enclosed is our proposal for a NEC 616 Telephone System for the Wilsonville Library. The proposal includes a 3 year warranty on parts and labor and a guaraantee from NEC that parts and service will be available for a minimum of 10 years.

After the 3 year warranty period, a yearly maintenance service contract will be available for 10% of the original purchase price. This contract will cover all parts and service labor, excluding adds, moves and changes.

Intercom calls and transfer of calls are easily accomplished with the touch of 1 button. The OPX line will make communication between the library NEC system and the City Hall Ultracom system the same as any communication between any 2 City Hall extensions.

I have enclosed a brochure for our company from which you will be able to learn what major governmental bodies locally rely on NEC Telephone Systems and to also see who are some organizations who rely on CRI for around-the-clock service.

Thank you for the opportunity to submit this proposal. We look forward to working with you.

Cordially,

Richard Larson
Account Executive

COMMUNICATION ITEMIZATION

FOR

CITY OF WILSONVILLE

NEC 616 Telephone System:

Proposed System: 3 lines, 7 stations
System Capacity: 6 lines, 16 stations

Equipment Includes:

    1 - Common Equipment Service Unit
    1 - Line Card (3 lines each)
    1 - Station Card (8 sets each)
    7 - Standard Electra Station Sets (1 is wall-mount)
    1 - OPX Line
    14- Jacks (8 "hot")
    1 - Surge Protector
    All necessary cable, wire, connectors and hardware.
    Complete installation and training.

Three-Party agreement with NEC, CRI and City of Wilsonville (as described in the attached agreement).

Three Year (36 month) Parts Warranty Policy with NEC.

Three Year Full Parts & Labor Maintenance Agreement with Communication Resources, Inc.

Total System Equipment Price:  $3,296.00

Terms:  35% with order; 55% at cutover; 10% 30 days after installation;

# TOSHIBA

**TOSHIBA AMERICA, INC.**

INDUSTRIAL ELECTRONICS BUSINESS SECTOR

Telecommunication Systems Division
9740 Irvine Boulevard
Irvine, California 92718

Telephone (714) 583-3700
FAX: (714) 583-3896
TELEX: 183-812 (Toshiba IRVN)

April 15, 1988


Ray Shorten
City of Wilsonville
P.O. Box 220
Wilsonville, CA    97070

Dear Mr. Shorten:

We at Toshiba are proud of our telecommunications equipment and are
pleased that your are seriously considering making a purchase from
W.T. CORPORATION, one of our independent, authorized dealers.
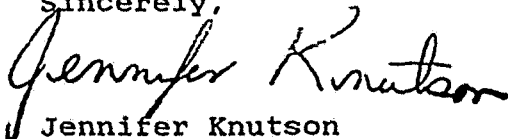
As an authorized dealer, W.T. CORPORATION has been required to send
personnel to us for training on our telecommunications equipment. W.T.
CORPORATION has also made a commitment to us and to you to provide
high quality service, training and sales assistance.

We have many other authorized dealers nationwide, who have made like
commitments, and who are available should you move and/or relocate. We
also promise you that in the unlikely event that W.T. CORPORATION is
in the future unable to service and maintain your telecommunications
equipment, we will on request, use our best efforts to assist you in
obtaining from another of our authorized dealers in your area,
continuing service for your equipment.

We also pledge to all our dealers that we will maintain for at least
seven years after the date of last shipment, a supply of spare and
existing add-on equipment to be used in meeting future service needs
on this line of equipment.

We look forward to you becoming a satisfied user of Toshiba
telecommunications equipment.


Sincerely,

Jennifer Knutson
Regional Sales Manager

cc: Cynthia
    W.T. CORPORATION

## ata®ᵉ Family of Electronic
## Telephone Systems

| ...e Key Telephone Systems | $S_e$ | $VI_e$ | $XII_e$ | $XX_e$ |
|---|---|---|---|---|
| **...num System Capacities** | | | | |
| ...l Office Lines | 3 | 6 | 12 | 21 |
| ...s (Telephones) | 8 | 16 | 32 | 56 |
| ...m Paths | 1 | 2 | 4 | 6 |
| ...mise Extensions | | 2 | 4 | 6 |
| ...hones | 3 | 3 | 3 | 3 |
| ...es | | | 2 | 4 |
| **...n Features** | | | | |
| ...Voice Page | X | X | X | X |
| ...te Point Answer | X | X | X | X |
| ...ed Conference | | | 0 | 0 |
| ...atic Dialing-System | X | X | X | X |
| ...atic Hold Recall | X | X | X | X |
| ...atic Release from Hold | X | X | X | X |
| ...ound Music Access with | | | | |
| ...ion Control | X | X | X | X |
| ...x Application | | | | |
| · 1A2 Interface | | | 0 | 0 |
| · CTX Ringing Repeat | | | 0 | 0 |
| · Flexible Intercom | | | | |
| Numbering | | | 0 | 0 |
| · Delayed Ringing | | | 0 | 0 |
| COICTX/PBX Feature Buttons | | | 0 | 0 |
| ...Pick-up | X | X | X | X |
| ...nce | | | | |
| ...i-station | X | X | X | X |
| ...i-trunk | X | X | X | X |
| ...X Compatible | X | X | X | X |
| ...ive Ringing | X | X | X | X |
| ...nd Dial Pulse Compatible | X | X | X | X |
| ...l Amplified Speaker | 0 | 0 | 0 | 0 |
| ...l Page Amplifier | 0 | 0 | X | X |
| ...l Page Interface | X | X | X | X |
| ...Button Assignment | X | X | X | X |
| ...Line Ringing Assignment | ● | X | X | X |

| | $S_e$ | $VI_e$ | $XII_e$ | $XX_e$ |
|---|---|---|---|---|
| Group Paging | X | X | X | X |
| Live System Programming | X | X | X | X |
| Message Waiting | X | X | X | X |
| MF Signal Time (160/80 ms) | X | X | X | X |
| Multiple Simultaneous Hands- | | | | |
| free Intercom Paths | | X | X | X |
| Music-on-hold Interface | X | X | X | X |
| Music-on-hold Source | 0 | 0 | 0 | 0 |
| Night Ring Answer Code | X | X | X | X |
| Night Ring Over External Page | | X | X | X |
| Night Transfer | X | X | X | X |
| Non-blocking Dialing | X | X | X | X |
| Off-premise Extension | | 0 | 0 | 0 |
| Off-premise Line | 0 | 0 | 0 | 0 |
| Outgoing Call Restriction | X | X | X | X |
| Privacy/Non-privacy Option | X | X | X | X |
| Private CO/CTX Lines | X | X | X | X |
| Relay Service | | | | |
| External Page | | X | X | X |
| Night Relay Service | | X | X | X |
| Station Hunting | | | X | X |
| Station Message Detail Recording | | | | |
| (SMDR) | | 0 | 0 | 0 |
| SMDR Forced Account Code | | 0 | 0 | 0 |
| System Battery Back-up | 0 | 0 | 0 | 0 |
| Tenant Service | | | X | X |
| TIE Lines | | | 0 | 0 |
| Toll Restriction | X | X | X | X |
| Toll Restriction (6 Digit) | | X | X | X |
| Toll Restriction Override by | | | | |
| System Speed Dial | X | X | X | X |
| Toll Restriction Override Code | | | X | X |
| Trunk-to-Trunk Connection | | | X | X |
| Voice or Tone Signalling | X | ● | X | X |
| Wall Mountable KSU | X | | X | X |

| Strata$_e$ Key Telephone Systems | S$_e$ | VI$_e$ | XII$_e$ | XX$_e$ |
|---|---|---|---|---|
| **Electronic Telephones** | | | | |
| Single Line Electronic Telephone | X | X | X | X |
| 10-button Speakerphone | X | X | X | X |
| 10-button Speakerphone with Busy Lamp Field | X | X | X | X |
| 10-button Telephone with Handsfree Intercom | X | X | X | X |
| 20-button Speakerphone | X | X | X | X |
| 20-button Speakerphone with Liquid Crystal Display (LCD) | X | X | X | X |
| 20-button Telephone with Handsfree Intercom | X | X | X | X |
| Direct Station Selection Console | | | X | X |
| Door Phone/Monitor Station | X | X | X | X |
| **LCD Features** | | | | |
| Alphanumeric Messaging | | | X | X |
| Automatic Callback Number Display | X | X | X | X |
| Calling/Called Number Display | X | X | X | X |
| Call Duration Display | X | X | X | X |
| Call Forwarded From Display | | X | X | X |
| Clock/Calendar Display | X | X | X | X |
| Dial Input Verification | X | X | X | X |
| Feature Activation Display | | | X | X |
| Message Waiting Station Display | X | X | X | X |
| Recalling Station Identification | | | X | X |
| Station Status Display | | | X | X |
| **Station Features** | | | | |
| Automatic Callback (Intercom) | X | X | X | X |
| Automatic Dialing Buttons | X | X | X | X |
| Automatic Dialing-Station | X | X | X | X |
| Automatic Off Hook Selection | X | X | X | X |
| Busy Override | X | X | X | X |
| Call Foward | | X | X | X |
| Call Pick-up | | X | X | X |
| Call Transfer with Camp-on | X | X | X | X |
| Direct Station Selection Console | | | O | O |
|   All Call Voice Page | | | O | O |
|   Automatic Line Hold | | | O | O |
|   Dedicated Intercom Path | | | O | O |
|   Expanded Line Appearance | | | O | O |
|   Multiple DSS Consoles | | | O | O |
|   Night Transfer | | | O | O |
|   Voice or Tone Signalling | | | O | O |
| Directed Call Pick-up | X | X | X | X |
| Distinctive LED Indicators | X | X | X | X |
|   I Called | X | X | X | X |
|   I Hold | X | X | X | X |
|   I Use | X | X | X | X |

| | S$_e$ | VI$_e$ | XII$_e$ | XX$_e$ |
|---|---|---|---|---|
| Do Not Disturb | X | X | X | X |
| Do Not Disturb Override | X | X | X | X |
| DP/MF Mode Change | X | X | X | X |
| DSS Buttons | X | X | X | X |
| Exclusive Hold | X | X | X | X |
| Executive Override (Break-in) | | X | X | X |
| External Page Amplifier | O | O | X | X |
| Flash Button (CTX/PBX Transfer or CO Dial Tone Recall) | X | X | X | |
| Handsfree Answerback | X | X | X | X |
| Microphone Cut-off Button | X | X | X | |
| Modular Handset and Line Cord | X | X | X | |
| On-hook Dialing | X | X | X | |
| Privacy Button | X | X | X | |
| Privacy Override | X | X | X | |
| Push-button Dialing | X | X | X | X |
| Repeat Last Number Dialed | X | X | X | X |
| Ringing Line Preference | X | X | X | X |
| Saved Number Redial | X | X | X | X |
| Station Security (Microphone Disable-Intercom) | X | X | X | |
| Store Flash Using Automatic Dialing | X | X | X | |
| Trunk Queuing | X | X | X | |

**Key Service Unit Dimensions**

| | S$_e$ | VI$_e$ | XII$_e$ | XX$_e$ |
|---|---|---|---|---|
| Height (Inches) | 16.5 | 21.25 | 18.8 | 26 |
| Width (Inches) | 12.0 | 12.9 | 14.4 | 14 |
| Depth (Inches) | 2.67 | 2.75 | 12.5 | 12. |
| Weight (Fully Equipped, Pounds) | 6.5 | 19.8 | 52.0 | 72 |

**Primary Power Requirements**

| | S$_e$ | VI$_e$ | XII$_e$ | XX$_e$ |
|---|---|---|---|---|
| Voltage (VAC) | 117 60 Hz | 117 60 Hz | 117 60 Hz | 1? 60 F |
| Power (Watts) | 40 | 100 | 120 | 2C |

**Technical Data**

| | |
|---|---|
| Loop Limits Station Door Phone Control Unit Door Phone | 1000 ft. (350M), 24 AWG |
| Dialing | Push-button; system-generated DTMF or dial pulse |
| Primary Power | 90-130 VAC, 60 Hz |

**Environmental Specifications (All Systems)**

| | |
|---|---|
| Operating Temperature | 32-122.F 0-50.C |
| Operating Humidity (Relative, without condensation) | 20-80% |

O=optional    X=standard

Specifications subject to change without notice.

# TOSHIBA

# MEAN TIME BETWEEN FAILURE RATES

Research indicates that the primary customer concern when purchasing business equipment is the quality and reliability of that equipment. "How well is it constructed?" and "How long will it last?" In the many years that Toshiba has been manufacturing and selling PBX and key systems throughout the world, we have achieved a reputation for quality and reliability second to none in the industry.

This factor has contributed significantly to our growth as one of the major suppliers of communications equipment. It is also a key component of our marketing strategy, as reflected in competitive positioning, product differentiation, and advertising and promotional tactics.

An industry standard method of determining quality and reliability is through the use of Mean Time Between Failure (MTBF) rates. Although an officially recognized way of calculating these numbers does exist, various manufacturers use different information which can make their figures look better than they actually are. For example, some manufacturers count each circuit on a KSU, PCB, or telephone as one unit, so that an eight circuit card counts as 8 units. Since this method increases the total number of units in operation, MTBF rates can be stated lower than normal. Toshiba believes that the method used and described in the Definition and Methodology section below represents the most *accurate* statement of failure rates.

With the implementation of the Consultant Liaison program (ACCESS), and in response to many dealer requests, we are pleased to release our most recent MTBF rates. The figures shown in this report are intended to aid you in your sales efforts. We do *not* intend to use them in any external advertising or media outlets, and urge you to limit availability to "as needed" situations.

