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a guide to VMS

by Lex Luthor and The Legion of Doom/Hackers

The VAX is made by DEC (Digital Equipment Corp) and can run a variety of operating systems. In this article, I will talk about the VMS (Virtual Memory operating System).

Entrance

When you first connect with a VAX you type either a return, a ctrl-c, or a ctrl-y. It will then respond with something similar to:

LOD RECURSIVE SYSTEMS INC. VMS V4.0

Username:

Password:

The most frequent way of gaining access to a computer system is by using a 'default' login/password. In this example you may try LOD as the username and RECURSIVE as the password or a combination of words in the opening banner (if there is one) which may allow you access, otherwise you will have to try the DEFAULT METHOD of entry. The version listed above (V4.0) is the latest version to my knowledge of VMS. The more widely used version that I have seen is V3.7.

When DEC sells a VAX/VMS, the system comes equipped with 4 accounts which are:

DEFAULT—This serves as a template in creating user records in the UAF (User Authorization File). A new user record is assigned the values of the DEFAULT record except where the system manager changes those values. The DEFAULT record can be modified but cannot be deleted from the UAF.

SYSTEM—Provides a means for the system manager to log in with full privileges. The SYSTEM record can be modified but cannot be deleted from the JAF.

FIELD—Permits DIGITAL field service personnel to check out a new system. The FIELD record can be deleted once the system is installed.

SYSTEST—Provides an appropriate environment for running the User Environment Test Package (UETP). The SYSTEST record can be deleted once the system is installed.

Usually the SYSTEM MANAGER adds, deletes, and modifies these records which are in the UAF when the system arrives, thus eliminating the default passwords, but this is not true in all cases.

The 'default' passwords that I have found to work are:

Username:	Password:
SYSTEM	MANAGER or OPERATOR
FIELD	SERVICE or TEST
DEFAULT	USER or DEFAULT
SYSTEST	UETP or SYSTEST

Other typical VMS accounts are:

VAX	VAX	VMS	VMS
DCL	DCL	DEMO	DEMO
TEST	TEST	HELP	HELP
NEWS	NEWS	GUEST	GUEST
GAMES	GAMES	DECNET	DECNET

Or a combination of the various usernames and passwords. If none of these get you in, then you should move on to the next system unless you have a way to get usernames/passwords, like from trashing, stealing passwords directly, or by some other means.

You will know that you are in by receiving the prompt of a dollar sign '\$'. You will be popped into the default directory which is dependent on what account you are logged in as. If you get in as the system manager, you have full access. If you get in on the field or systest accounts you may or may not have full access but you will have the privileges to give yourself full access. To give privileges to yourself: \$ SET PROCESS /PRIVS=ALL

Once you have full privs, you can access any directory and any file, and also in the AUTHORIZE program which will be explained.

The VMS system has full help files available by typing HELP. You can use the wildcard character of '*' to list out info on every command: \$ HELP *

When you first logon, it may be to your advantage to get a list of all users currently logged on to the system if there are any at all. You can do this by: \$ SHOW USERS. Then you should get something like this:

VAX/VMS Interactive Users - Total = 4

01-MAY-1985 11:37:21.73

OPA0:	DEMO	004C004C
TTD2:	LAWRENC	0059004A
TXB1:	FIELD	008D004E
TXB3:	TWYLYSYS	01190057

It is highly recommended that if you are logged on in the day and there are people logged in, especially the system manager or the account you are logged on as, logout and call back later. I have found that no matter what system you are on, the best way to remain undetected is to call when no one is on the system. You do not want to call too late since the system keeps a record of when each user logs in and out.

To communicate with other users or other hackers that you are on the system with, use the PHONES Utility: \$ PHONES Username. If the system has DECnet, you can see what available nodes there are by: \$ SHOW NETWORK. If you have mail the system will tell you so after logging in, simply type: \$ MAIL. This will invoke the Personal Mail Utility; you can use help from there.

There are a lot of commands and many are not too useful (to the hacker anyway), so I will not go into detail. One thing about VMS, there is plenty of on-line help available which will enable you to learn the operating system fairly well.

Directories

To see what you have in your directory type: \$ DIR. To get a list of directories on the system type: \$ DIR [*.*].

When a VAX/VMS is first installed, it comes with nine directories which are not listed when you execute the DIR [*.*] command. [SYSLIB]—various macro and object libraries; [SYSMSG]—system message files; [SYSMGR]—files used in managing the operating system; [SYSHLP]—text files and help libraries for the HELP utility; [SYSERR]—directory for the error log file (ERRLOG.SYS); [SYSTEST]—files used in testing the functions of the operating system; [SYSMAINT]—system diagnostic programs; [SYSUPD]—files used in applying system updates; [SYSUPD.EXAMPLES]—sample driver programs, user-written system services, and other source programs; [SYSEXE]—the executable images of most of the functions of the operating system.

Inside these directories are files with the following file-types:

File-type	Description:	Command:
.txt	Ascii text file	TYPE file-name
.hlp	System Help file	TYPE file-name
.dat	Data file	TYPE file-name
.msg	Message file	TYPE file-name
.doc	Documentation	TYPE file-name
.log	Log file	TYPE file-name
.err	Error msg file	TYPE file-name
.seq	Sequential file	TYPE file-name
.sys	System file	FILE-NAME
.exe	Executable file	FILE-NAME
.com	Command file	COMMAND NAME
.bas	Basic file	RUN file-name

There are others but you won't see them as much as the above. You can change directories either by using: \$ CHANGE [DIR.NAM] or \$ SET DEFAULT [DIR.NAM].

