

SONY

9/94

Magic Link



Magic Link

PIC-1000

Personal
Intelligent
Communicator

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For Immediate Release

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**SONY LAUNCHES FIRST PERSONAL COMMUNICATOR
BASED ON GENERAL MAGIC SOFTWARE TECHNOLOGIES**

**Magic Link™ Communicator, Incorporating AT&T PersonaLinkSM Services,
Targets Mobile Professionals' Needs**

NEW YORK, September 28, 1994 – Sony Electronics today announced the availability of its Magic Link Personal Intelligent Communicator, making flexible, easy-to-use personal communications and information management a reality for mobile professionals.

The portable, 1.2-pound Magic Link communicator is the first product based upon General Magic's Magic Cap™ platform and Telescript™ technology, and the first to incorporate AT&T PersonaLink Services. The new product offers a combination of intelligent messaging capabilities that integrate e-mail, fax, telephone, online services and nationwide paging with personal information management software.

“The Magic Link communicator illustrates Sony's strength in taking innovative digital technology and personalizing it to meet the needs of the end user,” said Carl Yankowski, president and COO of Sony Electronics Inc. “Working closely with AT&T, General Magic and independent software developers, we're taking an important step forward to improve the way people communicate.”

Sony's long-term strategy for developing the personal communicator category initially focuses on a targeted group of mobile professionals, which will be reached through the company's consumer electronics retailers and business-to-business sales organization.

“The first people to use Magic Link will have significant communication needs and already are optimistic that technology can maximize their productivity,” said Yankowski. “We'll incorporate feedback from these initial users to strategically grow the market for personal communicator products in coming years.”

To quickly act upon customer feedback, Sony has closely integrated its worldwide engineering, marketing and customer service teams for personal communicator products in the United States.

Sony's Magic Link communicator provides mobile professionals with intelligent messaging and personal information management. The product's integrated communications and organizing capabilities include:

- **Intuitive Graphical Interface:** The Magic Cap interface employs a familiar “desktop” metaphor, using icons such as card files, datebooks, telephones, notepads, file cabinets and in/out boxes. “Hallways” with different rooms and “downtown” areas provide access to a variety of additional functions, features and services.

To make messages and notes more entertaining and personal, the Magic Link communicator lets the user add graphics, sounds and animations. Brief audio messages can be included using the built-in microphone and speaker.

- **AT&T PersonaLink Services:** Subscribers can reach and be reached by millions of people on public and private messaging services, including the Internet, X.400-based mail services, and local area network-based mail systems. Subscribers also can send messages to virtually any fax machine in the world. PersonaLink Services offers personalized messaging, free AT&T Personalized Daily News Service and optional automatic software enhancements.
- **Intelligent Messaging:** The Magic Link communicator employs “intelligent agents” that act automatically on the user's behalf. For example, messages can be filtered and forwarded based on sender and subject matter.
- **America Online:** The communicator provides built-in access to the America Online network for e-mail, stock quotes and news headlines.

- **Integrated Fax/Modem:** The communicator is equipped with an integrated 9600 bps G3 send-fax and 2400 bps data communications modem using a standard RJ-11 telephone connector. Users can send messages directly to any fax machine.
- **Convenient Connectivity:** The Magic Link communicator's serial port provides connectivity to accessories, personal computers and other products and services. Built-in infrared capabilities allow the communicator to exchange information with other Magic Cap based devices. The communicator also can be used as an A/V remote control for Sony video and audio products.
- **Software:** The communicator comes with productivity and entertainment software installed in memory, including:
 - Intuit's Pocket Quicken™ financial manager with SmartWallet™;
 - PenCell™ spreadsheet from Penware;
 - SpellFinder from Sony Software; and
 - Klondike and Mindbender games from Driftwood.
- **Wireless Paging:** With the optional Magic Link Pager Card, which is integrated with AT&T PersonaLink Services, wireless messages can be received via the SkyTel® network throughout the U.S. at any time. The PCMCIA pager card receives messages even if it is not in the Magic Link communicator. Mail messages received through AT&T PersonaLink Services also can be forwarded wirelessly to the pager card.
- **Integrated Information Management:** The communicator's advanced intelligent communications capabilities are made more powerful through integrated personal information management features that include:
 - An **electronic name card file**, with new and updated information added automatically when messages are received;
 - **"Smart stationery"** for creating and sending handwritten or typed messages;
 - An **electronic datebook** for recording meetings and tasks;
 - A **notepad** for taking freehand or typewritten notes; and
 - A **file cabinet** for classifying and storing messages, notes and other information.
- **Optional Accessories:** In addition to the pager card, other accessory products include:
 - Telephone Headset
 - Software and Connectivity Kits
 - Rechargeable Lithium Ion Battery
 - Magic Link Memory Card
 - Portable Keyboard
 - Deluxe Carrying Case

Battery life permits up to 10 to 12 hours of continuous use with Sony's optional rechargeable NP-500H Lithium Ion battery, which has no memory effects and can be recharged at any time within the Magic Link communicator by using the supplied AC adapter/recharger. The communicator also can be powered by six AAA batteries for up to three hours.

Sony's Magic Link personal intelligent communicator carries a suggested retail price of \$995.

Customer service and product information are available seven days a week by calling Sony at 1-800-55-MAGIC. Service and support also are available to PC and Macintosh™ users through Sony's Magic Link forum on America Online.

Third-party companies developing applications to run on the Magic Link communicator and other Magic Cap-based products include: Advanced Resources, aha! Software, America Online, CompuServe, Driftwood Systems, eShop, Ex Machina, GDT Softworks, IntelliLink, Intuit, Mead Data Central, Med-E-Systems, News Electronic Data, Oracle, PenWare, River Run Software Group, SkyTel, Software Partners, Sony Software and Streetlight Software.

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PIC-1000

MAGIC LINK™ PERSONAL INTELLIGENT COMMUNICATOR

Introducing the Magic Link™ Communicator, a revolutionary product that facilitates personal and business communication, customized storage and retrieval of information, scheduling and shopping.

- USES MAGIC CAP™ COMMUNICATING APPLICATIONS PLATFORM AND TELESRIPT™ TECHNOLOGY
- FACILITATES VARIOUS MODES OF COMMUNICATION INCLUDING PHONE, E-MAIL, FAX, PAGER AND INFRARED. SUPPORTS AT&T PERSONALINK™ AND AMERICA ONLINE™ SERVICES
- INCLUDES POCKET QUICKEN™, PENCELL® SPREADSHEET, SPELL FINDER, DATEBOOK, NOTEBOOK, CALCULATOR, FILE CABINET, MINDBENDER, KLONDIKE SOLITAIRE CARD GAMES AND SONY A/V REMOTE COMMANDER®
- PROVIDES TOTAL CUSTOMABILITY OF MESSAGES, EXTENSIBLE SOFTWARE CAPABILITIES
- PROVIDES BATTERY-OPERATED PORTABILITY, COMPACT DESIGN AND LCD TOUCH SCREEN
- ALLOWS FOR IMMEDIATE ENACTMENT OF IDEAS, DRAWINGS, COMMUNICATIONS AND CONFIRMATIONS

 Magic Link



PIC-1000

Magic Link PIC-1000 is a personal intelligent communicator, a new concept in electronics, which integrates the most useful features of personal computers, telephones and pagers in a handheld, portable unit. It simplifies and speeds numerous every day tasks: communicating, scheduling, organizing and coordinating. Its lightweight size and durable construction allow it to travel, opening the boundaries of services such as e-mail, online, faxing and notifying.

The Magic Link Communicator provides an ever present reference guide, note-taker and reminder. It is totally customizable, designed to be extensible for services from independent software companies.

Magic Cap™ Communicating Applications Platform and Telescript™ technology, Magic Link communicator represents a leap forward in the use of technology to enhance lifestyle.