## Definition and Methodology

Toshiba distinguishes between the following two types of failures on our systems:

**Minor Failures:**   Minor failures are those where a problem is diagnosed that does not render the system inoperative, such as a telephone/trunk circuit failure.

Parts used to calculate minor failures include all system and common control components, but not telephones.

**Major Failures:**   Major failures are those where a problem is diagnosed that renders the system completely inoperative.

Parts used to calculate major failures include the equipment cabinet and common control only.

*NOTE:*
*By using common control parts for both major and minor failure rates, Toshiba in effect double counts and makes its numbers very conservative. Other manufacturers may not use this method, implying minor failure rate as a result.*

Because all proprietary telephones are available throughout the product line, MTBF rates for these are calculated separately.

The industry standard formula used by Toshiba to calculate the MTBF rates presented below is as follows:

- The total number of each component in the field is multiplied by the hours in a given month giving the total number of component hours in operation that month.

- This number is then divided by the total number of reported failures in that month.

- This number is then divided into 1, to give the per component failure rate for each component for that month.

- The system MTBF rate in hours is calculated by adding together all the per component failure rates and dividing into 1.

- The hourly MTBF rate is then re-calculated to determine a yearly rate.

**Toshiba
America, Inc.**

# MEAN TIME BETWEEN FAILURE RATES (continued)

**MTBF Rates**

Based on the above, Toshiba's average MTBF rates for the most recent figures in a three-month period are noted below:

Strata$_e$
>     Minor:   7.43 years
>     Major:   16.34 years

Perception
>     Minor:   3.10 years
>     Major:   12.06 years

Proprietary Telephones: 40.27 years

These figures are competitively impressive as they stand. When you consider that Toshiba counts each KSU, PCB, or telephone failure as an *entire* unit failure, these statistics provide an especially strong case for Perception II and Strata$_e$ reliability.

**Summary/Selling Advantages**

Research indicates that quality and reliability has been and will continue to be the primary customer concern. The MTBF rates referenced above can assist the salesperson in:

- Supporting Toshiba's Quality and Reliability image with prospects and end users.

- Responding to RFP's and RFI's issued by consultants and end users.

- Making sales presentations to a prospective client.

- Supporting Toshiba's marketing strategy.

We hope you will find this information useful in developing proposals for multiple applications. If you have any additional questions or recommendations, please call Sherry Kamlani at (714) 583-3713.

**Toshiba
America, Inc.**

## USER REACTION

We were able to contact three Strata users from a list supplied by Toshiba. Although none of our contacts had time to talk at length about the system, we were able to obtain ratings on system performance in key categories.

| | Excellent | Good | Fair | Poor | WA* |
|---|---|---|---|---|---|
| Ease of operation, station users | 2 | 1 | 0 | 0 | 3.67 |
| Hardware reliability | 2 | 1 | 0 | 0 | 3.67 |
| Maintenance service/ technical support | 1 | 2 | 0 | 0 | 3.33 |
| Ease of installation/ cutover | 0 | 3 | 0 | 0 | 3.00 |
| Overall satisfaction | 2 | 1 | 0 | 0 | 3.67 |

*Weighted Average based on a scale of 4.0 for Excellent.

The results shown above indicate that the Strata is a relatively trouble-free system. Interestingly, of the eight Strata users we contacted, only three felt that they knew enough about the system to rate it, even though they were responsible for the purchase decision. This suggests that the Strata is a system that one can install and forget. No users reported any problems or dissatisfaction with the system. □

A Datapro Report on

# Toshiba Strata$_e$ Series

Reprinted from

## DATAPRO REPORTS ON TELECOMMUNICATIONS

*Information that leads to action*

# datapro ®

# WESTERN TELEPHONE
## -PARTIAL CUSTOMER LIST-

U.S. BANK
ALL BRANCHES

TOSHIBA
275-5625
Bruce Anderson

FAR WEST FEDERAL
425 S.W. WASHINGTON
PORTLAND, OREGON

TOSHIBA
224-4444
DORENE MORRIS

KEY BANK
1211 SW 5TH AVENUE
PACWEST HEADQUARTERS
PORTLAND, OREGON

TOSHIBA
790-7576
SANDY ANNAS

KALBERER HOTEL SUPPLY
435 NW 5TH
PORTLAND, OREGON

TOSHIBA
227-1161
JUDY ILG

SAIF CORPORATION
6 BRANCHES

TOSHIBA
373-8052
GARY JOHNSON

CADIC INC.
1725 NW 167TH PLACE
BEAVERTON, OREGON

TOSHIBA
645-2222
MARK FEENEY

SAFEWAY CREDIT UNION
2537 SE HAWTHORNE BLVD.
PORTLAND, OREGON

TOSHIBA
233-6261
BILL BORQUIST

GOOD SAMARITAN IMMEDIATE CARE
9735 SW SHADY LANE
TIGARD, OREGON

TOSHIBA
684-9390
LINDA PIERCEFIELD

AMERICOLD
1515 S.W. 5TH AVENUE
PORTLAND, OREGON

TOSHIBA XXe
224-3480
JIM BELL

LARSON MOTORS
830 N. 99W
McMINNVILLE, OREGON

TOSHIBA XIIe
472-6144
SCOTT LARSON

CITY OF CORNELIUS
1311 N. BARLOW
CORNELIUS, OREGON

TOSHIBA XIIe, VIe, Se
357-9112
JERRY TAYLOR

13. has an "800 number" for customer service and inquiries

14. operates a computerized service dispatch and customer
    master information program. A sample service order
    and customer master record are part of this proposal.

15. installs systems in with "non-disruptive" philosophy;
    no extra charge for after-hours or week-end installs.

16. 93% of our customers rate our service from
    good-to-outstanding. One reason is the 871 Toshiba
    Systems, where customer satisfaction is extremely
    high, in our 1600+ active customer base.

17. services your system, during the first year of parts
    and labor warranty, 24 hours a day 7 days a week with
    no additional charge for after-hours or week-ends.

18. after the first year our flat-rate, normal service
    rates apply 24 hours a day and seven days a week.

19. has the experience, financial stability, and resources
    to meet your telecommunications needs.

Western Telephone:

1. is the second largest company in the business and has been in the business since 1977.

2. markets, installs, and services small-to-medium size telephone systems; 64 trunks (lines) and 240 lines (stations) is our maximum size.

3. represents only quality products such as Toshiba and Walker.

4. has 871 Toshiba Systems installed and has been an Authorized Toshbia Telecommunications Dealer for seven years.

5. believes in the "cost to own" vs "cost to purchase" philosophy of telephone acquisition. We sell products which represent the best of these two objectives.

6. knows that "price loses importance" after the buying decision is made; other company and product features/benefits become more important.

7. adheres to a "fair and equitable pricing" program. We believe it is necessary to make a profit on each telephone system sold to cover costs of selling and maintaining a customer's system for the life of the product. It is to your advantage for us to be in business tomorrow.

8. guarantees product feature/benefit satisfaction in the first 30 days or "your money back."

9. has a "fixed price program" for system add-ons. For the first year we will sell you any additional equipment at the same mark-up as the original telephone equipment. After the first year all costs are from our price book which reflects our "fair and equitable" pricing philosophy.

10. gives "no-charge operator training" for the first year

11. offers "no-charge" programming for the first 30 days.

12. inventories over $220,000 (our cost); 40% is commited to customer service and 60% is for resale. Allows us to have the best "mean-time-to-repair" performance.

# WILSONVILLE LIBRARY
## -ADDITIONAL "HOT" JACK COST-

$112.50   STATION CARD TO ACCOMMODATE FOUR(4) ADDITIONAL STATIONS

$ 28.13 PER JACK(IF APPLICABLE)

$ 27.50   LABOR

$ 15.00   CABLE

WILSONVILLE LIBRARY

GTE CHARGES PROVIDED BY DEBBIE ON APRIL 4, 1988

### MONTHLY CHARGE

| | |
|---|---|
| $ 123.48 | for 2 lines ($61.74 per line) |
| 76.26 | for OPX line |
| $ 199.74 | TOTAL |

### INSTALLATION CHARGE

| | |
|---|---|
| $ 120.00 | ($40.000 per line) |
| 25.00 | (rearrangement charge for OPX) |
| $ 145.00 | TOTAL |

INVESTMENT ANALYSIS

PREPARED FOR:

CITY OF WILSONVILLE


A. Total Investment.........................$ 2,450.00


   1st Year Tax Impact:

      a. Depreciation: 15% of A..............$    367.50

      b. Tax Savings as a result
         of depreciation 46% of A............$    169.05

   Total 1st Year Tax Benefit: B & C........$    169.05


B. Total Five (5) Year Tax
   Reduction: 46% of Investment + C.........$ 1,127.00


C. After Tax Investment Month:
      a. Total Investment....................$ 2,450.00

      b. Less Five Year Tax Reduction........$ 1,127.00

      c. Total After Tax Investment
         Total Investment less B.............$ 1,323.00

   After Tax Investment per Month:
   C divided by 60..........................$     22.05


NOTE: These figures are for information purposes only.

# COST-TO-PURCHASE VS COST-TO-OWN
## (CYCLE1)

IN PURCHASING A TELEPHONE SYSTEM THE RELATIONSHIP OF "SELLING PRICE" AND "COST TO OPERATE" SHOULD BE EVALUATED; THE TECHNIQUE FOR DETERMINING THIS RELATIONSHIP IS TO CALCULATE THE "LIFE CYCLE COST" FOR THE PHONE SYSTEMS YOU ARE CONSIDERING.

THE EXPECTED SYSTEM LIFE IS __10__ YEARS.

| LIFE CYCLE COST: | COMPANY 1 WESTERN STRATE VIe | COMPANY 2 | COMPANY 3 |
|---|---|---|---|
| EQUIPMENT: | $  1 855 | _____ | _____ |
| INSTALLATION: | $    595 | _____ | _____ |
| WARRANTY PERIOD: PARTS | 1 YEAR | _____ | _____ |
| LABOR | 1 YEAR | _____ | _____ |
| EQUIPMENT MAINTENANCE: | $    614 | | _____ |
| SOFTWARE MAINTENANCE: | _____ | _____ | _____ |
| SYSTEM PROGRAMMING: (N/C FIRST 30 DAYS) | _____ | _____ | _____ |
| OPERATOR TRAINING: (N/C FOR FIRST YEAR) | _____ | _____ | _____ |
| TOTAL "LIFE CYCLE COST" | $  3 064 | $_____ | _____ |

## ANNUAL MAINTENANCE COST:

THE FOLLOWING MAINTENANCE COSTS REFLECT FULL COVERAGE ON PARTS AND LABOR AFTER THE YEAR WARRANTY EXPIRES:

| YEAR 2 | $ 56 | YEAR 5 | $ 64 | YEAR 8 | $ 75 |
|---|---|---|---|---|---|
| YEAR 3 | $ 58 | YEAR 6 | $ 68 | YEAR 9 | $ 78 |
| YEAR 4 | $ 61 | YEAR 7 | $ 71 | YEAR 10 | $ 82 |

NOTE: ASSUMES A 5% INFLATION RATE.

WESTERN TELEPHONE'S HOURLY RATE IS $55.00 PER HOUR 24 HOURS A DAY, 7 DAYS A WEEK.

THE ANNUAL COST OF MOST TELEPHONE SYSTEMS IS GENERALLY 9-11% OF THE EQUIPMENT SELLING PRICE; THIS IS MUCH HIGHER THAN TOSHIBA'S COST OF 3%.

Cynthia Swan                                          87-572
Account Executive

## TELEPHONE SYSTEM PRICING
## TOSHIBA STRATA VIe

FOR: CITY OF WILSONVILLE                    APRIL 12, 1988

| CONFIGURATION | EQUIPPED | WIRED | SYSTEM CAPACITY |
|---|---|---|---|
| C.O. LINES | 3 | 3 | 6 |
| TELEPHONES | 7 | 8 | 16 |
| INTERCOM PATHS | 2 | 2 | 2 |

*******************************************************************
| QUANTITY | PART NUMBER | DESCRIPTION |
*******************************************************************

| QUANTITY | PART NUMBER | DESCRIPTION |
|---|---|---|
| 1 | HKSU-70S-N | KEY SERVICE UNIT W/COMMON EQUIP. (3 CO X 8 STATIONS) |
| 7 | EKT-6015-H-N | 10 KEY ELECTRONIC PHONE W/ HANDSFREE ANSWERBACK |
| 14 | ICPVC3P24GY | MODULAR JACK W/ PVC CABLE |

TOTAL SYSTEM PRICE.........$  2,450.00
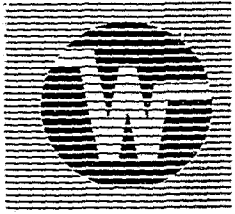
April 12, 1988


CITY OF WILSONVILLE
Attn: Ray Shorten
P.O. Box 220
Wilsonville, Oregon   97070


Dear Ray:

First of all I want to thank you and your staff for
cooperating with Western Telephone to prepare the
information for the enclosed proposal.  We are pleased to
submit this proposal as the telecommunications system for
your organization.