You can now list and execute the files in this directory without first typing the directory name followed by the file name as long as you have sufficient access. If you don't have sufficient access you can still view files within directories that you cannot default to by: \$ TYPE [LOD.DIR]LOD.MAI;1. This will list the contents of the file LOD.MAI;1 in the directory of [LOD.DIR].

The use of wildcards is very helpful when you desire to view all the mail or something on a system. To list out all the users mail if you have access type: \$ TYPE [*.*].MAI;*. As you may notice mail files have the extension of MAI at the end. The ;1 or ;2 etc. are used to number files with the same name.

(This is the first of an ongoing series on the VMS operating system. Be sure to look in future issues of 2600 for more in this series. If you want to see an article about a particular computer or operating system, let us know.)

The Infinity Transmitter—An Old Bug That Had Its Time

by Howard

There is always a great hush when the term infinity transmitter is mentioned, as if it were some amazing secret device, but it can be simply explained. The infinity transmitter or harmonica bug is a device installed within a target's phone. This device allows a person to call the phone and listen in on him while he is quite unaware. This device has a few problems, the biggest of which is that the target's phone must be connected to either a Crossbar or Step by Step switch. The other drawback is that the bug must be installed in the target's phone. This means one must enter the house, place the bug in the phone, and rewire it as required. This bug could also be detected if the target were to attempt to use his phone while you were monitoring his activities. Since you are on his phone line listening to him, he might think it strange that his phone was being used, especially if he has any technical background. Let's see how to use the bug once it is installed.

Once installed all the observer has to do is call the target's phone number. After the observer dials the last digit, he sends a specific tone down the phone line which causes the bug to answer the phone before it rings. The frequency of the tone is user selectable and set during the construction process. The exact frequency of the tone is quite unimportant.

This type of bug can be used from anywhere there is a phone.

The potential distance is infinite hence the name "infinity transmitter." Ending the audio visit with the target is just as easy as starting it. A different frequency tone is sent down the line telling the bug to hang up. Overall, a very simple concept.

The reason this bug works on Step by Step and Crossbar switches is because in these systems the audio and ring generator are connected to the phone called before it is answered. So it is possible for the bug to answer the phone before the ring capacitor is fully charged by the ring generator. ESS and DMS switches do not connect the audio to the called phone line until after the phone is answered, making the infinity transmitter useless. In the case where the user does not apply the pick-up tone immediately, the phone would ring, then stop suddenly. Therefore some skill is required to avoid tipping the target off to the fact that he is being watched.

Construction of this device should be relatively easy for someone with a little experience in the electronics world. The bug would be isolated from the phone by using two non-polarized capacitors of 1 uf or better. It would mainly consist of two frequency detectors. One would connect the audio from the mouth piece to the phone line and answer the phone when the pick-up tone is detected. The other would disconnect the audio from the mouth piece from the phone line and hang up the phone when the hang-up tone appears.

Reaching Out On Your Own

by Forest Ranger

Verification is a very touchy subject. The telephone company wants to keep verification secret from anyone beyond telco employees. But as phone phreaks should know that is quite impossible. There are two types of operators that do verifications. "0" (TSPS) for local verifications and IO (INWARD) operators for verifications beyond your NPA. They use their operator console, but other people use blue boxes.

KP:NPA+0+XX+NPA+XXX+XXXX:ST

The first NPA (area code) is yours and the 0 will get you on your TSPS operator lines. The next XX part is an area identifier. They are 00, 11, 22, 33, 44, 55, 66, 77, 88, 99. There are ten possible choices depending on which area you are in. For example, blue box verification for Michigan would be KP:313+0+66+NPA+XXX+XXXX:ST. The second NPA is the NPA of the number you are going to verify. The XXX+XXXX part is the rest of the number you are going to verify.

Once you have routed your verification you will receive a series of clicks (tandems stacking), then you will hear a beep and you will be on the line. You won't understand what anyone is saying because everything will be scrambled. The verification will last about thirty seconds. Then you will be beeped out and finally disconnected.

Federal laws regarding line listening have become much stronger—especially after 1974 when a subcommittee of the House of Representatives held a public hearing called "Telephone Monitoring Practices by Federal Agencies". At this hearing it was discovered that Bell had listened in on lines of their employees and had the power to listen in on anyone. This shocked many people and made federal laws concerning such activity much stronger. My point is don't abuse this verification, because all you need is a simple descrambler from Radio Shack to descramble the conversation on the line.

PURSUIT FOR PEOPLE

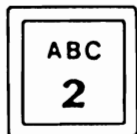
On August 7, GTE Telenet announced a new service which, if handled properly, will usher in a whole new phase of computer communications.

The service is called PC Pursuit and it enables people to connect their computers to other computers for \$25 a month (plus a start-up fee of \$25). In other words, a hobbyist in New York can connect his computer to a bulletin board in California and not have to pay for a long distance call. The "computer conversation" goes through GTE Telenet, a packet-switching network for computers, previously used exclusively by large corporations.

"To access the service," GTE's press release explains, "a user calls his PC Pursuit access number and is prompted to enter his

home phone number and make a request for a destination phone number in a distant city. If the user's telephone number is not authorized, the phone call is terminated and a record of the call is generated. If the number is authorized, the subscriber is called back and automatically connected to the desired telephone number in the distant city, which could be a specific database or remote PC user. GTE Telenet is able to maintain full accounting of the origin and destination of all calls. Each user session can last a full hour, and users may access the service as many times a month as they wish."