FEATURES

- **MAGIC CAP™:** a rich communication platform that is object-oriented, extensible, multitasking, designed to accommodate various communication transport modes
- **TELESCRIPT TECHNOLOGY™:** the emerging standard for communication, makes it possible for vendors to offer information services, transaction services and other applications
- **ROM INSTALLED SOFTWARE** includes Pocket Quicken, PenCell Spreadsheet, Spell Finder, MindBender and Klondike Solitaire card games
- **AT&T PERSONALINK READY**
- **AMERICA ONLINE READY**
- **FILM-RESISTIVE LCD TOUCH SCREEN** supporting both fingertip and stylus input, supplied.
- **VIRTUAL QWERTY STYLE KEYBOARD**
- **INTEGRATED FAX/DATA MODEM**
- **INFRARED PORT**, passive serial signaling support.
- **DTMF PHONE DIALING** directly on telephone
- **BUILT-IN MICROPHONE** for recording voice and music
- **BUILT-IN SPEAKER**
- **ADPCM AUDIO PLAYBACK SUPPORT** to allow other devices to exchange sound files.
- **SMART CONNECTOR** supports for optional peripherals such as keyboards, telephone headset and printers.
- **PCMCIA TYPE II CARD SLOT** to support additional applications and memory
- **PASSWORD PROTECTION:** a security feature which allows locking of access to your device

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- **HARDWARE SECURITY:** a unique identification feature for theft deterrence and device/owner authentication
- **SUPPORTS BOTH ALKALINE AND RECHARGEABLE BATTERY TYPES**
- **LITHIUM BATTERY BACKUP**

SPECIFICATIONS

CPU: Processor: Motorola 68349

Clock Frequency: 16MHz

MEMORY: System RAM: 512Kbytes DRAM for Data Storage, Battery backed-up
512Kbytes DRAM for Work Space, no back up
Main ROM: 4Mbytes

LCD: 480 x 320 Pixels

4 shades of gray, reflective FSTN type

Touch Screen Supports both Finger and Stylus, Film resistive

MODEM: 2400bps data full duplex

9600bps FAX send

AUDIO: Internal Monaural Speaker

Internal Microphone

OUTPUTS: Phone Line: 2 pin Phone Line connector

Serial Port: 14 pin Serial Data and Power Supply Connector

Memory Card Slot: PCMCIA Type II slot. 1 slot. 5V. Memory and I/O

Infrared Communication: Data Mode: 38.4k bps half-duplex

Exchange any Magic Cap object

Consumer Remote Mode: Send commands to Sony AV equipment

INPUT: DC-in 12V

POWER REQUIREMENTS/DC: "AAA" x 6 Batteries (included)

NP-500 Lithium Ion Rechargeable Battery (optional)

POWER REQUIREMENTS/AC: 120V AC, 60Hz, from supplied AC Adapter

BATTERY LIFE: Up to 10 hrs (depending on conditions)

DIMENSIONS (WHD): 193 x 132.5 x 24mm

7.5" x 5.2" x 1"

WEIGHT: Approx 1.2 lbs (550g)

ROM INSTALLED SOFTWARE: MAGIC CAP 1.0

AT&T Personalink™ ready*

American Online™ ready*

Pocket Quicken™ with Smart Wallet™

PenCell™ Spreadsheet

Spell Finder

Klondike Solitaire Card Game

Remote A/V Commander

MindBender

SUPPLIED ACCESSORIES: AC Adapter/Battery Charger

"AAA" Batteries x 6

"AAA" Battery Holder

Back-up Lithium Battery

Stylus

Phone Cable

Soft Carrying Case

OPTIONAL ACCESSORIES: NP-500 Rechargeable Battery

Magic Link Pager Card

Magic Link Memory Card

Mac Connectivity Pack

Windows Connectivity Pack

Magic Link Keyboard

Magic Link Headset

Deluxe Carrying Case

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*These services will require payment of additional fees to respective service providers.

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**Sony Magic Link™ PIC-1000
Personal Intelligent Communicator
ROM Applications**

Sony and General Magic are working with a select set of developers to provide world-class applications that meet the needs of mobile professionals. These applications and services were chosen because they are well suited for communications and capturing information on the go.

Users of the Magic Link product can communicate directly from within each of these applications by attaching spreadsheets to messages, faxing expense reports, or checking the spelling on an e-mail message before it is sent.

AT&T PersonaLinkSM Services

AT&T PersonaLink Services is a new network service that will be the foundation for an electronic community where people will exchange messages, meet, shop, work and play. AT&T PersonaLink Services is the first commercial service that enables subscribers to perform many routine communications activities with the help of electronic "intelligent assistants." Intelligent assistants are mobile programs that go to places in the network and do their owners' bidding.

America Online

America Online provides a customized edition of its popular service for the Magic Link communicator. Subscribers have access to affordable, easy-to-use services, including e-mail, top news and stock quotes. Subscribers can locate the current services through the America Online building in the Downtown area on their Magic Link communicators.

Pocket Quicken SmartWallet™ from Intuit

Pocket Quicken SmartWallet, created specifically for today's busy professionals, enables customers to easily track their business and personal expenditures and keep an account of their daily cash-flow while on the go. Designed from the ground up for Magic Cap-based personal communicators, Pocket Quicken provides core checking, credit card and cash account tracking capabilities. Pocket Quicken data can be merged easily with the best-selling Quicken personal finance software via a separate connectivity package.

PenCell® from PenWare

PenCell for Magic Cap™ is a full-featured spreadsheet package designed specifically for mobile use. It allows customers to gather, edit and analyze information directly on their Magic Link communicators to create expense reports, record sales figures, update forecasts, calculate loan payments and chart data. PenCell ships with a number of templates and can import and export common spreadsheet formats, including Excel®, Lotus® 1-2-3 and PenCell for other platforms. Magic Link personal communicator users can easily send, receive, print, fax, or exchange spreadsheets and charts with desktop systems or other Magic Cap-based communicators, or even enclose this information in notes, memos and telecards.

SpellFinder from Sony Software

Sony Software's spell-checker allows users to check the spelling of all type-written materials to ensure accuracy. It also lets users to build a glossary of commonly used words and formal names.

Klondike and Mindbender from Driftwood Systems

Klondike is similar to the popular solitaire games found on many personal computers. Mindbender offers a different approach to recreation, challenging users to guess the pattern of pegs in boxes.

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PIC-2

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**Sony Magic Link™
Personal Intelligent Communicator
Optional Accessories**

Sony offers a number of optional accessories to enhance or expand the Magic Link communicator's functionality. These include:

Wireless Messaging

Using the optional Magic Link Pager Card, which fits in the unit's PCMCIA Type II slot, users can receive full alpha-numeric wireless SkyTel® messages throughout the United States at any time. These messages are fully integrated with Magic Cap's in/out metaphor for seamless message integration. Additionally, all messages appear in the in-box and numeric messages are automatically cross-referenced against the Magic Link communicator's electronic name card file. (Suggested retail price: \$249.95)

Rechargeable Lithium Ion Battery

Battery life permits up to 10 to 12 hours of continuous use with Sony's optional rechargeable NP-500H Lithium Ion battery, which has no memory effects and can be recharged at any time within the unit by using the supplied AC adapter/recharger. (Suggested retail price: \$69.95)

Telephone Headset

The Magic Link personal communicator also functions as a standard telephone when used with the optional telephone headset. The Magic Link communicator can log all outgoing phone calls by time, date and person called. (Suggested retail price: \$79.95)

Magic Link Memory Card

An optional 1 Megabyte PCMCIA Type II SRAM card is available to increase the memory capacity of the product beyond its 1 MB of on-board addressable RAM. (Suggested retail price: \$219.95)

Keyboard

For lengthy data entry, an optional full-size keyboard is available. (Suggested retail price: \$129.95)

Carrying Case

Made of durable, fine quality leather, this carrying case with a retractable handle and padded nylon interior compartments will safely transport the Magic Link communicator. (Suggested retail price: \$79.95)

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Magic Cap™-based communicator available

New York, NY, September 28, 1994 — General Magic, Inc. today announced that the first communicator based on the *Magic Cap*™ platform has been shipped and is now commercially available. Sony's *Magic Link*™ communicator, unveiled today in New York, offers customers a total integrated solution for communication in one compact device and is the first commercially available product to utilize the Magic Cap software environment, a platform for communicating applications developed by General Magic.

The Magic Cap environment includes everything people need to interact through today's popular modes of communication: fax, public electronic mail services, paging, and telephones. In addition, Magic Cap software incorporates General Magic's *Telescript*™, the emerging standard for agent-based communication, and the Telescript-based AT&T *PersonaLink*™ Services, whose availability was announced today by AT&T.