The system being proposed features the finest equipment
available giving you features/benefits that assure:

* OPERATIONAL EFFICIENCY
* EASE OF USE
* OPERATING EXPENSE REDUCTION
* BETTER INTERNAL AND EXTERNAL COMMUNICATIONS
* GREATER EMPLOYEE PRODUCTIVITY
* MODERN OFFICE TELECOMMUNICATIONS

We hope the proposal meets with your organization's approval
and you select Western Telephone's telecommunciations system
to be installed in your office.  This proposal is valid for
30 days; after which time the pricing may have to be
revised.

Once again thank you and if there are any questions, please
contact me.

Sincerely,

Cynthia Swan

Cynthia Ann Swan
Account Executive


CS/cjc

TELECOMMUNICATIONS PROPOSAL


CITY OF WILSONVILLE
ATTENTION: MR. RAY SHORTEN
P.O. BOX 220
WILSONVILLE, OREGON 97070

APRIL 12, 1988


BY: CYNTHIA ANN SWAN


*This is a confidential proposal and should not be
reproduced or shown to other vendors or any operating
telephone company.

# Electra-616

## The only system of its size incorporating all these features.
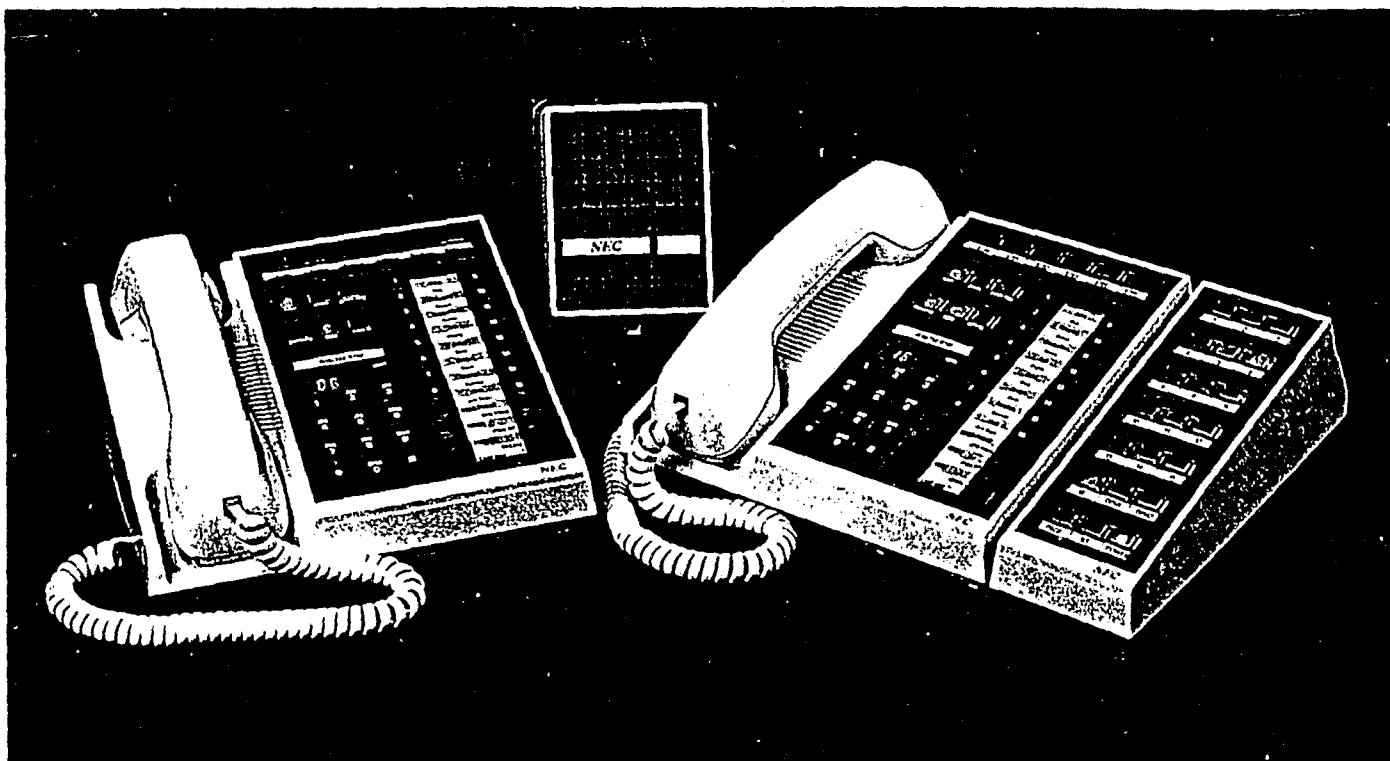


*Electra-616 system can include a combination of Key sets, Busy Lamp Fields and Door Phones.*

## Features

Add-on Conference
Alpha Numeric Display
Automatic Hold Release (optional)
Battery Back-up for System Memory
Busy Lamp Fields (optional)
Call Back Request
Call Pickup—Directed
Call Pickup—Group
Call Waiting Indication
Calling Number Display
Data Access
Direct Station Selection (DSS)
Distinctive Ringing
Do Not Disturb
Door Phones (optional)
DSS Chain Calling
Exclusive Hold with Recall
External Background Music (optional)
External Paging
External Tone Signal
Feature Access Buttons
Flexible Ringing Assignments
Flexible Timeouts
Handsfree Answerback on Intercom Calls

Handsfree Dialing and Monitoring
Hold Recall with Identification
I-Hold Indication
Intercom Tone/Voice Signaling
Internal Zone Paging
Last Number Redial
LED Indications
Line Pre-selection
Menu Program
Mic On/Off Control
Monitor Phones (optional)
Music On Hold
Night Transfer
Off-Hook Ringing
Off-Hook Signaling
One-Step Transfer
Outgoing Call Restriction
Power Failure Transfer
Prime Line Pickup
Privacy
Privacy Release
Private Lines
Programming from Key Set
Pushbutton Dialing (Rotary or DTMF)
Recall/Flash Button

Resident System Program
Security Alarm
Specialized Common Carrier Access
Speed Dialing—Station
Speed Dialing—System
Tandem Conference
Toll Override
Toll Restriction
Volume Control
Zone Paging With Meet-Me Answer

The material in this document is subject to change without prior notice at the discretion of NEC Telephones, Inc.

## NEC
### NEC Telephones, Inc.

532 Broad Hollow Road
Melville, NY 11747  (516) 293-9300

Electra-616's modular design
makes it easy to add features
and telephones by simply
adding printed circuit boards
or modular components.

# Electra-616
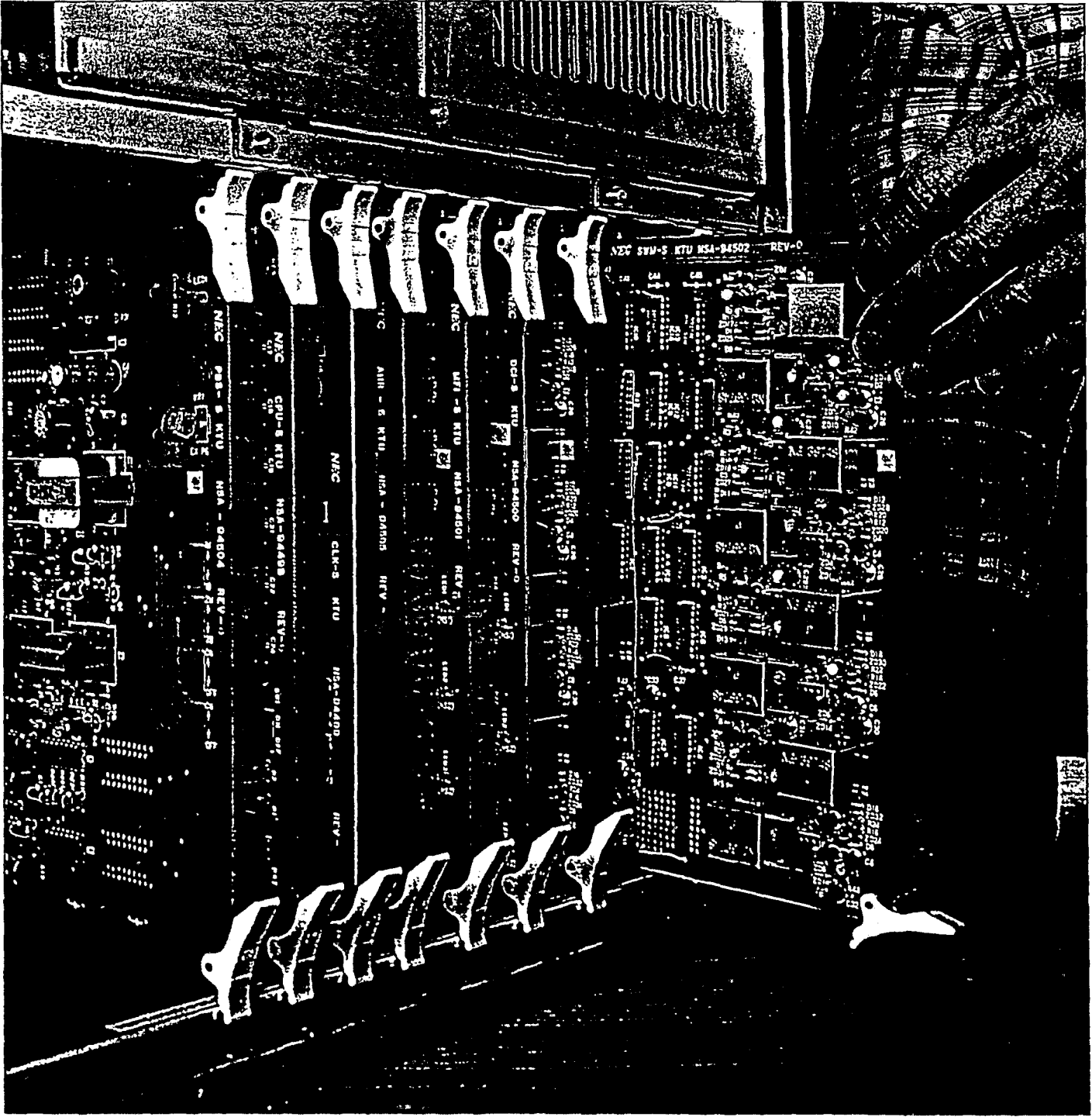
# Ease of programming and advanced electronics make possible remarkable flexibility.

Today's solid state technology provides many well-known advantages. Among them is economy and reliability, big features along with compact size, flexibility and expandability. And nowhere are these advantages more evident than in the Electra-616.

Solid state components such as the LED digital indicators, semiconductor matrix and microprocessor control in the electronic station equipment and Key Service Unit provide a system of exceptional reliability. They also allow us to pack many large, sophisticated features into a system that is both compact and user friendly.

The Key Service Unit (KSU) is small, noiseless, unobtrusive and can be placed in almost any convenient office location.

## Modular design.
The Electra-616 system proves a good investment because it easily and economically grows with your needs. You can start your system with 1 to 3 central office lines and 1 to 8 key sets and expand to 6 central office lines and 16 key telephones. The full system can include 2 Door Phones, 2 Busy Lamp Fields, and 2 Security Alarms. Your initial configuration can comprise as few or as many of these items as you require.

Modular design means it's easy to add features such as external paging, Busy Lamp Fields, or Security Alarms. Additional printed circuit boards and modular components are all that's ever needed.

As your business grows, you are likely to reorganize departments and move people from office to office. Then telephone assignments and toll restrictions are quickly changed from the assigned key set. Stored program control makes upgrading or adding features simply a matter of reprogramming software, not rewiring circuits.

Two-pair telephone cable connecting key sets and BLF's to Key Service Units simplify the installation, addition and relocation of telephones.

The inherent flexibility and modularity of Electra-616 insures that your investment will continue to meet your changing requirements.

## Programming from the key set.
Programming of the Electra-616 system is done from an assigned key set. This key set is taken off-line while all other stations continue normal operation, so there is no disruption to your office routine.

At this time, changes in the system's program can be made. The program can easily be "customized" to a specific customer database through menu selection. Such things as ringing assignments and toll restrictions can be altered quickly and easily without changing wiring or using special equipment. In case of a commercial power failure, battery backup retains this custom program for up to sixty days.

Because of the microprocessor in each telephone, speed-dial numbers of individual telephones can be further "fine-tuned" at any time by each user to his or her own particular changing requirements.

(Top) Key Service Unit is compact, noiseless, fits virtually anywhere in an office.
(Bottom) Phones have 2-pair wire, making installation and relocation easy.
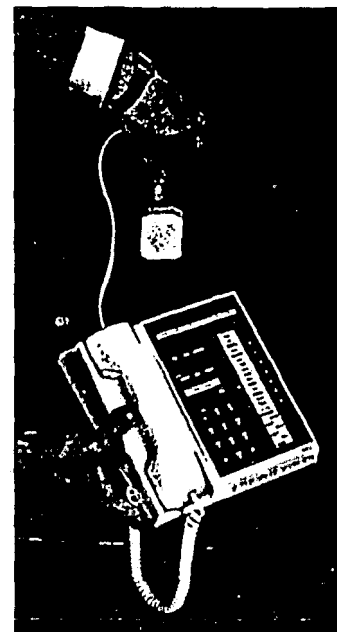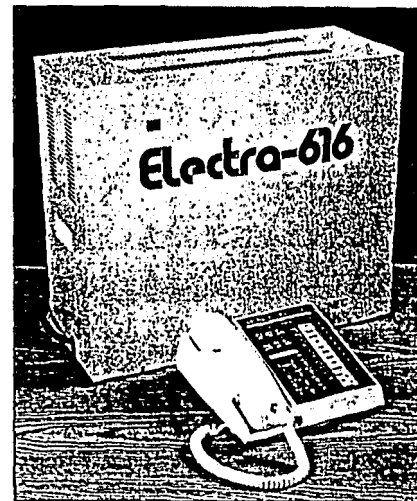
# Over 50 features dramatically upgrade employee productivity and reduce telephone costs.