PC Pursuit represents the first time a major corporation has attempted to win over computer hackers rather than intimidate them. J. David Hann, president of GTE Telenet, says, "We (continued on page 2-64)"



Phone-in Registration For College

Combined News Sources

A \$77,600 computer system that allows students to sign up for courses and alter their schedules using touch-tone telephones will be tested by 300 Union County College (New Jersey) students this fall and up to 7,000 students are expected to be using the procedure by next spring.

"When the student dials in, each course will have a five-digit code number," John Farrell, the college's dean of computer services said. "The student will be prompted by a recorded voice for his identification, so students will have access when they are admitted, a password that only he will know [!], and then he will be led by the voice prompt through the procedure."

The system, purchased from Information Associates of Rochester and similar to those now being used by airlines for flight reservations, will inform students if their chosen courses are full and whether similar ones are available. It will also have the potential to provide many other services for students in the future, such as helping determine the status of their financial aid requests or the status of their admission application.

Trouble With 800 "Word Numbers"

The New York Times

When Hindalene Rosner saw "1-800-LIVE-AID" flash on her television screen in the early hours of the worldwide benefit concert, she had a feeling that things would get busy.

It should be explained that Mrs. Rosner is vice president of the Life Aid Corporation. And her company's nationwide toll-free telephone number is 1-800-LIFE-AID.

"Every two seconds," Mrs. Rosner said, calls were coming into headquarters in Scottsdale, Arizona, from viewers who were moved by the Live Aid concert to pledge money for the starving and homeless people of Africa.

Callers to Life Aid are told very politely that "this is a totally different business" and are given the correct listing—in digits (1-800-548-3243), not letters.

War Game Addict

Associated Press

A 19 year-old computer enthusiast who said he was addicted to a space war game and used stolen credit card numbers to charge playing time was placed on probation and ordered to make restitution after pleading guilty to wire fraud, a Federal official said.

The man, Kenneth Goldin, was placed on three years of probation and fined \$500 by Federal Judge Maryanne Trump Barry.

Hacker Extortionist Caught

2600 News Service H. Alexander

Phineas Phreak, he called himself as he roamed through computer bulletin boards. But he was caught by telco security men, prosecuted under a 1984 Virginia law designed to zap computer trespassing and sentenced to pay \$300 restitution within six months.

The 14-year-old Phineas became one of the first persons to be dealt with under the new law after he pleaded "not innocent"—a plea frequently used in juvenile proceedings to avoid giving someone a criminal record. The Montgomery County, Md., youth broke into a computer bulletin board service operated by

a Vienna, Va., man and transferred part of what was stored there to his own computer. The victim, Allen Knapp, 40, who runs the Washington Networks BBS out of his home, said his clients pay a \$10 fee for a password and the opportunity to exchange data with others.

Knapp told *The Washington Post* that on Jan. 5 the youth managed to bypass "my normal security safeguards," transfer files to his own computer, and erase a substantial portion of Knapp's files. "He then called my answering machine, stating what he had done and making certain demands in exchange for the return of the files in his possession," Knapp said. According to Knapp, the youth wanted the access to obtain files that he would then exchange with his friends. Knapp said he called the Virginia State Police and the Chesapeake & Potomac Telephone Co. after hearing the message.

Pitcairn Island Now On AT&T Net

New York Daily News

After nearly 200 years of peace and solitude, the residents of Pitcairn Island in the South Pacific are about to enter the 20th century.

AT&T Communications Inc., in its relentless quest to wire the world, says it has decided to provide international long-distance service to this two-square-mile island where 50 descendants of Fletcher Christian and the other mutineers of the HMS Bounty still live.

The AT&T service will allow the islanders to receive and make calls anywhere in the world, instead of just ringing over to Tahiti. But they'll have to learn to talk fast. A three-minute call to or from the U.S. will cost \$11.83 and \$3.36 for each additional minute.

Calling from the U.S. will be tough. Since all the residents must use the island's one telephone, they have already divvied up the time for making and receiving calls from each country. They will be accepting calls from the U.S. at 2 pm, 8:30 pm, and 1:15 am.

Private Sector Update

2600 News Service

Last month, we told you about the raids in New Jersey which involved our official BBS, The Private Sector, as well as the flurry of headline grabbing that ensued. The sysop of The Private Sector is confident that he will have his equipment returned and charges against him dropped. His lawyer, Arthur Miller, who was obtained for the sysop through the American Civil Liberties Union, has not been able to make much progress on the case. Court proceedings have been postponed at the request of the prosecution. To date, the sysop still does not know the evidence against him, nor of any specific crimes he may be charged with. It is expected that the prosecution may try to hold up the equipment and any final actions in this case until the local elections are over.

Since the raids, 2600 has heard of several cases where BBS users have gotten phone calls from federal agents. We have also heard of a few other bulletin boards that have been taken down. If you know of any such cases, please contact our office at 5167512600.

In addition, since the BBS is not currently available, we have made arrangements for uploading of lengthy articles at our office number. They can still be sent by US Mail.

DEAR 2600—

Dear 2600:

In response to the individual inquiring about a back pack microwave system (July 1985), it is my understanding that it is primarily a military field communications device with collapsible satellite antenna and not, as you correctly assumed, a consumer item.

Thank you for a much needed, educational alternative to blindly accepting the status-quo propaganda machine.

D.J.

Dear 2600:

In your May issue, you were talking about silver boxing and mis-named the AUTOVON precedences. Here are the correct names in order from highest to lowest: Flash Override, Flash, Immediate, Priority, Routine (all calls are routine if no precedence button is pushed, or if precedence buttons are not installed on the phone).