Telescript technology allows users to launch their electronic surrogates, called agents, into the world of electronic services. Currently agents can perform tasks such as screening, routing, and delivering electronic correspondence, and they will be able to shop for goods and services and seek out time-critical information. AT&T *PersonaLink* Services supports smart messaging and rich content, including text, digital ink, sound, and animations and soon will host a variety of service providers, from personal newspapers to travel services to electronic shopping. Users of Sony's *Magic Link* communicator will be the first to take advantage of this new class of services.

Integrated with its core communication capabilities, Magic Cap software includes features to help manage personal information: address cards that automatically get updated as the sender's information changes, a calendar that issues invitations to meetings, and a notebook that supports free-form and structured notes. Magic Cap's interface represents real-world objects on a screen, guiding people through its expandable range of capabilities.

415 965 0400
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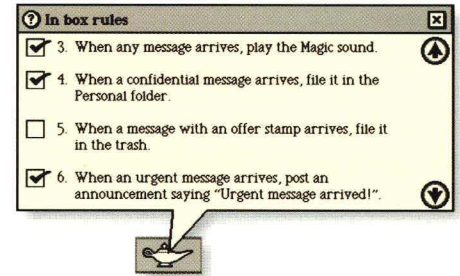
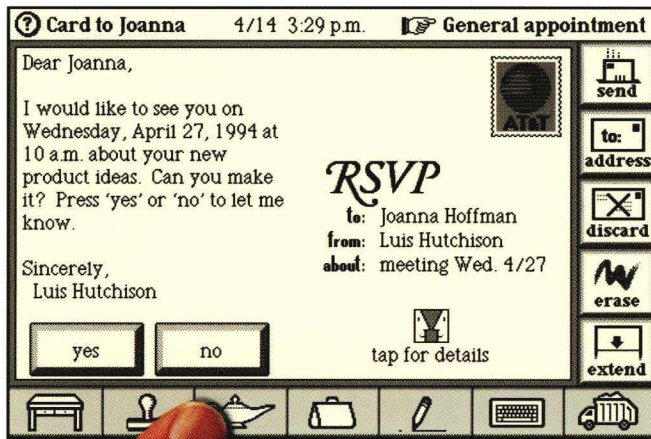
The Magic Cap platform affords independent developers an opportunity to create a new class of communicating applications and services. Its extensible user interface, object-oriented architecture, built-in Telescript technology, and powerful communication building blocks enable creative developers to enhance Magic Cap. Developers' applications include functionality ranging from personal finance to personal newspapers to smart messaging and electronic shopping. Seventeen Magic Cap developers demonstrated products today, all of which are available or will be shipping within the next six months. The Magic Link communicator, AT&T PersonaLink Services, and the Magic Cap developers' products will initially be available in the United States.

"The Magic Link communicator and AT&T PersonaLink Services embody the vision of the General Magic Alliance to provide a new world of devices, networks, and services," said Marc Porat, General Magic's Chairman and Chief Executive Officer. "Today's announcements represent the beginning of the age of personal intelligent communications."

General Magic was founded in May 1990. Its mission is to create personal intelligent communication products and services by developing and licensing technology to equipment manufacturers, network and information service providers, and software and entertainment companies. General Magic has teamed with standard-setters in the entertainment, information, and communications fields to ensure that its technologies reach the widest possible audience.

Magic Cap

Communicating Applications Platform



Rules are one of the true helpers that Magic Cap technology provides. Rules automate tasks such as filing, organizing messages, and sounding alarms. Rules are a simple way for users to customize their mailboxes.

Magic Cap technology lets you communicate in several ways, including electronic messaging. You can exchange messages containing typewritten text, digital ink, stamps, animated images, MIDI song files, Telescript agents, and voice recordings.

Magic Cap Means Communication

Magic Cap™ is software from General Magic that's designed to help you keep in touch by integrating electronic mail, fax, telephone, paging, infrared beaming, and other ways of communicating. Magic Cap is built into personal communicators manufactured by the world's leading consumer electronics and communication companies. There's also a version of Magic Cap that runs on most personal computers.

The Telescript Future Is Built In

Magic Cap comes with the future already built in. Telescript™, a General Magic technology that's an emerging standard for communication, is part of Magic Cap. Telescript makes it possible for vendors to offer information services, electronic shopping, travel planning, community services, and other applications. Telescript makes it easy for users to personalize services by using *smart agents* that represent their wants and preferences in the electronic marketplace. AT&T's new PersonaLink Services is based on Telescript, and every Magic Cap owner can become a member of the PersonaLink network right away.

Use It on the Road, at the Office, and at Home

Magic Cap is available in personal communicators and on personal computers, so users can take advantage of Magic Cap whether they're mobile or at their desk. While Magic Cap was designed to appeal to everyone, computer users especially appreciate the communication capabilities of Magic Cap. Magic Cap synchronizes information in personal communicators with computers and reconciles appointments, addresses, and other data. Magic Cap can import from and export to many Windows and Macintosh applications.

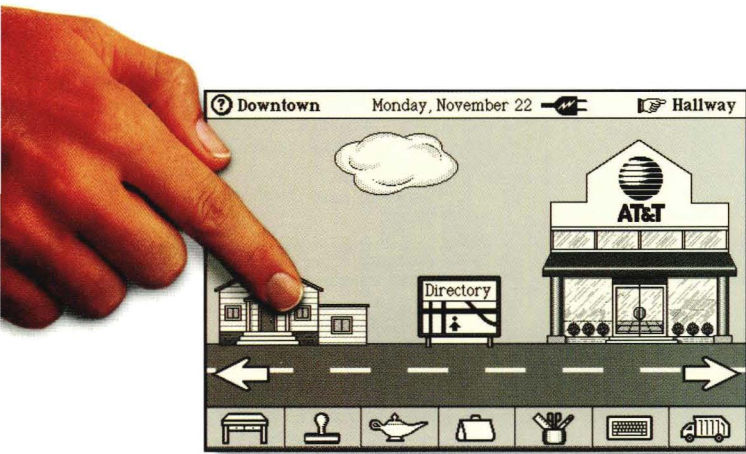
Designed To Be Extended

Magic Cap's integrated software packages make it perfect for many diverse jobs. In addition to its built-in packages, Magic Cap's features can be extended and enhanced by independent vendors. It's a rich communication platform designed to accommodate software packages that are centered around communication and information retrieval.



User Interface

The Magic Cap interface is based on the familiar world. The three principal scenes are the Desk, the Hallway, and Downtown. The Desk contains packages that are central to communications, such as stationery and tools to create messages, a Phone for making calls, and tools to manage information. The Hallway contains rooms that might be found in many homes, such as a Store Room and a Game Room. Downtown provides an intuitive approach to subscribing to and accessing services, products, and organizations in the electronic marketplace.



- *The interface resembles the physical world*, and packages look like the tools they represent, in settings where they are normally found.
- *Tap-and-go*. Users access packages and information by tapping with a finger or stylus. The interface gracefully and simply leads users through even the most powerful features, so they don't have to remember commands or gestures.
- *Extensible*. Users can add an unlimited number of new packages or services—including Telescript-enabled communicating applications—as they become available from independent software developers.

Downtown Packages

Downtown is the scene in Magic Cap technology where users can access services such as shopping, information, travel agencies, restaurant guides, maps, and more. Users can purchase or subscribe to services that appear as buildings Downtown. Enter the buildings to engage the services, or simply to browse the offerings displayed there. It is easy to add new services. Each user's Downtown will look different, depending on the services he or she chooses to become a member of. This is a sample of some of the packages available Downtown at the first release. Many more are in development and will be available separately.

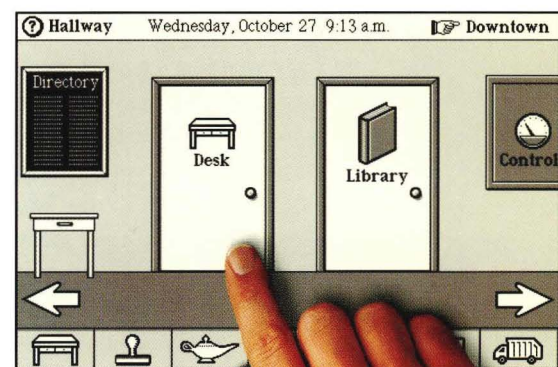
- *Directory* provides an alphabetically sorted list of buildings on Downtown for instant access.
- *AT&T Pavilion*. Users enter to correspond with AT&T and to customize their mailbox on the network. It also provides forms for communicating with AT&T and displays the number of messages sent and received.
- *House* contains the other scenes in the Magic Cap interface—the Hallway and the Desk.