The many features afforded by the Electra-616 system improve efficiency, cut costs, and even provide security. Because each phone has its own microprocessor, these features are automatic, making Electra-616 one of today's most "user friendly" phones.

**Direct station selection.** No need to remember numbers or check directories. You can place intercom calls with the touch of a single button.
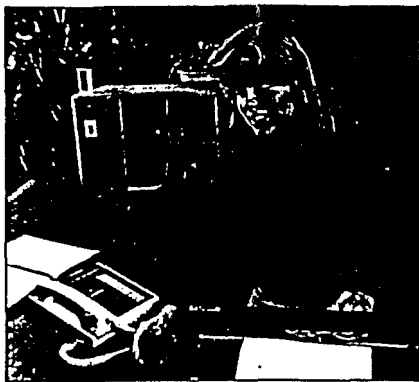


**Handsfree answerback.** A built-in microphone and speaker in each phone allows you to answer intercom calls without lifting the handset.

**Handsfree dialing and monitoring.** With the touch of a button, any call can be dialed or monitored while you continue to work.

**Speed dialing:**
a. *Station speed dialing.* Up to 16 numbers can be programmed on individual phones by each user for frequently-called clients, suppliers, brokers, etc.
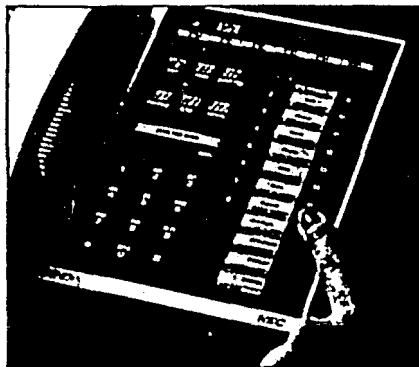


b. *System speed dialing.* Up to 40 numbers can be programmed into the system memory which are accessible to all stations. These can be used to override station toll restrictions when long distance calls to authorized numbers are necessary.

c. *Specialized common carriers.* Such services as MCI and Sprint with their complicated access codes can be dialed with a touch. Protects privacy of authorization codes, as well.

d. *Branch offices.* Hotlines to the main office and other branches can be programmed into system memory, and dialed at the touch of a button.

**Last number redial.** The last number you call is always stored. This is especially useful if the number is busy, or doesn't answer.

**Conference calls.** When you need quick decisions, it's easy to get key people together for a meeting of the minds while the bodies stay where they are.

**Do not disturb.** When involved in an important meeting or an important phone call, a touch of the DND button will eliminate intrusions.

**Digital display.** The alpha-numeric display shows you which extension is calling you; confirms which extension you have called; reminds you of a call on hold; verifies that a feature has been activated; verifies programmed speed-dialing; indicates call back request.
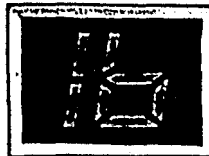


**Call back request.** Upon receiving no answer or busy signal from a station, you can leave a "call back" message. Your station number will flash on the called party's display.

**Call waiting.** When you're busy on the phone and an intercom call comes in, you are alerted by the digital display and an audible tone through speaker.

**Night transfer.** System can be placed in a night mode so selected extensions will ring for incoming calls. Avoids calls being unanswered because they're not heard.
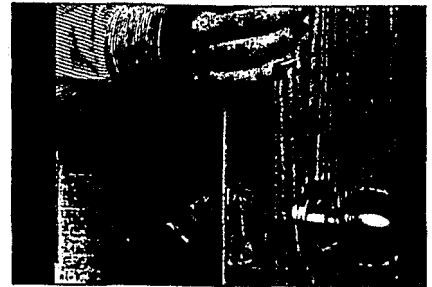


**Security alarm.** Two alarm circuits can be provided in the system. They can be used in retail stores, for example, to indicate when doors are opened or closed, or in blood banks to indicate when refrigerators shut off.

**Door phones.** These can be used to permit two-way conversations with areas not requiring full stations, such as entrance doors, warehouses, stock areas, infants' rooms.

**Paging.** Electra-616 makes available two types of paging. Internally, through all or zones of station speakers; or externally through external speakers. Combined internal/external access is also available.

**One-step transfer.** To transfer a call, simply press DSS button of person to receive call. Incoming call is automatically placed on hold and intercom call established with receiving party.
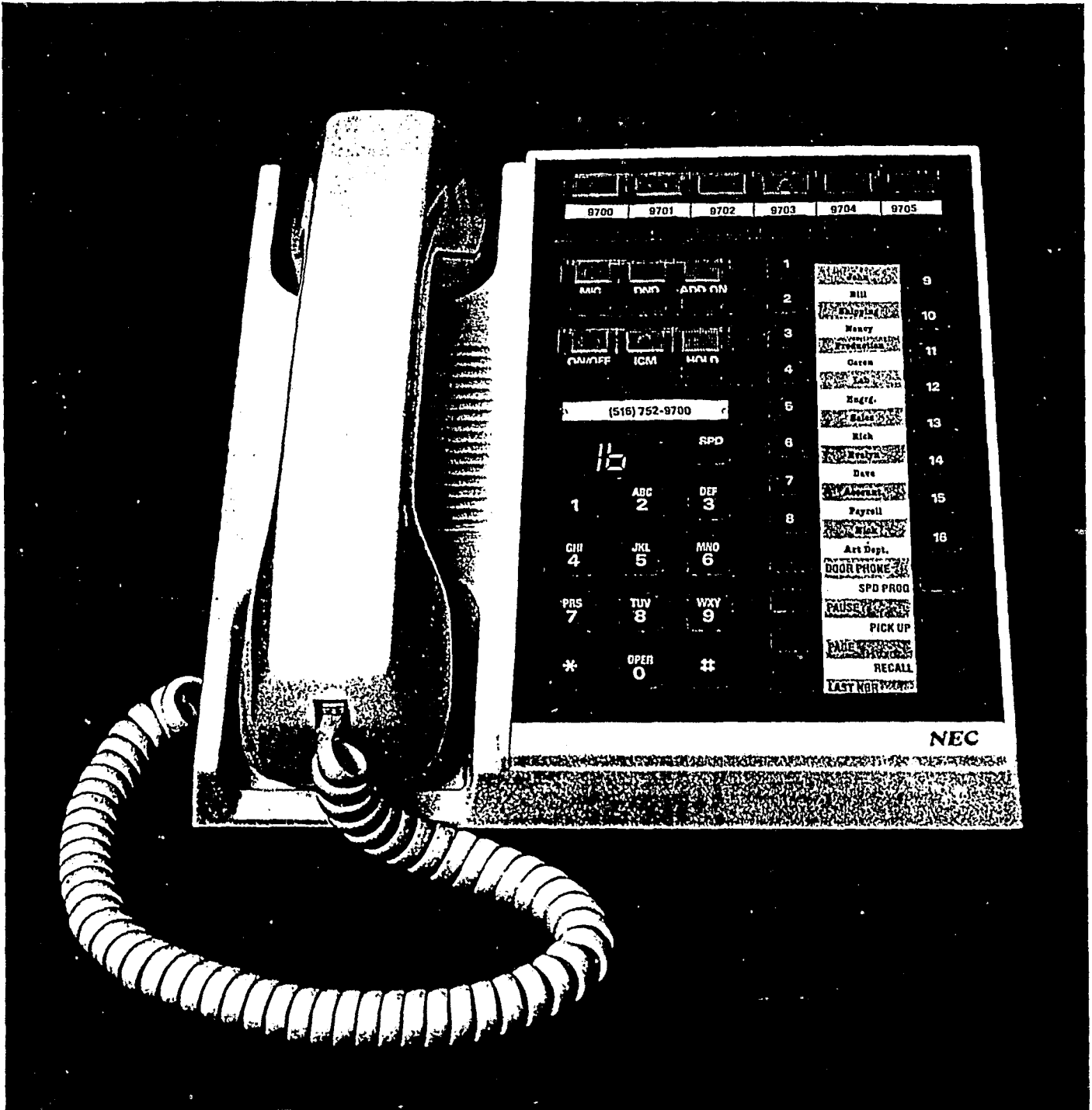
**Exclusive hold.** Any extension may place calls in an exclusive hold mode; it can then be reanswered only from the phone holding it. This assures privacy by preventing others from accidentally picking up the call.

**Private lines.** The system can be programmed to assign one or two phones a private outside line. No other extension can use the line, and line status does not appear on any other extension.

**Restriction on outgoing calls.** To cut phone usage costs, extensions can be restricted on an individual basis. Restriction can range from all outgoing calls, to toll calls with an override on allowable area codes. System speed dialing can also permit override for authorized long distance calls.

Compact key set has clusters
of non-locking buttons that
put at your fingertips the
features of far larger systems.

Electra-616

9700 9701 9702 9703 9704 9705

MIC  DND  ADD ON

ON/OFF  ICM  HOLD

(516) 752-9700

SPD

16

| 1 | ABC 2 | DEF 3 |
| GHI 4 | JKL 5 | MNO 6 |
| PRS 7 | TUV 8 | WXY 9 |
| * | OPER 0 | # |

Joan  9
Bill  10
Shipping  10
Nancy  11
Production  11
Caren  12
Lab  12
Engrg.  13
Sales  13
Rich  14
Evelyn  14
Dave  15
Absent  15
Payroll  16
Sick  16
Art Dept.
DOOR PHONE
SPD PROG
PAUSE
PICK UP
PAGE
RECALL
LAST NBR

NEC

# No longer do smaller companies have to settle for small-system communications.

It's no secret that employees in small businesses are often kept busy on a wide variety of jobs and need all the help they can get. By the same token, the equipment they use is frequently less sophisticated than their counterparts in large companies, reducing their relative efficiency.

With the introduction of the Electra-616, communications for smaller businesses enter a new era. NEC Telephones' remarkable system for up to 6 central office lines and 16 telephones makes available many of the time- and money-saving features of much larger, more expensive telephone systems. In addition, it offers special conveniences important to smaller firms.

Electra-616 performs many automatic functions that save your people time each day. Cumulative time savings can quickly become significant and markedly increase the productivity of your entire organization.

**A system designed to be totally functional.**
Each key set has clusters of non-locking buttons that put at the fingertips of each user over 50 big features. 6 buttons are central office lines, 13 are function buttons, and 16 are for both direct station selection and station speed dialing. The latter make calling quick and easy without dialing or reference to a directory. Each key set also has an LED display, and a microphone for handsfree answer-back on intercom calls.

Two Busy Lamp Field (BLF) consoles are available with the Electra-616, providing more efficient attendant operation. Each has LEDs which indicate station status, paging, night transfer, and even door phone status.

Electra-616 offers two door phones which can be located so visitors can announce themselves after hours, and a security alarm that alerts you when external office doors are opened.

The compact Key Service Unit (KSU) is virtually noiseless and can fit any convenient office location. The use of standard 2-pair telephone wire connecting the fully modular key sets simplifies installation and relocation of telephones.

## Microcomputer in each telephone.
Advanced microelectronics in each telephone make features virtually automatic, allow "customizing" of each phone to the individual's needs, and permit you to modify features or change restrictions without adding hardware.

Each user, for example, can easily program his own particular list of often-called numbers for speed-dialing. One touch calls a customer, supplier or another extension. (And programmed numbers can just as quickly be changed as often as desired).

The alpha-numeric display on each phone lets the user verify programmed numbers. It also confirms the extension called (or calling), checks features being activated, and more.

## Ideal for branch offices, retail, other businesses.
Electra-616 is ideally suited for smaller companies of all types, and offers unique features that are particularly effective for branch offices, retail stores, medical offices, restaurants, etc. With its direct station selection and speed-dialing, for example, Electra-616 is perfect for branches of larger companies. System speed-dialing can hold up to 40 numbers that serve as hotlines or override toll restrictions to other branches or the main office, while individual speed-dial numbers can be used for local clients and vendors. Electra-616's security alarm is also excellent for back doors, refrigerators, blood banks, and for drug lockers in pharmacies.

## Built by NEC, a world leader in communications.
When investing in an Electra-616 system, you can be assured that the equipment is designed and manufactured by a solid company with a wealth of technical expertise. Established in 1899, NEC has well over 80 years of telecommunications experience. In fact, more than one million telephone lines have been installed by NEC in North America alone.

An innovator and leader, NEC has been responsible for many industry breakthroughs. Included is the first key system with "skinny wire" that has made installing and relocating phones so much simpler and less costly. We also originated the digital hybrid system which, for the first time, made it possible to combine single-line phones and key telephones in the same system. And we introduced a key system that can grow modularly and economically up to 48 telephones. And now, Electra-616 continues this same tradition of innovation.

NEC Telephones, Inc. is part of NEC Corporation, a five billion dollar corporation and one of the largest communications and electronics manufacturers in the world. NEC's years of experience in computers and communications (C&C) permit NEC to combine technologies from a base of expertise in both areas. In addition, NEC is one of the largest semiconductor producers in the world. Using our own components provides better quality control, insures greater reliability, and lets us pass savings from efficiencies on to you.