SEVOX

Dear D.J. and SEVOX:

We always appreciate response from readers who have some expertise to offer. Please do not hesitate to correct us.

Dear 2600:

For the reading list: *Understanding Telephone Electronics*, developed and published by Texas Instruments Learning Center, available through the Radio Shack chain, catalogue number 62-1388, 288 pages, \$3.49. This book is a technical tutorial on the basics of telephone systems. You need a fair amount of electronics knowledge to understand the stuff in here, but nothing you couldn't get from the other "Understanding so and so" books that Radio Shack sells. Topics include the innards of both standard and electronic telephones, speech, dialing, and ringing circuits, digital transmission techniques, networks, modems, and more. In short, this is a goldmine of technical information about telephone communications, and (something rather out of character for Radio Shack) is even reasonably priced.

This is from the *Understanding Telephone Electronics* book. According to this book, 2600's opening words about how Alexander Graham Bell answered his phone (Jan. 84 issue) may have been inaccurate, and I quote:

"Early telephone circuits were point-to-point (not switched), and the caller gained the attention of the party at the other end by picking up the transmitter and shouting 'Hello' or 'Ahoy'. This was not very satisfactory, and schemes based on a mechanical signaling arrangement were soon invented. The one in common use today, called the 'polarized ringer', or bell, was patented in 1878 by Thomas A. Watson (Mr. Bell's assistant)."

So it seems that "Ahoy" was not how A.G.B. answered his phone, but more likely how he induced someone else to answer the phone. That makes more sense, since "Ahoy" was usually used at sea to raise the attention of someone else out there on the foamy brine. Imagine those days of early telephones, where you might walk by that new contraption and hear a dim voice inside yelling "Ahoy".

Talbot

Dear 2600:

A while back you were asked if REMOBS really existed. I can tell you for sure that REmote OBServation numbers do, in fact, exist. The hardware is manufactured by different

companies. One of which is called Teradyne, which makes a system called 4-tel.

These systems are working when an exchange is set up for it in the Central Office. They are used for testing and are perfectly legal.

The equipment was built so that you enter a code then a number. It will listen to a number for a limited time and then it sequences to the next number and then the next. But it only takes a few seconds to modify the equipment, so it doesn't step to another number.

As far as I know the going price is \$1,500 to get a telco employee to do the modifications. A guy I know was approached by a phone company employee who wanted to get some money and he offered to set up the system and provide a number and code that could be dialed up from anywhere.

Dear 2600:

I've been thinking of starting my own bulletin board. But I'm not looking forward to the possibility that some jackass will leave a credit card number or other nasty information on my board and that some even bigger jackass will see said message before I can delete it and accuse me of conspiring somehow to defraud or steal or build explosives or whatever else they happen to be afraid of will happen at that moment. The recent raids in New Jersey indicate that even a conscientious sysop (as the fellow who was running the Private Sector claims to be) can get screwed over by computerphobic police and Federal agents. What preemptive protections are available for a bulletin-board operator who plans on staying within the confines of the law and yet does not want to stain her or his board with warnings and continually censor the flow of messages? Freedom of the press is a marvelous concept, and apparently allows folks like USA Today to stain every available streetcorner with their one-legged vending machines. What would one have to do to become a "press"? You don't have to be made out of paper, since radio and television reporters qualify. Is there a union I can join? A professional society? Maybe we should start one? Can you recommend any place where further information on such would be available?

W.U. Friend

Dear W.U.:

You ask many intriguing questions, and we believe that we could devote an entire issue to answering them. In fact, we spent a great deal of the August issue of 2600 discussing the very things that you brought up. Many of your questions could be answered by allowing yourself to get busted and letting Warren Burger and the rest of the Supreme Court decide. This may be the easiest way because there are few laws, guidelines, or precedents. Right now, we do not know of any "unions," but there are hundreds of computer user groups that are actively discussing these problems, and we also foresee groups forming to specifically address the problem. Especially since those computerphobes you were referring to are trying to get legislation passed to limit BBS's in this country. You must remember that this is a very popular issue, and it will come into play in various elections this fall, including those of the prosecutors who are pressing charges against the Private Sector's sysop.

The 2600 Information Bureau

Lex Luthor and LOD/H updated Telenet Directory REVISION #2, Last Updated: 05/20/85