Hallway Packages

In the Hallway scene, users find rooms that contain packages that manage data, provide tips for using advanced features, and help them set some of the basic features of the communicator. Developers can provide additional packages that belong in the Hallway. Some of those packages may include books for the Library and games for the Game Room. Each user's Hallway will reflect his or her individual interests and needs.

- *Library* provides a location for storing and accessing information about the Magic Cap communicator and for adding other informational packages in the form of Books. The Books included with Magic Cap communicators are Getting Started, Basics, Writing, Sending, Secrets, and Word Lists.
- *Store Room*. Find information here about memory used by the various packages and data entered in Magic Cap communicators. Users can also back up and restore individual packages or all data to PCMCIA memory cards. Or they can back up to a PC or Macintosh with optional link products.

- *Game Room* provides a location for accessing entertainment packages.
- *Control Panel*. Here users can customize elements of the interface, calibrate the touch screen, check battery power, set automatic power savings features, and create passwords and signatures for security.
- *Directory* provides a list of rooms in the Hallway for instant access.
- *Padlocks*. All data in rooms can be secured by placing locks on Hallway doors that can be opened only with a combination number or password.



Desk Packages

Magic Cap personal intelligent communicators come with many features that help users with personal and business communication, scheduling, and organizing information. All packages look like the familiar tools they represent and can be accessed with a tap of a finger or stylus.

Clock

The Magic Cap Clock provides the time and date, which is useful for quick reference, and it is fully integrated with other packages for accuracy in keeping logs, schedules, and so on.

- *12- or 24-hour clock* provides accurate time.
- *Analog and digital* clock formats are available.
- *View local and world time* in four cities.
- *Customize clock placement* or show the date or time at the top of the screen.

Name Card File

A Name Card File helps users remember information concerning people and organizations. Magic Cap software is designed to reduce data entry, so users can spend their time using the file as a reference, not maintaining its information. The Name Card File is highly integrated with all other packages.

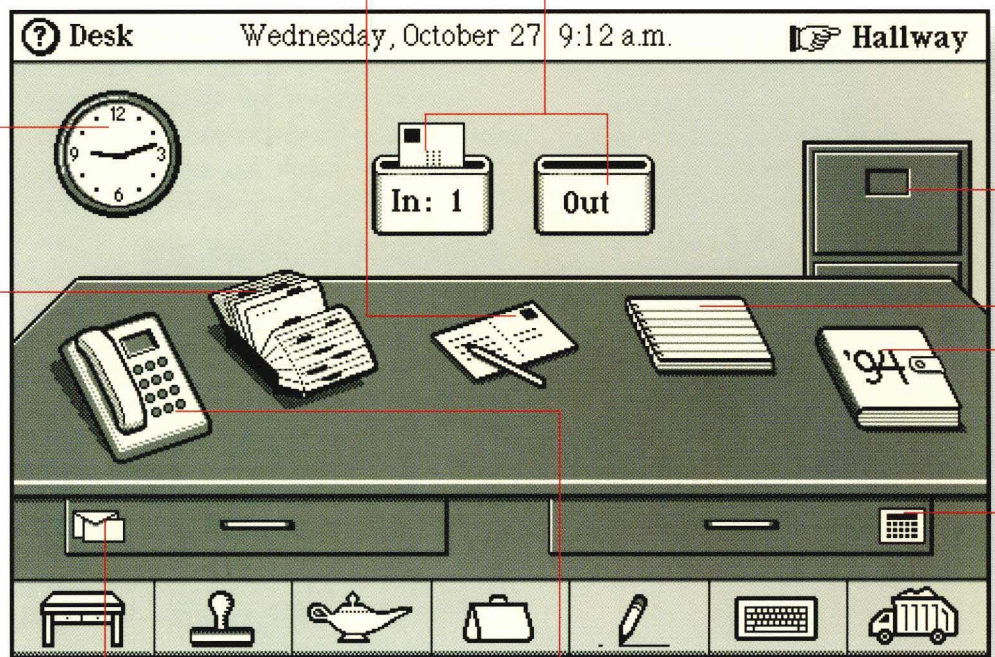
- *Expandable, customizable Name Cards* keep track of people and organizations and any combination of work and home addresses and phone numbers, any number of cellular phone or pager numbers, e-mail addresses, and so on.
- *Auto Entry.* Address information about the senders of electronic messages can be automatically entered or updated in the recipient's Name Card File, so it can always contain current address information. This includes messages arriving via the AT&T PersonalLink Services, or from America Online, AT&T Mail, CompuServe, Internet, MCI Mail, Prodigy, RadioMail, and X.400.
- *Graphics and text, digital ink, or stamps* can be added to Name Cards.
- *Group addresses.* Name Cards can be sorted into groups, including associates in the same company, project teams, and groups of similar subject or interest. Users can send messages to everyone in the selected group, via different, appropriate delivery choices.
- *Logs.* Information about all communication is automatically logged, including subject and name. Users can add notes and view all logs in one place.
- *Dial phone numbers* automatically from Name Cards.

Messaging

- *Electronic messaging.* Magic Cap communicators make electronic messaging simple. Messages can include typewritten and handwritten text, graphics, animations, songs, and voice recordings. They can be sent via the AT&T PersonalLink Services to other messaging services, including America Online, AT&T Mail, CompuServe, Internet, MCI Mail, Prodigy, RadioMail, SkyTel, and X.400.
- *Flexible addressing.* Messages may be sent to any number of electronic mail services, by fax, pager, or beamed via infrared. A single message might be addressed to different users, all with different services.

In and Out Boxes

- *Smart In and Out Boxes.* Incoming messages appear in the In Box; outgoing communications are held in the Out Box until sent.
- *In and Out Box Rules* help automate messaging tasks, such as automatic filing based on content, a graphic, or author.



Messaging Forms

- *Five electronic mail forms* appropriate for business, personal, and other uses are included. The basic form looks like a postcard, with areas for a message, address label, and stamps that indicate how the message will be sent (such as by fax, e-mail, pager, and so on). Other forms include Quick Postcard, Urgent Postcard, Business Letter, and Plain Letter. New stationery may easily be created and added.
- *Smart stamps* can perform functions, such as addressing electronic mail messages and sorting lists.

Telephone

Magic Cap technology provides features to control a telephone line plugged into a Magic Cap communicator. It is highly integrated with all other packages.

- *Telephone interface* allows users to manually dial phone numbers.
- *Speed dial.* Users can set speed-dial buttons for frequently used numbers.
- *Setting locations* for work, home, hotel, and so on, automatically determines which area codes to dial and whether a dial-out prefix is required.
- *Credit card billing.* Bill calls to several different credit cards.
- *Phone logs* automatically create records for all recipients, the time and duration of calls, and can include the user's notes.

File Cabinet

The File Cabinet is closely integrated with all other packages to ensure that messages and notes are organized and easy to find.

- *Drawers and folders* are available to organize messages or notebook pages. Users can define new file drawers and folders, and view folder contents as lists.
- *Automated message filing* places incoming messages directly in the proper folders and sorts them by content, sender, or form.

Datebook

The Magic Cap Datebook offers a flexible way to schedule a busy person's calendar. And, like many packages on the Magic Cap platform, the Datebook is highly integrated with other packages and includes the ability to create and receive messages, such as requests for meetings.

- *Auto-invite message.* Enter meetings in the Datebook, and an invitation can be automatically composed and sent to the attendees listed. Recipients can accept or decline the invitation. If accepted, the meeting is automatically entered in the attendees' Datebooks and a confirmation is automatically sent, simplifying organizing appointments. Invitations can also be faxed.
- *Flexible calendar viewing.* View schedules by year, month, week, or in 12- or 24-hour days. Year view shows all months and days. Month view shows holidays, birthdays, meetings, and multiday appointments.
- *Graphical appointment change.* Users can change the start time, end time, and duration of appointments by dragging the graphical timeline.
- *Note attachments.* Text or ink notes can be included for each appointment.

Calculator

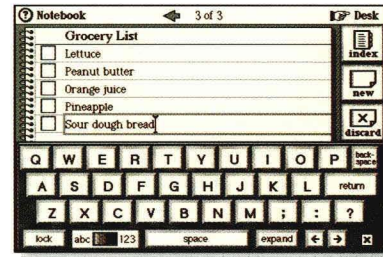
The Calculator is available for all kinds of computations.