*(Top) Microprocessor control lets each user program phone to suit his or her needs. (Bottom) Door phones permit two-way conversation in areas not requiring full stations.*
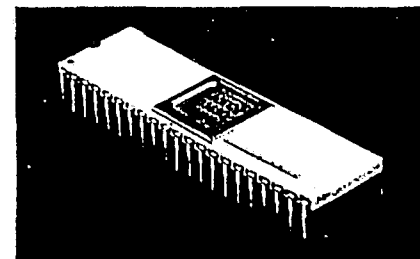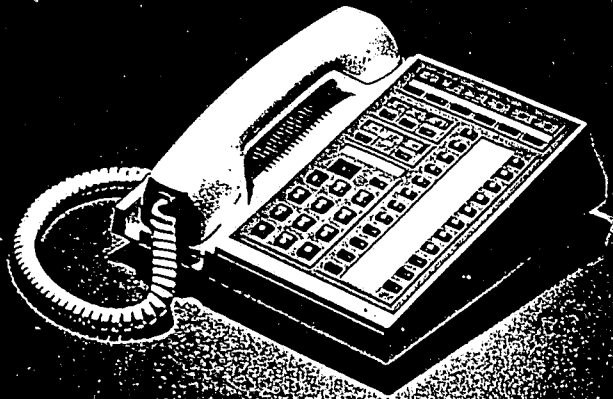
NEC introduces Electra-

# 616

## The big system
## for small offices.
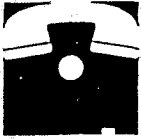
NEC REFERENCES CONTINUED

Clark Wissmiller
3355 N.E. Cornell Road
Hillsboro, Oregon  97213
(503)640-4686

First United Methodist Church
1838 S.W. Jefferson Street
Portland, Oregon  97201
(503)228-3195

Syncor
1310 S.W. 17th
Portland, Oregon  97209
(503)223-8785

Portland State University
531 S.W. Hall
Portland, Oregon  97201
(503)226-2631

Kaman Bearing
1703 N.E. Argyle
Portland, Oregon  97211
(503)283-3040

Bellsouth Advanced Systems
4500 S.W. Kruse Way, #270
Lake Oswego, Oregon  97034
(503)636-7517

Dr. Peter Milanovich
14000 S.E. Johnson Road
Milwaukie, Oregon  97267
(503)652-2842

Sternwheeler Columbia Gorge
606 N.W. Front, A-1
Portland, Oregon  97209
(503)223-3928

Ike Trading Co., Ltd.
6700 S.W. 105th Place, #212
Beaverton, Oregon  97005
(503)643-6688

Accousti Level Floors
2701 S.E. 39th
Hillsboro, Oregon  97007
(503)648-3143

Foxboro Company
25200 S.W. Parkway
Wilsonville, Oregon  97070
(503)682-2300

Cascade Aids Project
408 S.W. Second, #420
Portland, Oregon  97204
(503)223-5907

Pacific University
1976 S.W. 6th
Portland, Oregon  97201
(503)224-2323

Azumano Travel
320 S.W. Stark
Portland, Oregon  97201
(503)223-6245

Valley National Bank
1940 Pacific Ave.
Forest Grove, Oregon  97116
(503)359-4402

Portland Welding
6750 N.E. Columbia Blvd.
Portland, Oregon, 97218
(503)287-5527

Copco Refrigeration
841 S.E. Washington
Portland, Oregon  97214
(503)238-5512

Gasket Specialties
4968 N.E. 122nd Ave.
Portland, Oregon  97220
(503)257-8816

Carpet Service
5000 N. Basin
Portland, Oregon   97217
(503)285-1712

Gaard Automation Systems
725 S.E. Lincoln
Portland, Oregon   97214
(503)233-8246

Rey Reece Olds-Isuzu
122nd and Burnside
Portland, Oregon   97216
(503)256-3700

Pinnacle Geotechnical
310 S.W. 4th
Portland, Oregon   97204
(503)241-7107

Micro Systems Engineering
6024 S.W. Jean Road #B
Lake Oswegon, Oregon   97034
(503)635-4016

James Lumber Company
15 82nd Drive #101
Gladstone, Oregon   97027
(503)655-5658

Grady Britton Communications
115 N.W. 1st, Suite #401
Portland, Oregon   97205
(503)228-4118

W.L. May Company
1120 S.E. Madison
Portland, Oregon   97214
(503)231-7000

Accent on Travel
1865 N.W. 169th Place, #120
Beaverton, Oregon   97006
(503)645-7323

Alpha Export Company
520 S.W. 6th Ave.
Portland, Oregon   97204
(503)223-6888

Johanson Transport Services
8565 S.W. Salish Lane
Wilsonville, Oregon   97070
(503)682-3212

Versa-Steel
3601 N.W. Yeon Ave.
Portland, Oregon   97210
(503)223-0814

Burlington Northern
3930 N.W. Yeon
Portland, Oregon   97210
(503)241-6391

Health Choice Inc.
1220 S.W. Morrison
Portland, Oregon   97205
(503)228-2567

Applied Laser Technology
14155 S.W. Brigadoon Court
Beaverton, Oregon   97005
(503)641-4400

R.E.I.
1798 Jantzen Beach Center
Portland, Oregon   97217
(503)283-1300

IVI Travel
2701 N.W. Vaughn Street
Portland, Oregon   97209
(503)243-3450

LaValley Industrial Plastics
7600 N.E. 47th Ave.
Vancouver, Washington   98661
(503)222-9257

PORTLAND COMMUNITY COLLEGE
Mr. Bill Peacock, Telecommunications Mgr.
(503) 244-6111, ext 4183


MCCALL OIL & CHEMICAL CORPORATION
Mr. Doug Kieffer, Controller
(503) 228-2644, ext 215


SHILO INN
Ms. Kathy Dawson
(503) 641-6565


THUNDERBIRD RED LION INN
Ms. Joan Wilson
(503) 283-5141


PACIFIC POWER & LIGHT COMPANY
Mr. Ed Squires, Communications Mgr.
(503) 243-1122


CONSOLIDATED FREIGHTWAYS
Mr. Jim Jackson, Supervisor On-Time Control
(503) 226-4692


SEARS--WASHINGTON SQUARE CATALOG SALES
Ms. Arlene Walsh, Office Manager
(503) 238-2200
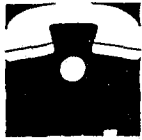
REFERENCES FOR CRI

MEIER & FRANK CENTRAL CREDIT
Mr. Gary Peart, Vice President/Regional Credit Manager
(503) 241-5708, 5709


JUBITZ DIAL-A-TRUCK
Mr. Al Jubitz, President
(503) 283-1111


FIRST INTERSTATE SERVICES (Bank)
Mr. John Cloyd, Communications Manager
(503) 280-2998


HILLSBORO ARGUS
Mr. Don Foelker
(503) 648-1131


W.L MAY COMPANY
Mr. George Thomas, President or Dixie Howell, Office Manager
(503) 231-9398


HANNA CARWASH INTERNATIONAL
Mr. Kirk Hanna
(503) 659-0361


NORTHWEST NATURAL GAS CO
Ms. Michelle Inmon
(503) 226-4211, ext 1506


THE OREGONIAN
Mr. Art Dummer, Plant Superintendent
(503) 221-8043


COLONIAL PENN INSURANCE
Ms. Sandy Davis, Telecommunications Manager
(215) 988-8000
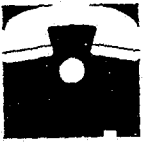
# NEC ELECTRA 616 REFERENCES

The following is a list of references for which we have installed NEC Electra 616 Telephone Systems:

Copco Refrigeration
Rita Copping, (503) 238-5512

Crosswhite Industrial Park
Larry Hall, (503) 777-3818

David Weiss, Co.
David Weiss, (503) 775-4302

Portland Welding Supply, Inc.
Barry Feasey, (503) 657-7383

Howe & Harris, Atty's
Bill Howe, (503) 228-6099

Sternwheeler "Columbia Gorge"
Don Fuchs, (503) 223-3928

Ike Trading Company
CJ Yano, (503) 643-6688

Valley National Bank
Linda Thompson, (503) 648-0149

RA Reed Production
Bob Lindsay, (503) 238-0003

Omark Industries, Inc.
Fred Croydon, (503) 223-5146

Dr. Peter Milanovich
Peter Milanovich, (503) 652-2842

Accousti Level Floors
Pat Ravin, (503) 642-2210

Smith Root, Inc.
Dave Smith, (206) 573-0202

Torrington/Fanfair
Craig Zezeck, (503) 255-1128

Neuroth Advertising
Julie Neuroth, (503) 222-3796

First United Methodist Church
Judy Silke, (503) 228-3195

Syncor
Dave Ward, (503) 223-8785

Plasti-Fab
Harry Reed, (503) 692-5460

Our Lady Of The Lake Church
Father Weber or Norm Croy, (503) 636-7687

The Dean Company
Karen Vaughan, (503)665-2161

AJAX Appliance Repair
Al Dick, (503) 245-2419

Fabric Art
Stephen Lutz, (503) 232-5510

Applied Laser Technology
Reinhard Jensen, (503) 641-4400

Tenant Improvement Services
Jerry Lind, (503) 236-2375

Gasket Specialties
Ross Huxtable, (503) 257-8816

N.W. RESEARCH ASSOCIATES
4001 N.E. Halsey
Portland, Oregon 97232
Contact:  Patricia Goodell
(503) 287-3533


DR. BILLINGS, GARVEY, McBARRON
2225 Lloyd Center
Portland, Oregon 97232
Contact: Kathy Root
(503) 284-1174


DR. STEVEN HOFF
4706 N.E. Glisan
Portland, Oregon 97213
Contact:  Dr. Hoff
(503) 231-4914


NATIONAL FEDERATION OF INDEPENDENT BUSINESS
6700 S.W. 105th
Beaverton, Oregon 97005
Contact:  Sandra Phiel
(503) 643-5301


GRAHAMS STATIONERY
420 2nd Ave.
Lake Oswego, Oregon 97035
Contact:  Terri Graham
(503) 636-5676


JOHN BILLINGTON, ATTY
135 S.W. Ash #325
Portland, Oregon 97204
Contact:  John Billington
(503) 243-2055

# CONCLUSION

It is our hope that this proposal has answered your questions as they relate to a high performance communications system.

Expanded features, protection from obsolescence, and full service are only some of the reasons Telephone Sales & Communications can be relied upon.

You can count on us to supply:

1)  Advanced equipment that will perform as promised.

2)  Installation and maintenance personnel that are skilled professionals.

3)  Service when you need it.

4)  The full and immediate resources of Telephone Sales and Communications with direct interface through our manufacturers.

You can be confident you will receive true value for your communications system dollars with no hidden extras to surprise you later.

Economic considerations involved:

1)  "Fix" your equipment costs.

2)  Depreciation schedule alternatives:

    a.  Straight Line
    b.  ACRS

3)  Lease option; write your equipment off faster by a true "capitalized lease."

4)  Minimize your cost for service and maintenance:

    a.  Extended warranty; fix your future service/maintenance costs.
    b.  Service/maintenance by "as needed" requirements after warranty.

# GUARANTEE

All systems furnished and installed by Telephone Sales &
Communications are warranted with a double guarantee.

The equipment is warranted by the manufacturer plus Telephone
Sales & Communications warrants the total system and will replace
or repair, without charge, any components or parts found to be
defective either by manufacture or installation.

This service is provided on your premises during normal business
hours; 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding
holidays.  After hours service is also available at an additional
cost equal to 1-1/2 our actual labor cost.  This guarantee does
not apply to misuse, abuse or accident.

All installations, unless otherwise expressed, are classified as
"turn key".  This means complete installation of our equipment
with no additional costs unless additional services and/or
equipment is requested.

# TRAINING

Proper training adds to the value of your communications system beyond the quantitive cost saving of owning your own equipment. Your system is an important business tool capable of increasing productivity. At TSC our job is to assure that your equipment compliments the way you do business.

Before installation, a TSC customer representative who is familiar with your unique communications requirements will train your personnel to understand and use those features that will help them accomplish their responsibilities. Training is scheduled at your convenience and pace.

Additionally, you receive a user manual for each telephone installed and an attendants manual for your central answering position.

We recommend that you designate one person, usually the person at your main answering position if call traffic is routed through one person, to receive more in-depth training. We will refresh as necessary and call back at regular intervals during the first year following installation to make sure you receive the maximum benefit from your system.

Remember also to call TSC if personnel changes occur that make follow-up training advisable.

The person you designate to receive the most concentrated system training is also the logical person through whom service requests can be coordinated.

At TSC we do not charge for follow-up training as do many of our competitors. Whether four weeks after installation of four years, we are committed to helping your organization receive that extra value that is TSC's full service approach to business communications.

# MAINTENANCE AND SERVICE

**TSC SELLS AND INSTALLS EQUIPMENT** we know by reputation and testing to be of high quality construction and capable of delivering long and reliable service We know too that proper, not shortcut installation will reduce your need for after service and extend the useful life of your communications system.

All equipment sold and the installation of that equipment is fully warranted against any and all defects in materials and workmanship for one year. Any service needed will be supplied by TSC at no charge.

## EMERGENCY RESPONSE                    (503) 295-0929

TSC provides 24 hour service every day of the year. Our response to a major system failure (loss of telephone service) is immediate dispatch and we guarantee arrival on site within 2 hours of your call.

## ROUTINE SERVICE                       (503) 295-0929

TSC responds to routine or minor service problems as quickly as scheduling permits, but within 24 hours or other time frame you determine to be convenient and appropriate to the trouble.