ADDRESS/OS/COMP TYPE	SYSNAME/OWNER/RESPONSE/COMMENTS/ETC.	ADDRESS/OS/COMP TYPE	SYSNAME/OWNER/RESPONSE/COMMENTS/ETC.
20120 VM/370	NJIT Electronic Information Exchange(EIES)	2122248 Port Sel.	Global Electronic Mail Service (GEM)
20125 TOPS-10	NDC - SYSTEM:	212234	Sherron/Lehan - Amer. Exp. Info
20130 VAX/VMS	Running CANDE Operating System	21322 UNIX	Interactive System 3
20133 BURROUGHS	Primenet awh	21323 UNIX	Interactive System 3
20134 19.2.3	Primenet awh	21330	L.E.B.
20135 19.2.3	Primenet USCS.B	21335	Marketron Research And Sales
20151 19.3.8	Primenet USCS.B	21339 MICRO/600	USC - ECL
20155 19.3.8	Primenet USCS.B	21341	
20159 19.2.3a	Primenet TBN31	21344 IBM T80	SDC/DRBIT Database (Using "ACF2" S)
20166 19.3.7	Primenet SYS001	21349 MICRO/600	USC - ECL Port Selector
20171	"RDS A6 USER8"	21370	XCC-West System X2
20173 VM - T80		21372	XCC-West System X3
20180 VAX/VMS	Ant Service Center	21373	XCC-West System X1
20182	Bankers Trust Customer Service	21384 CDC & SPERRY	NICOM 400
20188	Dunn & Bradstreet Systems	21385 CDC & SPERRY	NICOM 400
20189 VM/370	Prushare	21388 19.3.2	Primenet MSCOST
20162		213105 19.4.2	Primenet MD.WOP
20234	"User Number-- help-phone 313-556-1574"	213170	Dialog
20236 DB AOS/VS	"Network sign-on failed: sign-on com	213219 VAX/VMS	California Tech. Physics Vax
20243		213236	Dialog
20249 IBM	TCAM Enter system ID:	21442 PRIME	DNA Online
20299 TOPS-20	The Information Service	21444	Marathon
202126	<connects but no response>	21471 FB.3.3	UCCEL FASBAC
202131	USER8	21472 IBM T80	UCC (Using "ACF2" Security Package
2021398 TRI-BMP	TRI-BMP	21475 UNIVAC 1100	UCC
2021408 TOPS-20	TRI-BMP	21531 VAX/VMS	VAX V05
2021448 TOPS-20	TRI-BMP	21532 DB AOS/VS	
2021526 TOPS-20	Washington Office Of Finance	21535 IBM T80	IMS America
202202	Compuserve	21540	VU/TEXT
202214 19.3.5	Primenet spa	21565	Newsnet
20321 Port Sel.	"Enter Class"	21566	Newsnet
20322 VM/370		21567	"Command unrecognized"
20328 VM/370		21582 19.4.0	Primenet ISD
20331 DB AOS	Xerox	21653 Burroughs	887700 cande 3320 you are tnet1
20340 IBM	"Command unrecognized"	21654 19.2.12	Primenet TRMIAE
20358	<Connect/disconnect>	21725 CYBER	U of Illinois
20364	"Login Please!"	21726 UNIX	U of I Computing Services
20366		21830 DB AOS	
20420	Stanford	30120 IBM	National Library of Medicine
20423	University of Alberta	30121	NASA Recon
20436	University of Calgary	30123	
20447	UTCS Datapac	30124	Source System 10
20459	Gateway: Unconfigured device	30126 PRIME	DNA ONLINE
20461 CYBER	Cybershare LTD.	30128	Source System 13
20472 S-18.4.1	Primenet ISC	30135 UNIX 4.2	HLM-VAX
20473 RSTS V7.2.4	Navatron	30136	
20474 19.2.3	Primenet PSICAL	30138	Source System 11
20481	Gateway: Unconfigured device	30145	General Electric
20485 19.1.5	Primenet PSICAL	30147	Source System 12
204105	Gateway: Destination not obtainable	30148	Source System 13
204112	Gateway: Unconfigured device	30149	Source System 14
204171 RSTS V7.2.4	CAN TRDT SYS A	30155	Newsnet
204188 19.2.5	Primenet PDC01	30157	<Connects but no response>
204192 19.1.5	Primenet PRECL1	30158 PRIME	CDA online
204197 18.3.6.0	Primenet SYS91	30176 UNIX	SCI Machines
20620	Boeing	30320 CSS 4000	Computer Sharing Services
20638 DB AOS/VS		30323 PRIME	
20640 19.3.5.1	Primenet P850	30325 RSTS V7.0.7	C. R. C.
20652 19.2	Primenet cad13	30330	Computer Sharing Services
20665	<Connects but no response>	30348 RSTS V7.0.7	C. R. C.
20680 IBM	"Enter CICS or Mitten"	30349	Computer Sharing Services
21216	DBB SYSTEMS	30365 Burroughs	Network Session (87900 using Cande
21221 19.2.7	Primenet SYSA	30368	Computer Sharing Services
21224 19.3.7.R4	Primenet SYB0	3031488	
21225 TOPS-20	Landart Systems Inc.	30520 HP-3000	
21230 19.2.7	Primenet SYSD	30522 HP-3000	
21243	Citicash Manager (C/C/M)	305159	VU/TEXT Please Sign On
21244 10-23	C/C/M	31230	"Service ID"
21248	Citibank	31231 TOPS-10	C.I.C. Timesharing
21250 VAX11/750	Group Financial Systems	31232 TOPS-10	C.I.C. Timesharing
21252 19.3.3	Primenet SYSA	31234	"Your entry is incorrect please try
21255	C/C/M	31236 Port Sel.	"Enter Class"
21256 20-17	C/C/M	31240	
21264 04-39	C/C/M	31241	<<Same as 31224>>
21266		31242 RSTS V8.07	Travenol SYSA
21267 05-17	C/C/M	31243 RSTS V8.07	Travenol SYSA
21268 10-49	C/C/M	31244 RSTS V8.07	Travenol SYSA
21270 TSD - VM	Using the "Top Secret" Security Package	31246	"Request in violation of system sec
21272		31247 19.3.7	Primenet SYSA
21282	Bankers Trust Customer Service	31249	American Hospital Supplies Corp.
21286	BTS SHARE	31250	American Hospital Supplies Corp.
21287 18-330	C/C/M	31259	Official Airlines Guide (OAG)
21288 DEC-20	American Express Corporate Info Systems	31265	
21289 RSTS V7.0.8	IFI CITI	312120	TIME INC. Chicago Datacenter
212112 VM/370		312163	"PORT = 8X25Y00 8VC01 USER ID?"
212126		3121708 VAX/VMS	SKVAX2
212131 VM/370	Tobass New York System	312233	"PORT = 8X25Y00 8VC01 USER ID?"
212133 VAX/VMS	Primenet XNY	312235	"PORT = 8X25Y00 8VC01 USER ID?"
212137 19.4.0	Primenet XNY	312236	"Please re-enter login procedure"
212138 19.4.0		312257	ID: Password
212141	Telemail	312264	C.I.C. Timesharing
212142	Telemail	31325	Comshare
212146 VAX/VMS	Office Information Systems	31340	ADP Network (Type "AID")
212147	Federated Edge System	31341	ADP Network (Type "AID")
212149	"Bank"	31370	GM Timesharing
212151	C/C/M	313131	"USER NUMBER-- Help Fone: 313-5
212152 VAX/VMS		313520	"enter system id" b=brs t=ves/cas
212155 19.4.0	Primenet SAL.23.PNY	40427 19.4.2	Primenet EMA1
212156 19.4.0	Primenet SAL.23.PNY		
212158	"Invalid Blank Password"		
212164	Dunn & Bradstreet cics		
212167 RSTS V7.0			
212168	"Enter Identification"		
212200			
212205	D&B Systems		