- *Multifunction calculator* supports square roots, powers, and percentages.
- *Tip calculation.* Easily determine amounts of tips by percent for restaurants, taxis, hotels, and so on.
- *Scientific functions* include radian, degree, arc, sine, tangent, cosine, π , log, and inverse.
- *Paper tape* displays all calculations in list view as if on a paper printout so users can check their work.

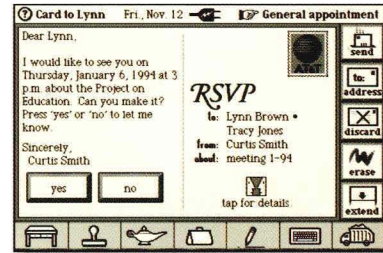
Notebook

The Notebook provides a place to jot ideas, maps, shopping lists, diagrams, and so on. It is tightly integrated with other packages and communication features. Pages may be attached to messages, faxed, beamed, or printed.

- *Several input methods.* Use electronic ink, stamps, animated images, sounds, and drawing tools in any combination to accurately express ideas and emotions.
- *Six stationery types* are: plain, lined, graph paper, basic list, checklist, and two-column list.
- *Index* allows users to view several notebook pages at once in a reduced view.
- *Titles* may be given to pages for accurate organization and quick reference.



Users can enter information into the Notebook or any other package with the projected Keyboard. Pages might consist of project to-dos, lists, maps, or doodles.



Use the auto-invite feature that sends invitations directly from the Datebook to save time when arranging meetings.



Button Bar

- *Desk* button returns the user to the Desk scene from anywhere in the Magic Cap user interface.
- *Stamps.* The stamp collection includes dozens of both decorative and functional images. Decorative stamps include clip art, animated images, or songs. Functional stamps can be used for specifying message destinations, special mail-handling requirements, groups, and many other communication functions. Accessible from anywhere, the selection of stamps varies depending on the context.
- *Lamp* provides global commands that are accessible anywhere in Magic Cap software. There are commands for direct faxing, printing, filing, e-mailing, erasing changes, and more. With the Find feature, search for and locate text and stamps throughout Magic Cap software. For example, users can find all appointments

scheduled with a particular person. Rules help users customize the Magic Cap environment and automate many routine tasks.

- *Tote Bag.* Move objects from scene to scene by dropping them in the Tote Bag. Store frequently used objects such as logos, favorite sounds, text, or objects.
- *Tool Holder* provides access to drawing tools such as different pencils or crayons; text label fields; shapes like stars, boxes, and circles; and line tools of various widths and angles.
- *Keyboard.* Enter text on an onscreen keyboard. The Keyboard has settings for alpha characters and numbers. It associates addresses with cities, states, and zip codes, and automatically sets upper- and lowercase or numbers.
- *Trash Truck.* Drop items here to throw them away.

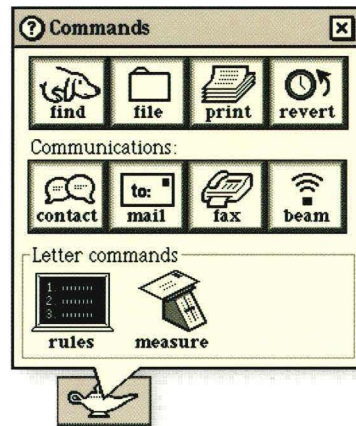
Communication Features

Automatically create, address, and send many types of messages from anywhere in the Magic Cap user interface.

- *Electronic messaging.* Registration forms for the Telescript-enabled AT&T PersonaLink Services are integrated into Magic Cap technology. Other e-mail services may be offered by individual Magic Cap communicator manufacturers. Services provide gateways through which users can reach millions of members of other popular e-mail services, such as **America Online, AT&T Mail, CompuServe, Internet, MCI Mail, Prodigy, RadioMail, SkyTel, and X.400.**
- *Direct fax send.* Messages can be sent directly to Group III facsimile machines.
- *Paging support.* Users can send alpha-numeric messages to pagers when they subscribe to a messaging service. The PersonaLink Services supports SkyTel paging.
- *Telephone speed dialer.* Automatically make telephone calls using information listed in the Name Card File.
- *Infrared.* Exchange messages such as business cards and to-do lists at a maximum distance of three meters.
- *Accessories.* Communicate with computers and accessories using the Magicbus connector. Daisy-chain up to six devices, including keyboards and printers. Add and remove peripherals without powering off.

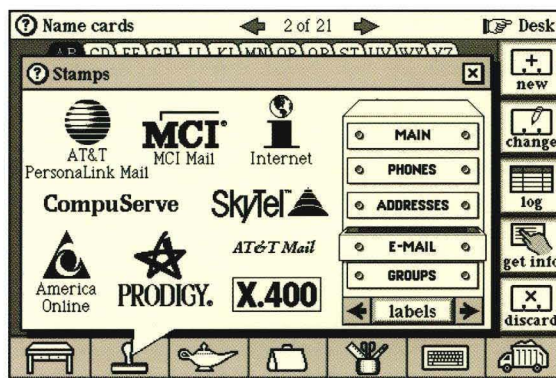
Telescript Technology Is Inside

- *Telescript engine* is integrated into Magic Cap software. The platform is ready to take advantage of all the benefits of Telescript-enabled communicating applications that will be provided by independent software developers and service providers.
- *Telescript-enabled smart messaging* is available as part of the AT&T PersonaLink Services. Members can send deferred faxes and alpha-numeric pages, and they can exchange electronic messages with each other and with users of **America Online, AT&T Mail, CompuServe, Internet, MCI Mail, Prodigy, RadioMail, SkyTel, and X.400.**



Users can issue commands with the push of a button. Some commands include finding, filing, or printing text or images; or reverting changes back to their previous status. Communication commands let users communicate by telephone, electronic mail, fax, or infrared.

- *Smart Stationery* can include Telescript agents that complete tasks on behalf of the sender and/or recipient. Tasks can include updating calendars, generating and sending RSVPs, and other useful functions.
- *Smart Envelopes.* The addresses on Telescript-enabled messages can contain agents that perform functions. For example, a single message can reach several different fax machines, pagers, electronic mail addresses, and so on. Or a message can forward itself to another communication medium if it remains unread after a predetermined amount of time.
- *Smart Mailboxes* in the PersonaLink network control users' messaging activities by providing agents that handle incoming and outgoing messages. Smart mailboxes can be customized to automatically forward, copy, and even delete messages.



You can reach many of the most popular online services with Magic Cap personal intelligent communicators.

Other Features

User Levels

- *Getting Started.* The tutorial contains lessons that guide new users through the Magic Cap user interface and built-in packages. Getting Started walks them through the necessary start-up functions, such as setting the time, registering for messaging services, and personalizing Magic Cap software. It exposes users to all aspects of the user interface, and to special functions such as rules and stamps, so users learn by doing, not just watching.
- *Help* informs users about the scene or package they are in and offers suggestions.
- *Option Key* provides access to shortcuts and advanced features.

Assisted Data Input

- *Auto Completion.* Typed-in information is automatically stored in a word list, ready to appear automatically when users type the first few letters in similar fields.
- *Autocaps.* The Keyboard monitors information as it is entered and automatically capitalizes words in context. It also recognizes addresses or phone numbers and switches to a numeric keyboard when numbers should be entered.

Audio Support

- *Sound Playback* can be used in voice messages or for alarms, songs, and so on.
- *Sound Record.* Record voice or any sounds with the built-in microphone. These sounds may be attached to messages or used as reminders.

Security

- *Password* asks users to type in a security password at predetermined times, for example, at power up or every hour.
- *Padlocks* lock doors in the Hallway to permit access only to users who have the proper combination. Protects users from unwanted copying, viewing, or deleting of the contents of a room.
- *Hardware Serial Number.* In case of loss or theft, unit-specific serial number information allows messaging services to discontinue support.
- *Messaging Security.* The AT&T PersonalLink Services encrypts account information and passwords.

System Software

- *Platform.* The Magic Cap platform is object-oriented, preemptive, and multitasking. It is designed to run on compact, portable personal communicators. It can also run on desktop PCs.
- *Server Architecture.* Magic Cap technology is designed to accommodate various communication transport modes. The server architecture allows existing application packages to take advantage of additional means of communication without having to be rewritten.