## AFTER WARRANTY SERVICE                 (503) 295-0929

Service provided on a time and materials basis is billed at $45.00 per hour between 8:00 a.m. and 5:00 p.m., Monday through Friday. Service billings include one-way travel time.

Service calls requested and performed during other than normal business hours are billed at time and one-half.

## MINIMUM BILLING

One hour constitutes a minimum billing and would include one-way travel time. There after, TSC bills in increments of one-quarter hour.

## MAINTENANCE AGREEMENTS

You may obtain a maintenance agreement at any time during the life of your system. TSC adheres to an industry standard formula that bases the monthly service fee on $2.50 per telephone in the system plus 1.5% of the new cost of the Key Service Unit (KSU) or PBX switch. Depending upon the age and condition of the subject system, the monthly cost may deviate from the standard formula. We are reasonable and fair and work to arrive at agreeable terms with our customers.

## TECHNICAL CERTIFICATION

TSC delivers one level of service--expert. Our technical and engineering staff are certified and in many instances, factory trained. At TSC we know the equipment we sell intimately and work closely with the manufacturers whose products we have choosen to represent.

# SELLER'S RESPONSIBILITIES

## TELEPHONE SALES & COMMUNICATIONS

As your communications equipment supplier, you can count on us for:

1.  Equipment that will perform as promised.

2.  Skilled maintenance and installation personnel.

3.  Centralized service when and where you need it.

4.  Factory trained communications service advisors to train your personnel in the best methods for uitilizing your communications equipment.

5.  Continual product offering updates to keep pace with your ever changing communications needs, and customer services.

6.  Pricing flexibility; expressly tailored to meet your economic considerations.

We have grown to become one of Oregon's oldest Interconnect companies. We owe this success to a satisfied customer base. Our product offerings and support services rival the highest industry standards. This success concept is best summarized by saying our success depends on your satisfaction.

## BUYER'S RESPONSIBILITIES

Existing conduit, under floor ducts and raceways will be utilized
wherever practical, so cable and station wire can be concealed.
Access to such conduit, ducts and raceways will be provided by
your company.

A dedicated AC power supply will be supplied by you.  Any
additional conduit required shall be provided by your company.

Additional charges will be made for moves or relocations you
request after installation and that are not included in this
proposal.  Credit will also be issued for stations specified but
not installed.

# SYSTEM INVESTMENT

## TIE TELECONNECT BUSINESSCOM 16

LEASE:             $  86.36
                   36 Month Term
                   Initial Investment:   Two Month Value
                   Fair Market Purchase Option

OUTRIGHT INVESTMENT:      $2,399.00

WARRANTY: TWO YEARS, PARTS AND LABOR
          (Minimum #300.00 value)

INVESTMENT TO INCLUDE:

    EQUIPMENT AS CONFIGURED
    INSTALLATION OF EQUIPMENT
    SYSTEM PROGRAMMING
    TRAINING

# SYSTEM CONFIGURATION

## TIE TELECONNECT BUSINESSCOM 16

PREPARED FOR: WILSONVILLE LIBRARY, CITY OF WILSONVILLE

|                             | WORKING | EQUIPPED | CAPACITY |
|-----------------------------|---------|----------|----------|
| DIRECT LINES (C.O. & OPX)   | 3       | 3        | 3        |
| MULTI LINE STATIONS         | 8       | 8        | 16       |
| INTERCOM PATHS              | 2       | 2        | 2        |

| STATION EQUPMENT              | QUANTITY |
|-------------------------------|----------|
| *ECX 616 KSU 2 x 8            | 1        |
| 1 Circuit C.O. Line Module    | 1        |
| Tripplite Surge Protector     | 1        |
| Back Board                    | 1        |

*NOTE:    TIE ULTRAKEY SETS MAY BE SUBSTITUTED IF DESIRED

| COMMON EQUIPMENT              | QUANTITY |
|-------------------------------|----------|
| ECX 616 Key Phone (6 Line)    | 7        |
| Wall Mount Kit                | 1        |
| Power Failure Phone           | 1        |
| Prewire "Hot"                 | 1        |
| Prewire                       | 6        |

# SYSTEM CONFIGURATION NOTES

I.     **OPX - OFF CITY HALL'S TIE CX 128 SYSTEM:**
       All OPX receiving equipment and installation time is
       provided in the enclosed configuration (equivalent to
       one additional C.O. port in the ECX 16 and a maximum of
       1 hour to install and test at both ends.) Coordination
       with GTE's OPX and C.O. service installation will be
       handled by our company.

II.    **ANNUAL SERVICE CONTRACT - CURRENT RATES:**
       NOTE:  THE ENCLOSED SYSTEM CONFIGURATION INCLUDES A TWO
       (2) YEAR WARRANTY ON PARTS AND LABOR.
       A.   Minimum annual fee:  $300.00 (up to and including 8
            phones.)
       B.   Over 8 phones:  $2.80 per phone per month.

III.   **CURRENT MAC SERVICE RATES (MOVES, ADDS, CHANGES:**
       A.   Hourly:    $45.00
       B.   Minimum:   1 Hour
       C.   Estimate to add a phone, punch down (heat up) a
            prewire and program the station:
                 1)   Labor:  30 Minutes per extension
                 2)   Standard Telephone:  $143.00
                 3)   Additional Cards Required:
                      a)   Extensions 8:  None required; included
                           in the configuration.
                      b)   Extensions 9-16: One 8  Circuit Station
                           Module at $291.00
       D.   To add a phone to the configured "Hot" prewire, the
            phone can be shipped directly to the library  and
            plugged in  by your  people, hence no labor (nor
            shipping) charges.
       E.   Estimate to add additional C.O.'s:
                 1)   Lines 4-6:  One Circuit Card at $180.00
                 2)   Labor:  15-30 Minutes

IV.    **QUALITY AND EFFICIENCY:**
       TIE's Teleconnect ECX 16 is fully compatible with TIE's
       CX 128 equipment, your City Hall system.  The ECX 16 is
       one of TIE's less sophisicated and uncomplicated square
       key systems specifically  designed for  less feature
       demanding applications such as your library.  Like your
       CX 128, the ECX is one of the most popular  systems TIE
       manufactures.   Telephone  Sales  and  Communications
       maintains support parts and  equipment in  stock on our
       shelves for immediate placement.

OPTION

# ULTRAKEY
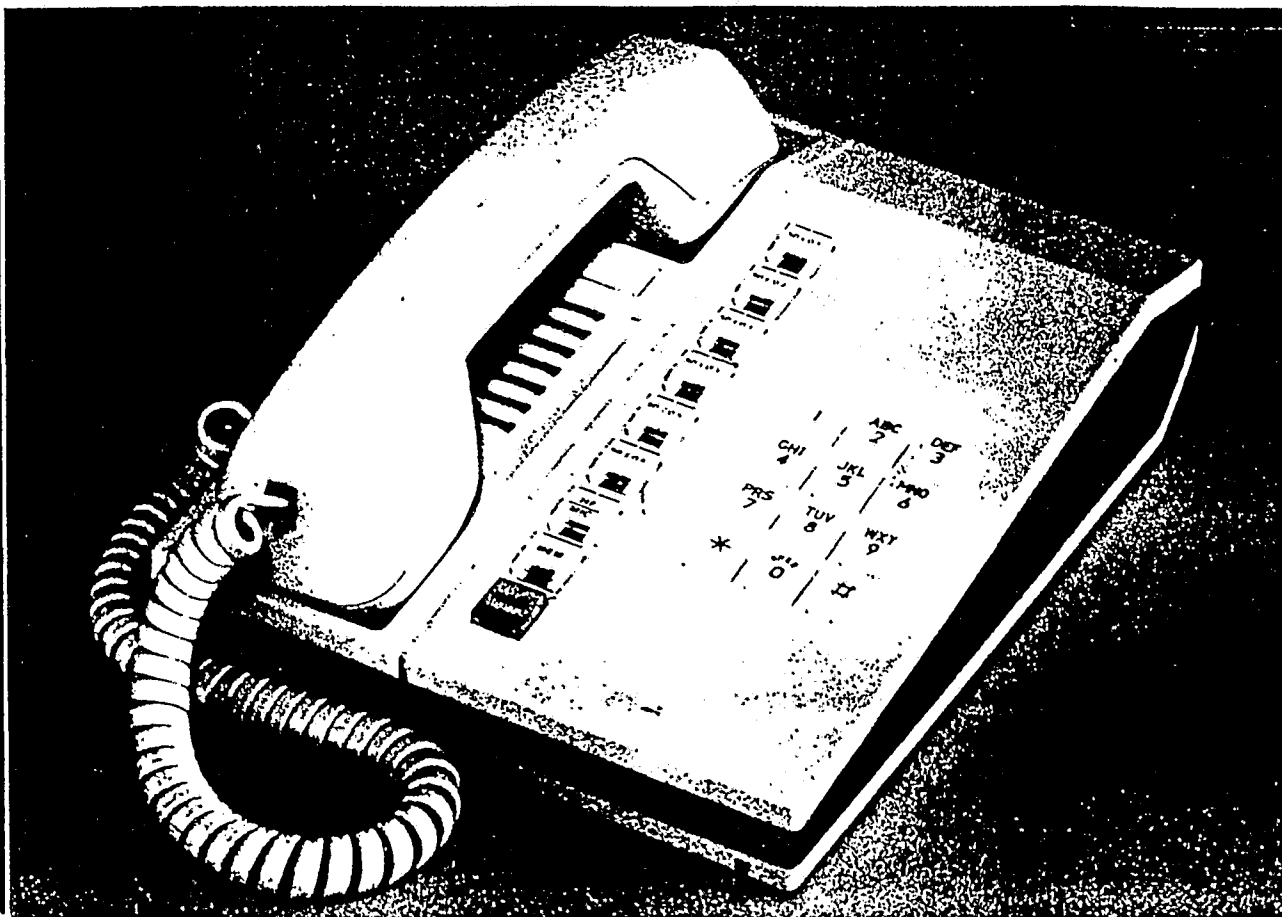
# TELECONNECT®

# ECX Series
# 208/616

## COMPLETE FEATURE LIST

- Attendant Answering Position*
- Built-in Speakerphone (Non-speakerphone models also available)
- Call Waiting Signals
- Conference, 3-way
- Door Chime Box with 2-way conversation
- Executive Set*
- Flash
- Handsfree Reply
- Hold and Exclusive Hold with programmable Recall
- Interchangeable Faceplates
- Intercom, Multi-path
- Last Number Redial
- Loud Bell Interface
- Music on Hold (customer-supplied source)
- Night Answer
- Paging (All-Call and Zone)
- Power Failure Alarm/Transfer Interface
- Privacy/Common Use, programmable
- Private Line Assignment
- Pulse/Tone Conversion
- Room Monitor
- Speed Dial
- Toll Restriction
- Transfer
- Visual Line Status

### EXECUTIVE FEATURE AND ATTENDANT ANSWERING POSITION FEATURES*

- Busy Lamp Field
- Direct Station Selection
- Do-Not-Disturb
- Last Number Dialed
- Microphone Mute
- Single-button Speed Dial

* Future Option

## Sleek, contemporary design in a popular, full-featured key system.

Teleconnect ECX is a complete telephone system with all the features already built-in. There are no expensive add-ons or additional equipment to buy. Sophisticated style and features, easy installation and expansion, and low cost make Teleconnect ECX the big favorite with small business.

### EASY TO USE.
Teleconnect ECX is easy to use! Just press a button to talk handsfree, speed dial, redial a busy number, and much, much more. You can even reply to call announcements without touching your phone at all!

### EASY TO INSTALL AND EXPAND.
Modular growth makes Teleconnect ECX economical and reduces the cost of installation. You buy only the capacity you need. Expansion is simply a matter of adding snap-in cartridges to the KSU and plugging in more phones. Installation is simplified and less expensive because the entire system is fully connectorized, using thin, 2-pair wire.

### COMPUTERIZED ELECTRONICS PROVIDE A FULL RANGE OF FEATURES.

Speed Dialing. No more remembering numbers and lengthy long-distance codes. Select your own 10 most commonly called numbers, and store them in your phone. Dial in an instant. Another 20 numbers can be stored for system-wide access.

Built-in Speakerphones. Talk comfortably as you work. Don't bother lifting the handset.

Handsfree Reply. Answer announcements or intercom calls without touching your phone! Don't interrupt your work.

Toll Restriction. Select the appropriate access for each extension, such as local or internal calls only. Assign "no restriction" lines for selected long-distance services.

Visual Line Status. Steady or blinking lights show which lines are busy or on hold.

Multi-Path Intercom. More than one intercom conversation can take place at the same time.

Paging. Set up your own internal page zones. Page the entire staff or selected areas. Optional interface allows for page zone outside the building.

Privacy/Common Use. Program your system so that no one can listen in on a conversation, or program your system so that others can pick up and join your outside call.

Conferencing. Save time and travel. Three-way conference calls are simple to make.

Last Number Redial. The system automatically stores the last number you called. Eliminate the frustration of redialing busy or unanswered calls. Try again later at the touch of a key.

Attendant Answering Position.* No other system at this price offers attendant-answering capability. Lights indicate the status of up to ten extensions. Press a button, and announce a call.

---

# TELECONNECT®

## Telecommunications Systems Company

# ECX Series 208/616

# THINGS YOU SHOULD KNOW ABOUT BUYING A PHONE SYSTEM

TSC tries to make sure you have all the information you need to buy a telephone system with confidence.

The information below is a first step in that direction. You will likely have questions of your own and we encourage you to ask them during the planning process.