ADDRESS/DB/COMP TYPE	SYSNAME/OWNER/RESPONSE/COMMENTS/ETC.	ADDRESS/DB/COMP TYPE	SYSNAME/OWNER/RESPONSE/COMMENTS/ETC.
40431 0	DB AOS/VS	417230	VM/370
40433 0		417239	PRIME
40459		417250	Faxon Information Services
40460	RSTS VS.0	417254	NBH Teaching Supervisor
4041300	HP-3000	417258	19.2.4
		417249	19.4.1.1.CS
41321 0	(type TMS) DFH READY	4172748	HP-3000
41520	Dialog	4173150	19.2.7F
41521 0	Port Sel.	4173380	VAX/VMS
41527	IBM 3033A	417343	Shawmut Bank Of Boston
41548	Dialog	417350	19.2.7F
41550 0	"Network (BUR) terminal must sign-on"	4173520	19.2.7F
41553	VAX/VMS	417403	PRIME
41557 0	"Network (BUR) terminal must sign-on"	71115	10.3TLNT
41559	19.2.11	71114	Prisenet TP SYS STCNET
41560	Leasametric		
41567 0	"Network (BUR) terminal must sign-on"	71325 0	TOPS-20
41570	LODON	71329 0	RSTS
41580 0	SVSTAR ELF	71334 0	10.3.175
41587	Harper Group Information Network	71345	DB AOS
	C F & O Port Selector 2 (type help)	71353 0	IBM
41639	Miller Computing Services (MD.CDN)	71354 0	IBM
41640	MD.TST	71355 0	IBM - VM
41649	DPL Speedball	71356 0	IBM - VM
41660	Northern Dynamics	71359 0	DB AOS
41665	Edmonton Computer System	71361	19.4.2.10
41667	Hardy Assoc.	71363	19.4.2.10
50921	19.1.1	71365	HMC.1
	Prisenet AIS	71369	"ERR-Invalid Action Code"
51109	HP3000	71383	HP-3000
	Hewlett Packard Co.	71386 0	IBM MVS/SP
51250 0	AMSC (American High School CXX)	713150	19.2
		713196	19.1.5
51330	Lexis/Nexis	71430 0	HP-3000
51331	Meadnet	71431	
51337 0	19.2.9	71435 0	HP-3000
51340	19.2.9	714114	HP-3000
	Prisenet E03	7141230	HP-3000
51520	RSTS		
51530	Lexis/Nexis	71620	UNION CARBIDE USER NUMBER
51623 0	RSTS	71724	19.2.10
51624 0	DB		Prisenet 82901A
51630	New York Institute of Technology	80125	VAX/UNIX
51645	"Enter System Select"	80126	HP-3000
51658	"SERVICE ID"	80143	DB AOS/VS
51654 0	Coopers+Lybrand MIS New York	80154 0	VAX/VMS
51729	RSTS	80160 0	DB AOS/VS
51730	IBM T80	80165 0	DB AOS/VS
51731	IBM T80		
51732	VM/370	80423	Port sel.
51735	VM/370	80424	Port sel.
60320	Dartmouth Time Sharing	80558	HP-3000
60322	HP-2000		
60745	VM/370	81330	VM/370
	"Enter system ID"	81331	VM/370
60921	IBM VM	81335	19.3.7
60923 0	TOPS-20	81352 0	TOPS-20
60942	P.CIC	81353 0	TOPS-20
60943	Dow Jones	81355 0	Price Waterhouse Timesharing
60963	<No response>	8131320	VM/370
60968	<No response>	813140	IBM Information Network
61140	"ID , Password, Service ?"		
61223	Westlaw	81722	Radio Shack
61234	"Please login 08:24:46"	81726	Radio Shack
61236	Coordinated Management Systems	81730	
61237	Westlaw		
61241	Coordinated Management Systems	90432	Enter RYP1
61244 0	CYBER 835	90433	Enter RYP1
61252 0	PRIME	90450 0	DB AOS/VS
61257	Westlaw	90455 0	
61724	IBM T80	90995	Telemail
61730 0	T80/IDMSDC/CULLDC/V//INTERACT/M204DEV	909761	Telemail
61737	19.2.7E	91433	
61738 0	Prisenet BDSH	91438 0	VM/370
61746 0	19.2.7E	91441 0	VM/370
61747	Prisenet BDSH	91442 0	"ZAN0001 com-plate is active"
61748	HOST	91445	General Foods
61749	PRIME		
61749	19.2.7E	91930	IBM
61750 0	19.2.7E	91931	IBM
61754 0	"Welcome to JETNET"	91933 0	
61763	PRIME		
61767	PRIME		
61772	PRIME		
61778	19.2.11		
61784	Prisenet MD.D		
617102	Marlboro HPSIL Software Engineering		
617115	19.3.9		
617119	Prisenet TRMS.E		
617128	IBM CICS		
617133	"ENTER imirv t=test w=interact"		
6171350	Faxon Information Services		
617137	VM/CMS		
617137	VM/370		
617138	MULTICS		
617143	VM/370		
617144	19.3.4		
617148	19.2.7I		
617152	Prisenet KENMOD		
617158	19.2.7F		
617160	19.3.9		
617162	19.3.8		
6171630	19.3.4		
617169	19.2.7F		
6172210	VAX/VMS		
617224	VM/SP		