Package Characteristics

- *Interpackage Communication.* Packages have the ability to update themselves automatically when related information located in other packages changes. Packages work together intelligently and automatically to share information when needed.

Customization

- *Interface.* The look or placement of objects in the user interface is fully customizable.
- *Packages* are fully customizable, and users can specify rules such as "Delete all appointments more than a month old," "Make log entry for each phone call," and so on.
- *Messages* can be automatically managed by Magic Cap packages, for example to file or forward messages, signal important incoming messages, and so on.

Hardware

General Magic licenses Magic Cap technology to the hardware manufacturers that build Magic Cap communicators. All Magic Cap communicators will have the features listed here; some will have more.

Microprocessor and Memory

- *CPU.* Motorola Dragon Processor (3.3V, highly integrated processor with DMA, serial controllers, 4K cache)
- *System RAM:* 1 MB minimum
- *System ROM:* 3 MB minimum

LCD and Touch Screen

- *Display area:* 4.6" x 3"
- *Display resolution:* 480 dpi x 320 dpi

- *Levels of gray:* four (black, white, light gray, dark gray)
- *Touch screen:* resistive type. Supports both stylus and finger input.

Power Management

- *Battery types.* Supports both alkaline and rechargeable battery types for main power (actual battery chemistry varies by licensee). Also supports lithium battery type for persistent memory during power off or sleep mode.
- *Battery life* varies by licensee.
- *Battery gauges* help users monitor main battery and backup battery. Optional SRAM PCMCIA cards with a backup cell notifies the user when it is low.

Communication and Input/Output

- *Infrared port* transmits data such as Name Cards, messages, and notebook pages at 36 KB/sec between Magic Cap communicators. Can control audio/video equipment such as televisions and stereos.
- *RS-232C Magicbus support* for passive serial signaling.
- *Expansion card slot* supports up to two PCMCIA Type II, 5-volt cards, SRAM, Mask, OTP, I/O, and Flash memory cards. Cards must include the Magic Cap CIS and drivers for compatibility.
- *DTMF phone dialing* on speaker, or directly on telephone.
- *Integrated fax/data modem* with 2400 baud data exchange and 9600 baud fax send.
- *Audio input.* Built-in microphone for recording voice and music.
- *Audio output.* Built-in speaker.
- *MIDI music playback* supported.
- *ADPCM audio playback* supported to allow other devices to exchange sound files.
- *Magicbus smart peripheral port* supports optional peripherals such as keyboards, telephone docks, scanners, and printers. Can daisy-chain up to six devices. Supports auto-configuring, hot plugging, and hot removal. 14.5 MHz maximum bus frequency.
- *Hardware security.* 48-bit read-only circuitry implements a unique device identification feature for theft deterrence, simplified registration, and device/owner authentication.



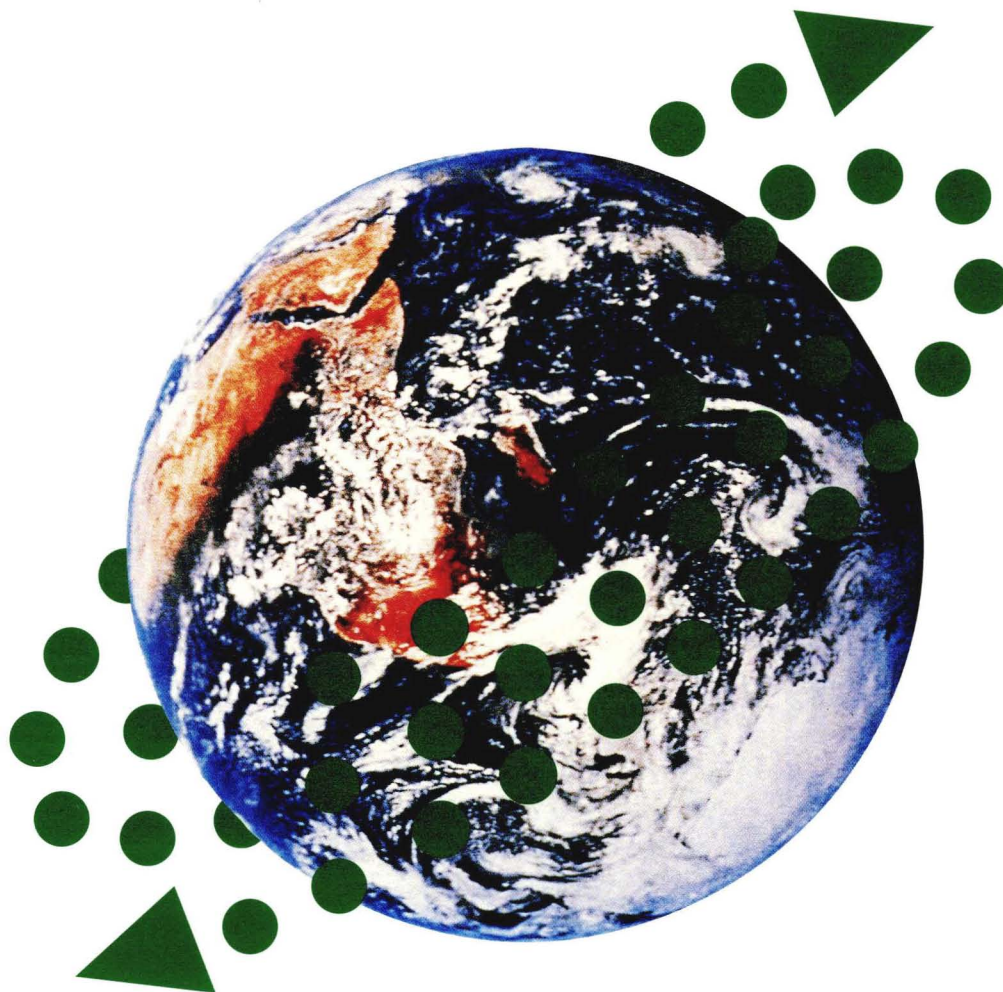
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Part. No. GM-M-MCBRO1293-V1

The world of Telescript technology

Adventures in the electronic marketplace



Telescript technology: taking online services to the next generation



Today's online services

At first glance, today's online service market appears healthy and poised for strong growth. It is expected that the number of online service subscribers will reach 5.5 million by the end of 1994, compared with 2.5 million at the end of 1991.

Yet, after ten years, this represents only five percent of the potential market. These services are not only limited in functionality, but they also require users to learn a great deal before they can make good use of them. This is not unusual for technology that is in its infancy, like the first and second generations of electronic communications.

Telescript technology, a personal technology

Telescript™ from General Magic, Inc., is a breakthrough communication technology that will alter the kind, the number, and the scope of electronic services that are available to users. Because Telescript-based services are easy to customize according to users' preferences, a new class of customer will be attracted to electronic services—customers who simply would never consider using what exists today.

Telescript technology leapfrogs current technologies and gives vendors and users a new level

of flexibility. There is no limit to the types of communicating applications that can be built with Telescript software. Its open-endedness is its most important feature, since there is no limit to people's creativity. The ways in which customers want to communicate, shop, and socialize are as different as people themselves.

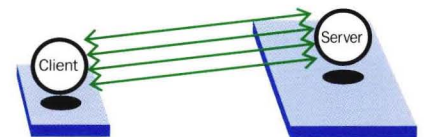
The architectural advantages: the network as a platform

Telescript technology is an implementation of a programming language that is specifically designed for communication and communicating applications. It enables features

Remote procedure calling

The current model of communication employed by most online services and networked computers is based on remote procedure calling. Remote procedure calling requires that data constantly travel back and forth across networks.

Telescript technology provides an alternative, more efficient, paradigm called *remote programming*.



Remote procedure calling requires that data take numerous trips across networks making requests and delivering responses. The user must remain online, which takes time and leads to high network costs.

that are not possible with today's online services. This is due in part to some key architectural advantages.

Currently, to communicate electronically, a message containing some information is sent from one computer through a static network to another computer. Sometimes the message can contain some predefined instructions to fetch specific information at the other end and bring it back. In the most sophisticated systems, a set of predefined functions created by the vendor of the system can be attached to the message to

carry out those functions in the network, such as to sort your mail. There is no flexibility to this setup.

Telescript technology is based on a very simple yet extremely powerful and all-encompassing concept. Every message is a Telescript program and every network is a receptacle or Telescript interpreter for programs. The network changes from a predefined rigid system into a flexible platform for applications and services.

