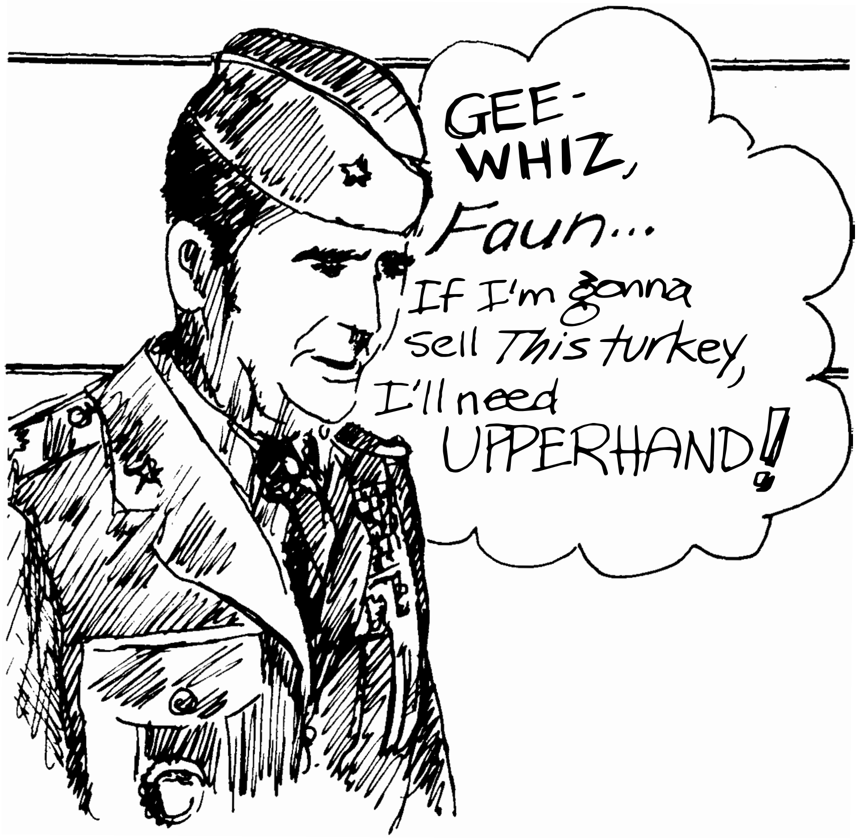
2600

The Monthly Journal of the American Hacker

Volume 4, Number 6 June, 1987 $2


GEE-WHIZ, Faun... If I'm gonna sell This turkey, I'll need UPPERHAND!

Our first ever public get-together was held in New York City earlier this month. It certainly won't be our last.

The opportunity to talk with some of our readers and get "real-time" feedback is something we don't take lightly. That's why we'll be back on future Friday afternoons.

While our New York City get-togethers will happen nearly every week, we will be stopping in other places as well. On Friday, July 31, we'll be in Philadelphia. Just where exactly we don't know yet. Look for specifics in the July issue or call the office after July 1st. Otherwise look for us in the Citicorp Center in New York Fridays at 5.

Our first meeting literally drew people from across the country. We thank them for the trouble. We had quite an interesting group—crossing nearly all age and ethnic groups. Not too many females, though. Why is that anyway?

Besides getting a few new writers and attracting some curious onlookers, we discussed some important matters. How to store back issues without loose-leaf holes seems to be on everyone's mind. There is a task force working on that. The future of 2600 bulletin boards was also talked about. Since the Private Sector is no longer in existence, we are in the process of looking for bulletin boards across the country, possibly serving as a network. We seem to have an abundance of software and sysops around here—what we need to know from the rest of our readers is what's open in other parts of the country and the world. If you'd like to run a BBS, write or call us and tell us what kind of equipment you have and what you'd like to see.

STAFFBOX

Editor and Publisher
Eric Corley 110

Office Manager
Fran Westbrook

Cover Art
Tish Valter Koch

Writers: John Drake, Paul Estev, Dan Foley, Mr. French, Emmanuel Goldstein, Chester Holmes, The Kid & Company, Lex Luthor, Bill from RNOC, David Ruderman, Bernie S., Mike Salerno, Silent Switchman, Mike Yuhas, and the usual anonymous bunch.

Production: Mike DeVoursney.
Cartoonists: Dan Holder, Mike Marshall.
Editor Emeritus: TSH.

2600 (ISSN 0749-3851) is published monthly by 2600 Enterprises, Inc, 7 Strong's Lane, Setauket, NY 11733. Second class postage permit pending at Setauket, New York.