"0" at end of address signifies "will not accept collect connect, so you will have to enter id and a password. Any addresses responding with "Rejecting" or "Not Operating," means that the system is down at the moment, and you should try back at another time. All above addresses were working as of the date of update.

Definitions of abbreviations:

DB - Data General
 AOS - Advanced Operating System (DB)
 ACF2 - Access Control Facility 2, Software Security Package for IBM Mainframes.
 CICS - Customer Information Control System (IBM)
 T80 - Time Sharing Operating System (IBM)
 TOPS - Total Operating System (DEC)
 RSTS - Resource Sharing Time Sharing (DEC)
 CDC - Control Data Corporation (Makes CYBER Computers)

CONTRIBUTORS:

Lex Luther / Blue Archer / Doctor Who

SYSTEMATICALLY SPEAKING

Dick Tracy Toys Are Closing In

New York Daily News

The world's smallest pocket cellular phone—7 inches long and just 15 ounces—will be introduced at a Las Vegas telecommunications show in September.

The Walker Pocket Phone will be a tiny version of the cellular car phone. It will not require a base station and can operate anywhere and will retail at about \$3,000.

USA Today

At least three American companies have unveiled desk-top picture phones this year and two more companies plan 1986 releases. Image Data Corp. began delivering Photophone earlier this year. The device attaches to an ordinary phone line in a minute, takes five minutes to learn to operate, and transmits black-and-white still pictures to its mates in five to fifteen seconds. It is priced at \$8,500.

Datapoint Corp.'s recently announced MINX does the same in color and can also attach to a personal computer. It is priced from \$8,800 to \$11,100.

A full-motion color system from Widcom Inc. goes for \$50,000 for a picture squeezer and \$20,000 per station. Picture squeezing is a process that accounts for the fact that only a small amount of information can be sent down a regular phone line, and a video signal requires 150 times more information than a voice signal.

Communications Week

Validec Inc. has invented a hand-held terminal aimed at the restaurant business that allows orders to be placed without the waiter having to ever leave the customer's table. The Point of Origin System is a local area network of printers, terminals, and computers that can be placed at the bar, kitchen and cash register. It uses radio frequencies to communicate with the host computer which can either be an IBM PC AT or AT&T 6300. In addition, the information display allows the restaurant to keep track of every item ordered and how many tables a waiter served on any given shift. This will allow the restaurant owner to decide which are the unpopular items on the menu and to examine the efficiency of the employees.

Directory Assistance By Computer

Advertising Age

Since May, 1984, when the seven regional telephone operating companies imposed a 50¢ charge for interstate directory assistance calls, direct marketers have sought to have that charge rolled back or eliminated, and also to have the phone companies make directory information available on computer tape or directly via computer terminals.

Mountain Bell, based in Denver and serving telephone customers in Idaho, Montana, Wyoming, Utah, Colorado, Arizona, and New Mexico, has taken the biggest step in that direction so far with the creation of a computer system it calls ScanTel. Available for a month, but as yet unpublicized by the company, ScanTel allows those equipped with a computer terminal or personal computer to access the company's entire directory database.

The ScanTel database is separate from that used by directory-assistance operators, although it contains the same listings. It differs from the conventional database, however, in

that it can be searched not only by name but by address. Soon to be added is a reverse directory feature, permitting users to find out who belongs to a given telephone number.

Users of the system can access it via telephone from anywhere in the country. A three-tiered pricing scheme has been established that simultaneously charges 50¢ per minute of use, 25¢ for each request, and 5¢ for each response. However, the system can handle requests for multiple addresses, such as all those on a given street. That would be considered a single request at 25¢ and each name, address, and phone number found would cost 5¢.

Pest Control

New York Daily News

If you own less than 100 shares, BellSouth will pay you \$10 to get lost. The company is shooing away small investors who clutter up the books and hold only 14% of the 301.9 million shares. Shareholders who agree will be paid the market price for their stock, plus \$10 to close their account.

Bell Propaganda Films

Suburban Trend

A suburban street served as a movie set last month as New Jersey Bell taped a movie about the consequences of cheating the phone company with computers and other technologies.

The movie, produced for AT&T, is "part of a total deterrent package," said Karen Johnson of New Jersey Bell. Although the full program has not yet been fully developed, Johnson said one of the videotapes will be targeted toward grammar school and high school students. Other groups to be targeted include vocational students, college students, and members of the military.

The program is designed to make viewers aware of the pitfalls of cheating Ma Bell, using computers to cheat systems, using false credit cards and other methods of avoiding payment.