A program can do something as simple as sorting and distributing mail or as complex as shopping for a bargain vacation. Any program can be sent into the network at any time.

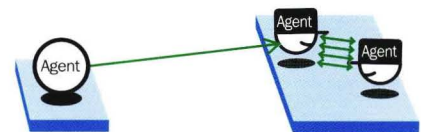
Once a vendor puts up a Telescript-based network service, anyone who can program using the Telescript language, or commission programs using Telescript technology, can add an infinite variety of services and functions to it. A Telescript network is defined by the user, not just the vendor.



Remote programming

With remote programming, the client program literally moves itself into the server machine, where it interacts with the server program locally. As a result, the connection only needs to be held long enough to allow the client program to enter the server machine.

With Telescript technology, people send programs across networks to other computers or communicators that process their requests remotely. These programs are written in the Telescript language.



Telescript agents "go" to places on other remote machines, where they interact with other agents on behalf of a user. Because agents are remote programs, users only need to stay connected long enough to launch their agent into the network. This makes connecting to the network via wireless and wireline media more practical, and it means users don't have to stay online.

Agents, places, and go: the building blocks of the electronic marketplace



There are three simple yet powerful concepts in the Telescript language: agents, places, and go. These concepts make it easier for vendors and developers to create communicating applications and services.

Agents

Agents are the Telescript programs that are sent across networks. They are encapsulations of users' instructions that perform all kinds of tasks in places on Telescript-enabled networks, places such as electronic mailboxes, calendars, markets, or gathering points.

People who dispatch agents can think of them as extensions of themselves, capable of gathering information resourcefully, negotiating deals, and performing transactions. They can be programmed to enact the unique, personal wishes of each user. Agents are also intelligent, because they have contingency plans. They examine themselves and the

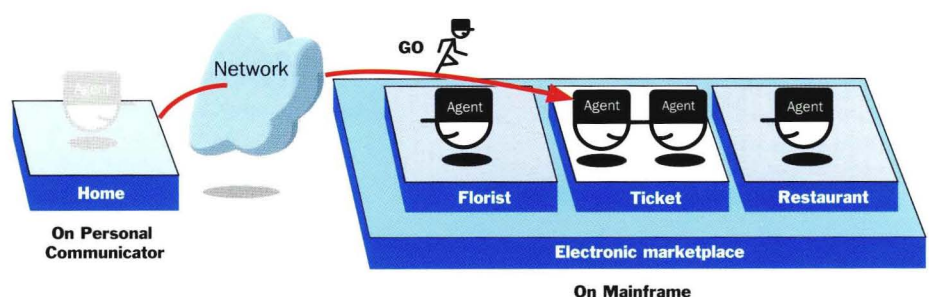
environment they find themselves in; then, if necessary, they can change from their original course of action to an alternative plan.

For example, you might send an agent to the online flower shop with a request to order a bouquet of roses for \$50 or less. If the shop only offers roses starting at \$60, you could have provided your agent with instructions to choose a different type of bouquet for \$50, or have the agent leave the flower shop, consult the network directory, and find another florist with a better price.



Electronic marketplace

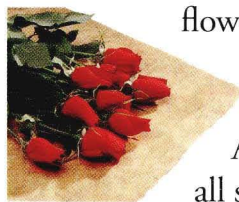
On a Telescript-enabled network, called the electronic marketplace, mobile agents go to places and interact with other agents.



Places

A *place* is a venue where agents can meet other agents. Like an agent, a place is an object created in the Telescript language, but places are stationary. Your computer or personal communicator is a place, and so is the online florist that exists on the mainframe maintained by the service provider. In the example of the online florist, the shopper's agent interacts with the florist agent to order a bouquet of roses. Places, like agents, are intelligent, and they choose who, when, for how long, and why agents can enter.

Once places have been created, they may be combined in any fashion to create new and interesting applications. For example, there might be a ticket agency, a restaurant listing service, and a flower delivery service, each running independently. A personal concierge company might choose to create an entertainment coordinator agent that knows how to buy tickets, make restaurant reservations, and deliver



flowers on the evening of a performance.

Agents allow all services provided in the electronic marketplace to be combined in new and interesting ways.

Go

In the Telescript language, there's a simple procedure that initiates the communion of agents and places. It is the program command *go*. Agents go to places and interact with agents they meet there. It's one of the ways that the Telescript language reduces the complexity of network programming, and it simplifies the job for developers who are providing solutions that involve resources in many different parts of the network.

In networks enabled by Telescript technology, agents go to places and interact with other agents. It seems like a simple model, but its implications are quite powerful.

Not a user interface, yet compatible with them all

As a behind-the-scenes technology, Telescript has no look and feel of its own. When it is incorporated into different kinds of platforms, the conventions of those platforms will be used to convey the functionality of Telescript technology. A Macintosh, for example, will have a different way to express agents than a Magic Cap™ communicator will; an EO



device will provide an interface to Telescript technology that is different from that of a Newton device. Moreover, each application developer will determine what kind of agents are appropriate for the functionality provided. Some agents will look like checklists or forms, others will look like robots or pets, and still others will be encapsulated in a button or menu. In all cases, users will exercise



their personal tastes and individual requirements to determine what functionality they want and how they want it expressed.



Personalized agents perform complex tasks for their users

Apple
AT&T
Matsushita
Motorola
Philips
Sony

Leading vendors from the consumer electronics, telecommunications, computing, and information industries are using the power of Telescript technology to build the electronic marketplace.

Ideally, users should be able to send their agents anywhere to do anything they want. Therefore, making Telescript technology all-pervasive brings customers real value. General Magic is committed to making Telescript available on a variety of systems and to a host of service and application developers. A great benefit of including Telescript in different systems is that it serves as the lingua franca among disparate systems, connecting them and making them accessible to users.

We used the simple example of purchasing flowers from an online florist, but let's suppose that you want to arrange for something more complicated. Perhaps you want to arrange the details of an entire special event, such as celebrating a wedding anniversary. You could purchase a Telescript-enabled communicating application that helps plan special events.

First you would provide the agent in this application with a list of your intentions. For example, you'd like to find two tickets to *Phantom of the Opera* on the night of your anniversary and make dinner reservations at the closest four-star



restaurant, in addition to ordering a bouquet of roses. You can specify the types of services that you're looking for, the amount you are willing to spend, and other important criteria. You can also indicate contingencies, which give the agent the power of negotiation.

Compound interactions

In the network, the agent first visits the place called the Directory in the electronic marketplace, which is like an online yellow pages that contains a list of all of the available shops. The electronic marketplace could be a single mainframe, or it could be

AT&T PersonaLink Services — the Telescript-based service

AT&T has harnessed the power of Telescript technology and is a pioneer in creating a network service based on this breakthrough technology. This service, called PersonaLink, will act as a host to all kinds of Telescript applications from electronic mail, to services that offer diverse sources of information, to a real electronic marketplace with shops offering goods of all types.

The first one of these services is smart messaging.



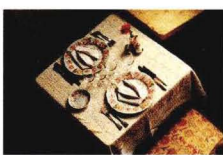
many different computers each maintained by different shopkeepers—Lilly the florist, Pierre the restaurateur, and so on—linked by a common directory and network service provider. Either way, with one trip across the network, your agent visits all of the shops required to arrange the entire evening. In addition, you do not need to know the name of the ticket agency or flower shop, or whether there are any four-star restaurants in the theater district. Your agent will figure it out. Agents are capable of performing compound interactions, a valuable service to busy people.



Personal interactions

When it arrives at the shops, your agent interacts with the agents there and negotiates to secure the things you're looking for. Perhaps you've indicated that you'd like seats on the aisle, not too close to the orchestra pit. Your agent can arrange that. All agent interactions are unique.

The agent has been programmed to take note of the start and end times of the performance, and based on that information, to determine the

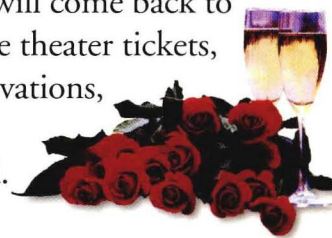


time of the dinner reservations. It's another way agents are able to personalize their interactions.

Smart, resourceful agents

Agents can assess the conditions of the environment they are in and make decisions on-the-fly. Maybe you waited until the last minute to make these arrangements and your agent needs to expedite its interactions and negotiations. For example, if the restaurant has not responded to your agent's request within two hours, it can choose to find another restaurant.