INSTALLATION TIME can roughly calculated to require one hour per telephone in your system, assuming a crew of one and barring special requirements or ununusual circumstances.

CONTINUITY OF PHONE SERVICE is not disrupted during installation. The actual "cutover" to the new system is performed in a fraction of a second.

If you prefer installation to take place during other than normal business hours TSC will make special arrangements.

YOUR OLD RENTAL PHONES will be neatly boxed by TSC installers for pick-up by AT&T or GTE.

Call the phone number on your equipment rental bill and inform the representative you spoke with and the date.

PNB OR GTE, whichever company provides your lines, must be on site when your new system is cutover from the old equipment. TSC coordinates the cutover with your lines supplier and they will bill you for the service call. The usual charge may vary between $25.00 and $60.00 depending on number of lines and the type of interconnect jack required.

ADDING PHONE LINES or changing phone numbers when your new system is installed can be arranged by TSC or if you choose to make your own arrangements, be sure to note with whom you spoke and to pass the information on to TSC.

You will want to make your own arrangements if you want to obtain a special or more easily remembered phone number.

If moving and your new location is within your present central office boundaries, of course, you may take your old number with you.

SYSTEM GROWTH requirements should be planned for to make sure you do not outgrow your system. You will also want to plan for the future addition of phones by identifying locations where modular jacks should be placed. When you need them they will be ready to use and cabling will be less expensive during system installation.

MOVING THE NEW SYSTEM to another location at a later time is not difficult or expensive. You can roughly estimate that cost by adding $80.00 per phone in the system. TSC will provide a cost figure at your reqest.

PROTECT YOUR NEW TELEPHONE SYSTEM It represents an investment in capital equipment and should be covered by insurance through your broker or agent.

# TELEPHONE SALES & COMMUNICATIONS

April 15, 1988

CITY OF WILSONVILLE
30000 S.W. Town Center Loop E.
Wilsonville, Oregon

Dear Ray and Nancy:

Thank you for allowing Telephone Sales & Communications (TSC) the opportunity to submit the following communications system proposal. TSC is a private interconnect telephone company. Our only business is the sale, installation and maintenance of privately owned telephone and telecommunications systems.

TSC offers the business community a new approach to solving communications problems through professional design and installation of customer tailored communication systems. Our commitment to serve small to medium size business communications needs is built upon a solid financial foundation that assures our customers - be they old or new - that we are a strong and responsive, full service company they can trust and depend on.

At TSC we install only the highest quality equipment that we deliver the best performance for our customers application. We stock all parts to service that equipment, and respond swiftly to your call. We pride ourselves in our work and are dedicated to delivering customer satisfaction second to none.

Our service and installation personnel have received factory training and certification from TIE Communications, Siemens, ITT, Mitel, Fujitsu, Tadiran, and many other manufacturers. They have also gained experience from Bell, GTE, Continental, and other telephone and interconnect companies. Continual retraining and updating of the latest developments in the industry is an integral part of our regular operations.

We are thoroughly familiar with all products that we market and also maintain systems installed by other interconnect telephone companies. All systems we install are fully backed with guarantee of service response to your service needs accompanies your sales contract.

At TSC we deliver what we promise. We will work to earn and keep your business.

Sincerely,

Robin Tidwell
Communications Consultant

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TELECOMMUNICATIONS PROPOSAL

FOR

CITY OF WILSONVILLE

BY

ROBIN TIDWELL

TELEPHONE SALES & COMMUNICATIONS

## Features

- Busy lamp field on 24-button sets
- Call pickup
- ✔ Conference
- Delayed/abbreviated ringing (line)
- Direct line terminations (one button per line)
- ✔ Do not disturb
- ✔ Hands-Free Answer on Intercom
- Hold
- Hold reminder
- Intercom direct station selection (DSS)
- Intercom-ringing
- ✔ Last number redial
- Line reserve callback
- Loud bell, extra alert interface
- Loudspeaker paging interface
- Manual signaling
- ✔ Message waiting
- Music-on-hold interface
- Night service
- On-hook dialing
- Personal lines
- ✔ Power failure
- Preselection
- ✔ Privacy/privacy release
- Programmable station ringing assignments
- Recall
- Ringing line/idle line preference
- ✔ Speakerphone
- ✔ Speed dialing
- Telephone paging (all stations)
- Transfer/transfer return
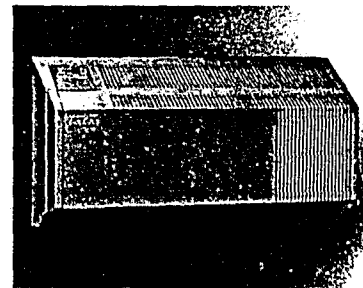
✔ The features our customers have asked for most.

### AT&T
The right choice.

## Controlling it All
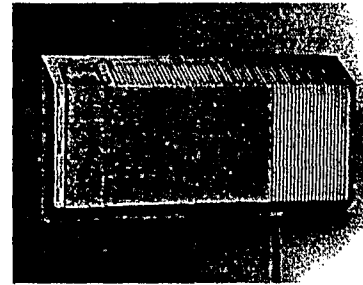
The basic 308 Control Unit provides service for up to three lines and up to eight telephones, and has 2 intercom channels. It includes two accessory interface (line auxiliary) jacks, plus jacks for paging, an external alert, and a music source.

The 616 Expansion Unit attaches to the basic controller to provide full 616 service—up to six lines and up to 16 telephones. The Expansion Unit adds a third accessory interface jack for answering machines, modems, etc. Accessory interface jacks can be used to connect standard single-line phones in case of a power failure.

## Specifications

| | |
|---|---|
| Wiring | Four pair recommended. |
| Telephone | Desk- or wall-mount unit with six or 24 buttons. |
| Controller | Desk- or wall-mount unit, basic 308 Unit or basic plus 616 Expansion Unit. |
| FCC Compliance | Conforms to FCC rules for Radio Frequency Devices, Class A, and for connection of terminal equipment to the telephone network. |
| Registration Number | AS593M-72132-KF-E |
| Ringer Equivalence Number (REN) | 0.3A/0.5B |
| Jack Type | RJ11C |
| Dimensions | |
| Control Unit | 8½"H x 16"W x 3"D |
| Expansion | 6"H x 16"W x 3"D |

## A Winning Combination of Features And Benefits

SPIRIT System telephone sets have a convenient full-function speakerphone that may be used instead of the handset for placing and receiving calls. Hands-free speakerphone, an efficient and productive business tool, is standard on the SPIRIT System.

Calls between telephones are made by pressing one of two intercom buttons and dialing the desired extension. The speakerphone offers a Hands-Free Answer on Intercom feature that lets you take and respond to intercom calls without even touching the phone.

Conference Calling is another valuable business feature that's standard on the SPIRIT System. It allows you to have a conference of up to four parties at one time, whether inside or outside the office. It's extremely efficient when making those group decisions.

Each SPIRIT System phone can be programmed to reach up to 16 numbers via Personal Speed Dialing. And the System Speed Dialing feature offers three-button access for up to 70 additional numbers. It eliminates searching for numbers when you've got to reach someone *fast*.

### Reliable Service and Support

Your SPIRIT Communications System is fully backed by AT&T—world leader in the development and production of communications equipment for business. This means full service and support by our own nationwide network of AT&T technicians.
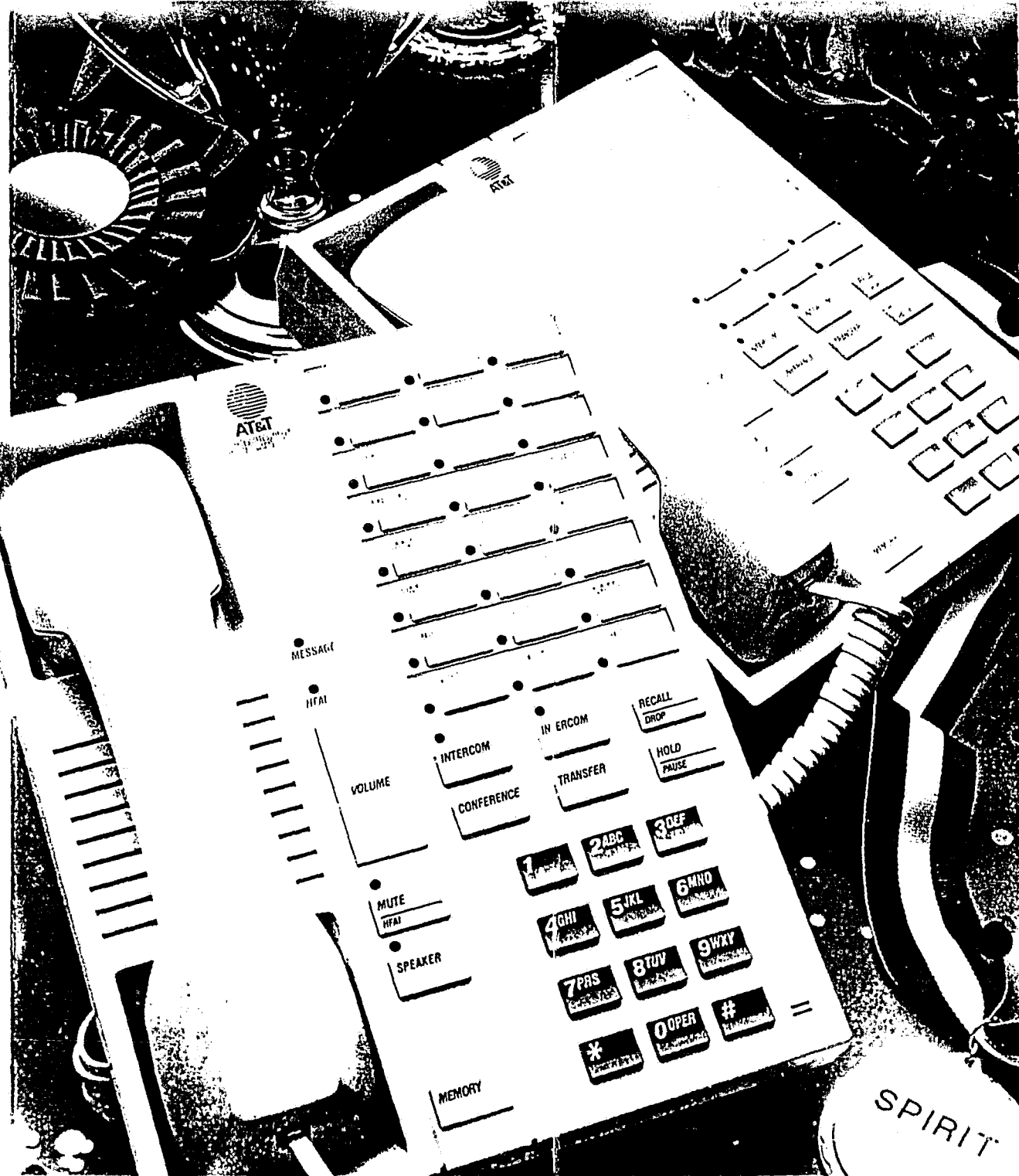
's SPIRIT Communications System has the
res, ease-of-use, and economy you've been
ng for in a reliable business phone system.

a list of important standard features that
ady to use, the SPIRIT System can keep
business a step ahead of the competition.
of use at reasonable cost–AT&T's SPIRIT
:m–designed to meet your needs today.

system comes in two configurations: to
mmodate up to three outside lines serving
ɔ eight telephones or up to six outside lines
ng up to 16 telephones.

The affordable, easy-to-use SPIRIT System has all the important features built right in, keeping your office "communications efficient."

### Designed for Productivity

The SPIRIT System desk- or wall-mount phone
unit is a triumph in business telephone design.
Have you ever wished your phone system had
the convenience and time-saving benefits of a
hands-free speakerphone? It comes standard
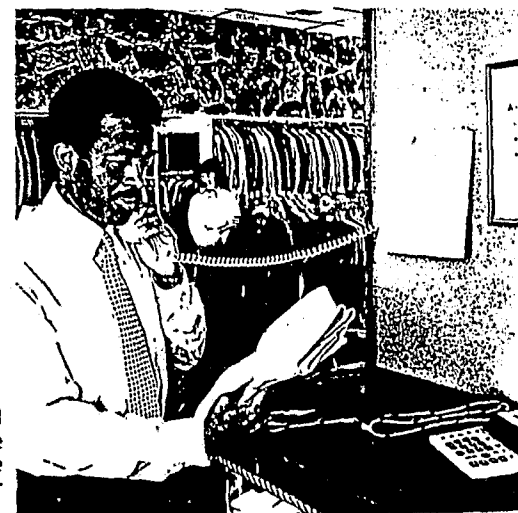on every SPIRIT System telephone.

Other important business features like Speed
Dialing, Last Number Redial, Conference Call-
ing, and two Intercom lines are built in and just
as easy to use. All this is included at a cost that
will keep your spirits high.

### Equipped to Meet your Needs

SPIRIT System telephones are available in six-
and 24-button sets. Line buttons provide direct
access to Central Office (CO) lines for placing
outgoing and receiving incoming calls. Each line
button has an indicator light that shows the
status of calls: whether the line is idle, in use,
ringing, on hold, etc. The six-button set handles
all six lines provided by a 616 control unit. The
24-button set handles six lines and adds 16 but-
tons for use in Speed Dialing and two buttons
that can be easily used for all station paging,
loudspeaker paging, or manual signalling.