Europe Standardizing Telecoms

The Wall Street Journal

In Spain, the busy signal is three pips a second—in Denmark it's two. Telephone numbers within French cities are seven digits long—in Italy they're almost any length. West German phones run on 60 volts of electricity—elsewhere it's 48.

This list can go on and on; only about 30% of the technical specifications involved in phone systems are common from one country to the next. In telephones, as in much else in Europe, each country has gone its own way. But now the idea of standardizing telecommunications systems is catching on. Officials in national governments and at the Common Market executive commission are pushing it as a way of opening telecommunications markets and cutting phone bills. Big equipment makers are supporting it as a way of expanding their sales abroad.

By the year 2000, telecommunications may grow more than threefold to 7% of the Common Market's gross domestic product, topping autos as the biggest industrial sector. Seven of the world's top 13 telephone switch makers are European. Many political and economic issues cloud the standardization process, because companies stand a lot to gain from these potential markets, and some have a lot to lose.

Pursuit

(continued from page 2-58)

hope that we will be providing a safe, positive outlet for computer hobbyists, giving them inexpensive, virtually unlimited access to hundreds of free databases and bulletin boards. By removing the prohibitive cost from recreational data communications, perhaps PC Pursuit will encourage growth and advancement rather than mischief and abuse among hobbyists."

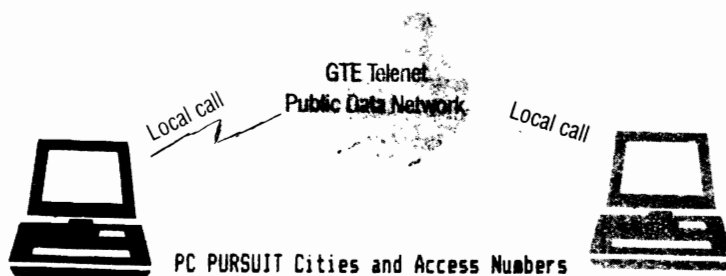
We think it's great. At last we are being encouraged to take advantage of technology without paying ridiculous prices. We look forward to the day when all "long-distance" calls will cost the same as local calls, and free databases be made available to everyone.

Naturally we are a little concerned that all of this data will be going through GTE Telenet, i.e. just about every hacker bulletin board would at some point be called through it. It wouldn't be too difficult to spy on someone's data from within the system, but we feel that's already the case at present with all communications. As always, we recommend scrambling sensitive or private communications.

It's unlikely that this new system (co-developed by Digital Pathways, Inc. of California) will be victimized by hackers because of the callback feature. Still, if there is a way to defeat this, you can count on it being discovered. Even at this point, though, the most that any one person could cheat the service out of is \$25 a month.

Our main complaint with PC Pursuit is that it isn't available in nearly enough places. Only the largest of cities can use it to call other large cities. A list of dial-ups appears in this issue. When GTE finally gets around to implementing nationwide or even worldwide service, they will have a powerful, trend-setting, people-oriented product.

(More info can be obtained by talking to a human at 8003684215 or a computer at 8008353001.)



PC PURSUIT Cities and Access Numbers

CITY	AREA CODE SERVED	LOCAL ACCESS NUMBER	CITY ACCESS CODE
Atlanta	404	584-2873	Atlanta
Boston	617	423-0547	Boston
Chicago	312	565-3927	Chicago
Dallas	214	651-7094	Dallas
Denver	303	671-5146	Denver
Detroit	313	961-9555	Detroit
Houston	713	227-5742	Houston
Los Angeles	213	624-6062	LA
New York	212	675-3738	New York
Philadelphia	215	574-0613	Philly
San Francisco	415	398-1134	San Fran
Washington D.C.	202	659-2863	Wash DC

Touch Tones				
	1209hz	1336hz	1477hz	1633hz
697hz	1	2	3	A
770hz	4	3	6	B
852hz	7	0	9	C
941hz	1	0	0	D

Multi-frequency Tones					
	900hz	1100hz	1300hz	1500hz	1700hz
700hz	1	2	4	7	11
900hz		3	5	8	12
1100hz			6	9	KP
1300hz				10	KP2
1500hz					ST
2600hz	(actually a single frequency tone)				

Other Special and Useful tones

Tone	Frequency	On Time	Off Time
Dial	350hz and 440hz	continuous	
Busy-signal	620hz and 480hz	1/2 second	1/2 second
Reorder	480hz and 620hz	1/4 second	1/4 second
Ringback (normal)	440hz and 480hz	2 seconds	4 seconds
Ringback (PBX)	440hz, 480hz	1 seconds	3 seconds
Off hook attention	1400hz, 2060hz 2450hz, 2600hz	0.1 seconds	0.1 seconds
No such number	200hz, 400hz	Continuous frequency modulated at a rate of 1hz	
Audible rings			
Standard	440hz, 480hz	2 seconds	4 seconds
Synchroneic	20hz, 30hz, 42hz, 54hz	NA	
Decimonic	20hz, 30hz, 40hz, 50hz	NA	
Harmonic	16.67hz, 25hz, 33.34hz, 50hz	NA	
TASI locking frequency	1850hz	5 milisec.	
Out of band signaling	3700hz	NA	
Payphone coins			
Nickel-1 time	1700hz, 2200hz	66 milisec.	
Dime-2 times	1700hz, 2200hz	66 milisec.	66 milisec.
Quarter-5 times	1700hz, 2200hz	33 milisec.	33 milisec.

NA = not available

Attention Readers!

2600 is always looking for information that we can pass on to you. Whether it is an article, data, or an interesting news item—if you have something to offer, send it to us!

Remember, much of 2600

is written by YOU, our readers.

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