After completing its interactions and negotiations within the electronic marketplace, your agent will come back to you with the theater tickets, dinner reservations, and flowers you ordered.



Smart stationery can travel through the service and land in a recipient's system, where it can perform certain actions such as booking appointments, asking for confirmation and permission to involve another party, and other helpful tasks.

Smart envelopes seek out the recipients based on criteria specified by the sender. Urgent messages may be expedited; for example, a message that expects a response within a specified time may be delivered in several ways, including pager and fax to help it reach the recipient.

Smart mailboxes automatically screen, distribute, and forward electronic mail based on the subject matter, the sender, and the recipient's requirements.

Agents: delivering the goods whenever you say, "I want..."

The possibilities for the types of services that are available on Telescript-enabled networks are as wide-ranging as the imaginations of those who develop communicating applications. As new communicating applications are created, they can be added to the network and consumers can choose to take advantage of them. A Telescript network is different from any other online service because of Telescript agents. You can send intelligent agents out into the network to perform many different tasks—either simultaneously or sequentially—and those tasks are personalized.

You can have agents that satisfy your "I want" urges. Many of these so-called I want urges center around communication and information: I want to know, I want to purchase, I want to tell, I want to share, and so on.

Here are some examples of how agents can work for you to provide the things you want. ▶



"My agent booked the flight, monitored the schedule, and notified me that the flight was delayed."

If you frequently travel to different cities, you could use a Trip Planner communicating application to make the arrangements by dispatching an agent once. Without Telescript you would have to make dozens of phone calls to plan the trip.

From the far-reaching Telescript application, you can commission an agent to negotiate with airlines for ideal flights and seats; hotels for a good rate and convenient location; and restaurants, health clubs, and rental car companies to line up the



other aspects of the trip.

Even once you've booked the trip, your agent can stay in the network and monitor your flight. You can be notified if it has been delayed, so you won't have to rush to the departure gate only to discover you have three hours to wait.



"My agent is sorting through the mail in my mailbox and sending everything that refers to my old project to the team of people working on it now. I don't even have to see any of it."

Without Telescript technology, all electronic mail has the same priority (although messages can be labeled "urgent," most do not contain any special capabilities), and people often receive too much unrelated e-mail. Telescript-enabled electronic mail is personalized, it can be filtered, and it has the ability to locate its recipients.

This means that your mailbox can perform work for you. You can arrange for all the mail that arrives concerning a particular project to be automatically forwarded to your assistant or project team. You can be notified immediately when a message arrives from a family member. This type of mailbox customization helps you stay in better touch, with no extra effort.

You can also arrange for a single message to be broadcast to many different people by various communication media, such as pager, fax, and e-mail. And, if a message sits in an e-mail in box for a length of time without being read, it can automatically turn into a fax or a page. A Telescript agent can help get an urgent message to someone no matter where he or she is.

“My agent delivered a wireless message to my spouse’s communicator saying that I was delayed in a meeting.”

When a two-hour meeting turns into a three-hour debate, it’s difficult and awkward to leave to make a phone call to let someone know that you are detained. With a portable personal communicator and a subscription to a Telescript-enabled service, you can discreetly dash off a note explaining that you’ll be late. If your recipient has already left and is on the road, the agent can route your message wirelessly to reach his or her personal communicator in the car.

“My agent will notify me of any news concerning the stocks I’ve invested in.”

Like many people who own stock, you might find it difficult to take the time to actively manage your portfolio. Or maybe you’re an active investor, and you’re eager to get timely information. A Telescript-enabled Stock Alert application could help.

You could enlist an agent to live in the network and monitor all of the stocks you own, plus a few that you’re just interested in watching. And stock prices just aren’t enough — after all, you’re more interested in getting timely access to news that’s driving the stock price. You can instruct your agent to alert you any time news arises, such as when earnings reports are issued or in the event of company restructurings. With every stock alert, your agent can also send price and volume information.

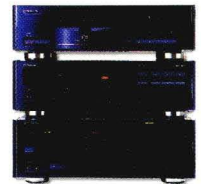
If you decide you want to sell the stock, you could press a “sell” button, enter the sell price and the number of shares, and then authorize the agent to notify your broker to



act. Like all Telescript-enabled applications, the Stock Alert encrypts all transactions for security.

“My agent just went to different stores in the electronic marketplace looking for a good deal on the stereo system I want.”

Rather than spending time on the telephone or visiting stores, you can send an agent into the network to do your shopping. You could specify the exact make and model of a particular stereo system and send an agent to find the best price. In the electronic marketplace, your agent visits a goods directory to find which local stores carry the product. The agent visits each shop, determines the lowest price, and returns to you with the name and location of the store that has the best price.



Users don't need to understand Telescript technology to understand its benefits



Telescript technology offers real benefits for consumers. Because they will only experience Telescript technology as part of another network, service, or product, users may never know exactly how Telescript technology affects their lives. But they will know their services and networks are a lot more powerful, personal, and fun to use.

Time savings

We all want to excel at what we do. Yet the workplace has become far more complex than it was even ten years ago. We all want to be able to devote time to our families, our community, and our personal lives. We would like to stay aware of the world around us. There simply are not enough hours in a day to keep up with all of the commitments we would like to make. Ironically, routine tasks are always the most annoying and time-consuming.



Communicating applications created with Telescript technology have mobile agents built in. Agents enable you to project your intentions into the network, so you can get more done.

One community

People want to communicate with all kinds of acquaintances, not just with the people on their LAN or those who happen to run the same kind of operating system. And we don't want to worry about technical incompatibilities.

All key device platforms can benefit from Telescript technology when they are enabled by a portable Telescript engine. Any hardware running a Telescript engine can communicate seamlessly with any hardware that also runs a Telescript engine. You no longer have to be concerned with technical gateways or wrangle with awkward addresses.

The Telescript language has what it takes to become the lingua franca of communication, and it has already been chosen by leading companies in several industries. Some of those companies include: AT&T, which is building the first Telescript-enabled public network; Apple, Motorola, Matsushita, Philips, and Sony, which are developing personal communicators with Telescript engines; and eShop and Mead Data Central, which are providing some of the first communicating applications.

Expression

Telescript technology can enhance electronic messaging services. Today's electronic messaging systems don't allow for a broad range of input methods across different types of machines. The rich message content in the



Telescript language, however, enables people to communicate with a broad spectrum of sounds, graphics, animations, and text.

People prefer to communicate in different ways that let them express the full creativity and subtlety of their thoughts. They want their irony, frustration, joy, and triumph—or whatever emotion they are feeling—to come through. Telescript technology is completely open-ended in the kinds of data it can handle.

Safety

Many transactions in the electronic marketplace are with merchants or services that require a transfer of funds. A great deal of communication will contain confidential information. When agents that originate in one place are allowed to travel to other places, subscribers and service operators want to feel secure that those agents will not cause problems. Users and vendors are protected from fraud, theft, and viruses by several safety features provided by Telescript technology.



Two important features are *authority* and *permits*. Agents and places both have permits, which determine how long they can live, where the agents can go, who they can interact with, how much money they can spend, and other important limitations. All agents and places have authorities that identify them and prevent them from being dangerously anonymous. These are just a couple of the many security features built into Telescript technology.

Affordability

People want to communicate freely without spending a lot of money. The remote programming paradigm of the Telescript architecture requires fewer trips across networks than does the remote procedure calling model, so it's an efficient use of network time—which is especially important for low-speed or wireless networks.

Telescript functionality is transport-independent. It can be delivered through telephone lines, wirelessly, on local or wide area networks, by cable, or by any other means. Telescript applications will simply take advantage of the underlying infrastructure. Customers can

choose the type of network they can afford.



Choice

Today, public electronic data networks provide various features. The decision regarding which features to offer is made by the network provider, so users have limited choices.

The Telescript language, however, makes it possible for independent developers to build applications that can be freely added to any online service. Users don't have to wait for network services to decide to install the new application or upgrade. They can choose from a range of services and can access them whenever they like.

And people can choose from among the different types of machines they use to reach the electronic marketplace. The Telescript engine can be ported to everything from PCs running the Windows operating system, to Macintosh computers, to Magic Cap personal communicators. Everyone can be a part of the electronic marketplace that Telescript technology makes possible.



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