AT&T's SPIRIT Communications System lets bus-
inesses be more responsive to their custom-
ers...and more competitive. With the most
important business features built in, the SPIRIT
System is ready to be an active partner toward
the goal of greater profitability.

AT&T's SPIRIT Communications System is
designed with full-featured business telephone
functions in a reasonably priced package. The
System is also easy to install and use. It's ready
to use as soon as it's installed or you can in-
tegrate a wide number of custom features
system-wide or into individual phones.

Advanced intercom and speakerphone functions increase productivity for retailers.

### Your Partner in Efficiency

With the most important business telephone
features built in and others easily programmed,
the SPIRIT System becomes an active partner in
your move toward business efficiency. And the
SPIRIT System has something else built in–AT&T's
100-year tradition of top-quality communica-
tions equipment and service.

With AT&T's SPIRIT Communications System,
your business's communications efficiency is
ready to soar.

# The SPIRIT System: A Close-Up Look
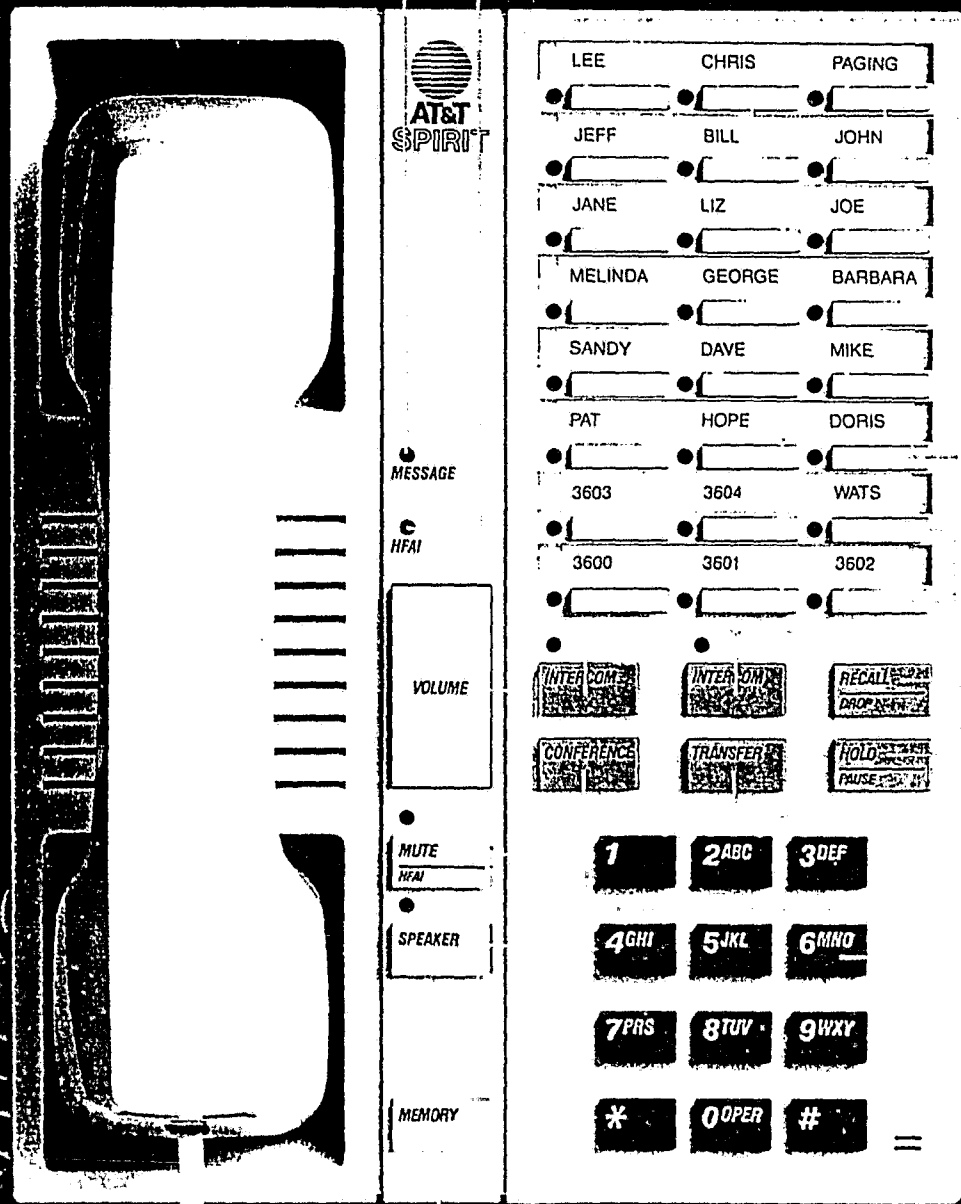
**MESSAGE WAITING LIGHT.** Alerts you to a waiting message.

**HANDS-FREE ANSWER LIGHT.** When on, phone is ready to answer intercom calls automatically.

**VOLUME CONTROL.** Adjusts volume of ringer, speaker, and receiver.

**USER PROGRAMMABLE BUTTONS.** May be programmed for manual signaling and paging. Exclusive to 24-button telephones.

**AUTO-DIAL BUTTONS (16).** Used to call extensions and Speed Call numbers on the 24-button phones. Six-button phones use regular dialpad keys for these functions.

**LINE BUTTONS & INDICATOR LIGHTS (6).** For placing and receiving outside calls.

**INTERCOM BUTTONS & INDICATOR LIGHTS.** For placing and receiving intercom calls.

**RECALL/DROP BUTTON.** Disconnects a call without hanging up. When the SPIRIT System is used with a PBX or Centrex System, this button generates a switchhook flash.

**HOLD/PAUSE BUTTON.** Places a call on hold.

**TRANSFER BUTTON.** Transfers calls to another extension.

**CONFERENCE BUTTON.** Adds lines or extensions to a call.

**DIALPAD.** Dials outside calls, intercom calls.

**MUTE BUTTON & INDICATOR LIGHT.** Turns off the sound to the other party and controls Hands-Free Answer on Intercom feature.

**SPEAKER BUTTON & INDICATOR LIGHT.** Controls the Speakerphone feature.

**MEMORY BUTTON.** Used to store and dial Speed Call numbers on six-button sets.

### Phone labels

| LEE | CHRIS | PAGING |
| JEFF | BILL | JOHN |
| JANE | LIZ | JOE |
| MELINDA | GEORGE | BARBARA |
| SANDY | DAVE | MIKE |
| PAT | HOPE | DORIS |
| 3603 | 3604 | WATS |
| 3600 | 3601 | 3602 |

AT&T SPIRIT

MESSAGE
HFAI
VOLUME
MUTE / HFAI
SPEAKER
MEMORY

INTERCOM • INTERCOM • RECALL/DROP
CONFERENCE • TRANSFER • HOLD/PAUSE

| 1 | 2 ABC | 3 DEF |
| 4 GHI | 5 JKL | 6 MNO |
| 7 PRS | 8 TUV | 9 WXY |
| * | 0 OPER | # |

**Other Charges**

General Telephone (GTE)

Rates quoted by Eve Morgan at 1 800 523 3044, Friday, April 15th, 1988.

GTE requires a 3 week notice to install an extended line from your Ultracom to your Library location.

Extended lines cost $7.26 per line per month.
Local lines cost $25.00 per line per month.

Installation charges $8.00 plus hourly rate for actual time. GTE does have a minimum 1 hour billing of $65.00. Additional time billed in 1/2 hour increments.

Finzer Business Products

Rates quoted by Dave Brant April 14th, 1988.

Finzer bills $60.00 an hour. It would be necessary for a vendor other than AT&T to install the extended line on to your Ultracom system. It may also be necessary to order another circuit card for this extension. We were unable to obtain a price quote on this item, nor were we able to confirm that you would need this item. If you do need the circuit card the investment would be the same regardless of which system the Library uses.

## References

City of Vancouver
  Phyllis
210 E. 13th
Vancouver, WA.    98660
206 696 8181

Associated Oregon Counties
  Bill or Liz
1201 Court St. NE
Salem, OR.    97309
503 585 8351

Sherman, Bryant, Sherman & Murch
  Barbara Ashwill
687 Court St. NE
Salem, OR.    97308
503 364 2281

Dr. Jeffrey Brady
  Claire
732 SW 3rd
Portland, OR.    97201
503 228 7545

Sylvia's Restaurant
  Patty
5115 NE Sandy Blvd.
Portland, OR.    97213
503 228 6828

YMCA of Lincoln County
  Kris
1226 NW Grove
Newport, OR.    97365
503 265 3221

2020 S.W. 4th Avenue
Suite 500
Portland, OR 97201

**Optional Paging System**

Paging investment includes purchase of standard AT&T amplifier, 3 indoor speakers, installation,one year warranty and training.

*Paging can be accessed by any telephone.

Total Investment:  $634.40

**Optional Facsimile (fax) Machine**

Fax investment includes purchase of AT&T 3500D fax machine, 1 case of paper (6 rolls), fax telephone, installation and training.

Total Investment:   $2136.10

**Combined Investment**

| | |
|---|---|
| Telephone System | $3962.75 |
| Paging System | $ 634.40 |
| Fax Machine | $2136.10 |

Total Investment     $6733.25

**Combined Finance Option**

36 months at $231.76 per month*
48 months at $189.07 per month*
60 months at $161.94 per month*

*Ownership transfers upon last payment.

**Investment Analysis**

**SPIRIT Communication System**

| | System Equipped For | Maximum Capacity of System** |
|---|---|---|
| Phone lines | 3 | 6 |
| Telephones | 8 | 16 |
| Outlets | 14* | 16 |

*With this configuration AT&T will install all 14 outlets as active, however, only 8 can be used at any given time. If you see the need for using more than 8 outlets at a time, this can be changed.

**Through the exchange of the control box the system can further be expanded to 24 lines and 48 phones. AT&T's systems are part of a product line that can grow and change as your needs do.

Investment includes the purchase of all equipment, installation, one year warranty, and training.

**Total Investment:**   $3962.75

**Finance Options**

   36 months at $140.28 per month*
   48 months at $111.27 per month*
   60 months at $ 95.30 per month*

*Ownership transfers upon last payment.

Post Warranty Maintenance guaranteed at $39.26 per month for 48 months. This agreement would begin the 2nd year.

3   AT&T has set the quality standards in the industry. We spend $1.00 out
of every $10.00 on quality control. Due to the quality and reliability
of our equipment we can offer you a guaranteed maintenance agreement for
up to 5 years at a guaranteed rate. Our AT&T system technicians will
install and maintain your equipment. We have the most highly trained
system technicians with a minimum of 17 years experience in Oregon.
This insures our system will be installed right the first time, and
your people will know how to use it. The SPIRIT system has received
an overall rating of 9 out of a possible score of 10 by Teleconnect
magazine.

4   AT&T's solution not only reflects the immediate needs of the Library, but
also the needs of interfacing with the City. We the employees at AT&T,
also have experience with the line networking, and therefore address all
areas of concern in the investment analysis.

5   AT&T's equipment is part of a product line that can grow and change
as your needs change. Lori Reed has conducted a limited test that the
SPIRIT system and the Ultracom will be able to communicate with each
other through an extended line provided by General Telephone. The
extended line would originate from the existing Ultracom. When the need
arises to change the main system at the City, you will find that the
SPIRIT system is compatible with most other systems that can originate
extended lines. AT&T will be there for you no matter what changes may
occur.

AT&T has been providing service for over 100 years, establishing stability
and consistency that your business can rely on. In addition, because AT&T
personnel design, test and manufacture our own telecommunications equipment,
your investment will continue to benefit your firm well into the future.
Experienced AT&T technicians install your equipment initially and respond
quickly should maintenance needs arise. With an average tenure of 15 years,
you can rely upon the fact that it will "be done right the first time".

We look forward to working with you, and are prepared to begin system
implementation in accordance with your construction plans.

Sincerely,

*Kris Allphin*

Kris Allphin
Account Executive

2020 S.W. 4th Avenue
Suite 500
Portland, OR 97201

April 15, 1988

City of Wilsonville
Attention: Nancy Dillon
P O Box 220
Wilsonville, Oregon    97070

Dear Ms. Dillon;

I would like to thank the City of Wilsonville for the opportunity to submit a
proposal for a new telecommunications system.  We appreciate the help you gave
us in our data gathering phase, and assure you that the needs of your Library
were taken into account throughout the course of our study.  In this summary
we will address your concerns, the benefits of our proposed solution, the
investment, the benefits of doing business with AT&T, and references to
support your decision to use AT&T products.

* CONCERNS AS SPECIFIED IN PROPOSAL CRITERIA

  1  Proven reliability and performance of the telecommunications equipment
     and the company behind the equipment.

  2  Track record of being able to provide necessary service and parts long
     after the system has been installed.

  3  Having high quality equipment that carries a minimum one year warranty
     and installation done efficiently and correctly the first time.

  4  That the investment analysis be complete including reference to General
     Telephone charges and for the vendor to the City's main telephone system.

  5  The protection of your investment through the compatibility of your
     current system, the ability to communicate via the extended line.

* AT&T SOLUTION

  1  AT&T is the fifth largest company in the United states and we have
     committed over 100 years to the telecommunications industry, and it is
     our intent to commit the next 100 years as well.

  2  AT&T systems are designed not to fail.  AT&T has been supporting our
     old plug-in switch boards that were designed in 1927.  It has just been
     recently that we have had to be concern about locating parts to service
     these customers.  Our track record shows that we can maintain your new
     system for approximately 50 years.