POSTMASTER: Send address changes to *2600*, P.O. Box 752, Middle Island, NY 11953-0752.

Yearly subscription: U.S. and Canada $15 individual, $40 corporate.
Overseas $25 individual, $55 corporate.
Back issues available at $25 per year, $30 per year overseas.
ADDRESS ALL SUBSCRIPTION CORRESPONDENCE TO: *2600* Subscription Dept., P.O. Box 752, Middle Island, NY 11953-0752.
For letters and article submissions, write to: *2600* Editorial Dept., P.O. Box 99, Middle Island, NY 11953-0752.

ALLNET:

by Mike Yuhas

A feature in April's *2600* noted that Allnet would give customers five bucks credit if they persuaded a friend to sign up for Allnet's equal access service. If you recall, this pyramid scheme was a wee bit deceiving—the friend would need to designate Allnet as their *primary* carrier. April must have surely been a good month for promotional creativity over at Allnet: I ended up with Allnet as my primary carrier, *without my consent!!!*

This tale begins in February, shortly after I had started a new job. Part of my job requirement is to spend some time on the phone talking to clients, etc., in the evenings. Since these calls would be reimbursed by my company, I decided to use another long distance carrier to make accounting easier. At random, I chose Allnet. This was to be a stopgap measure until I had received my MCI Cards (TM).

(Remember that with equal access, if you want to make calls on a secondary carrier, i.e., not your primary carrier, all you would need do is dial 10XXX (XXX being the identification code of the secondary carrier) plus the number you wish to reach. The local Bell company would then bill you in the event you didn't have an account with this carrier. It's also interesting to note that this billing cycle is often delayed by several months.)

A few weeks after I had made a bunch of Allnet calls, I got a call from someone who claimed she was from Allnet, saying that her records indicated I had been using Allnet, and would I give her my name and address so Allnet would bill me directly, instead of letting my local Bell company bill me. It sounded like a reasonable request—they wanted to get their funds quicker—so I asked her to recite some of the numbers I dialed to prove her affiliation. Thus convinced, I gave her the information she asked for. At no time did she mention anything about setting me up with Allnet as my primary carrier.

But that is precisely what happened.

A few days later, my postman delivered a form letter: "Welcome to Allnet 'Dial-1' Long Distance Service. You now have the benefits.... You are a highly valued Allnet customer...." and a load of other diplomatic rubbish from Allnet's Director of Customer Service, Elaine Delves. It listed a toll free customer service number, 800-982-4422, for questions, changes and "suggestions for improving our service." I felt my blood pressure rise about fifty bizillion points as I read. I wanted Sprint back!!! Of course, I called their number, and was put on hold for about 20 minutes. The fellow who finally answered said that no one in customer service had switched me over to Allnet, so naturally there was

A Horror Story

absolutely nothing he could do to remedy the situation. He suggested I call my local Allnet office on 215-567-8080.

Bennett Kolber, who is apparently some sort of big shot in Allnet's Philadelphia office, listened to my story: That Allnet had surreptitiously (and you thought only hackers and the folks in the National Security Council acted surreptitiously) connected me to their network, and I wanted to be reconnected back to Sprint, and that I would not call my local Bell company to make those arrangements due to the principle of the thing, not to mention that they'd charge me five bucks for the change. My plight must have really hit home with him because he said he'd look in to the matter and promised—*promised*—that I'd get connected back to Sprint within a couple of days.

Unfortunately, he did not define the term "couple."

I had spoken with him a "couple" of times to try to resolve the affair in an expeditious manner. I got nowhere. I then spoke with Steve Edmonds, who also seemed sincerely disturbed by my situation. I thought my fortunes would change.

My fortunes stayed the same.

Now I was mad. I spoke to a bigger big shot named Bill Love. He was new on the job, he said, but he would rectify my problem *immediately*. After waiting a week, I called again. And again. He finally said something like this: "I'm sorry, okay, that it's taken us, okay, so long, okay, to get this matter resolved. But since I, okay, don't represent Sprint, okay, or your company, okay, there's no way, okay, that we can switch you back, okay, to Sprint." (He really did talk that way.) In short, I would have to call my local Bell company, arrange to be disconnected from Allnet, and deduct the $5 charge from my bill.

There have got to be serious internal problems with a company that asserts that I am "a highly valued customer" but seems to go out of its way to make me feel damn sure that I won't do business with them in this century, if I can help it. It took these clowns over a month to tell me that they were indeed powerless to satisfy me, but my local Bell company had the problem fixed in one five-minute phone call.

paging for free

by Bernie S.

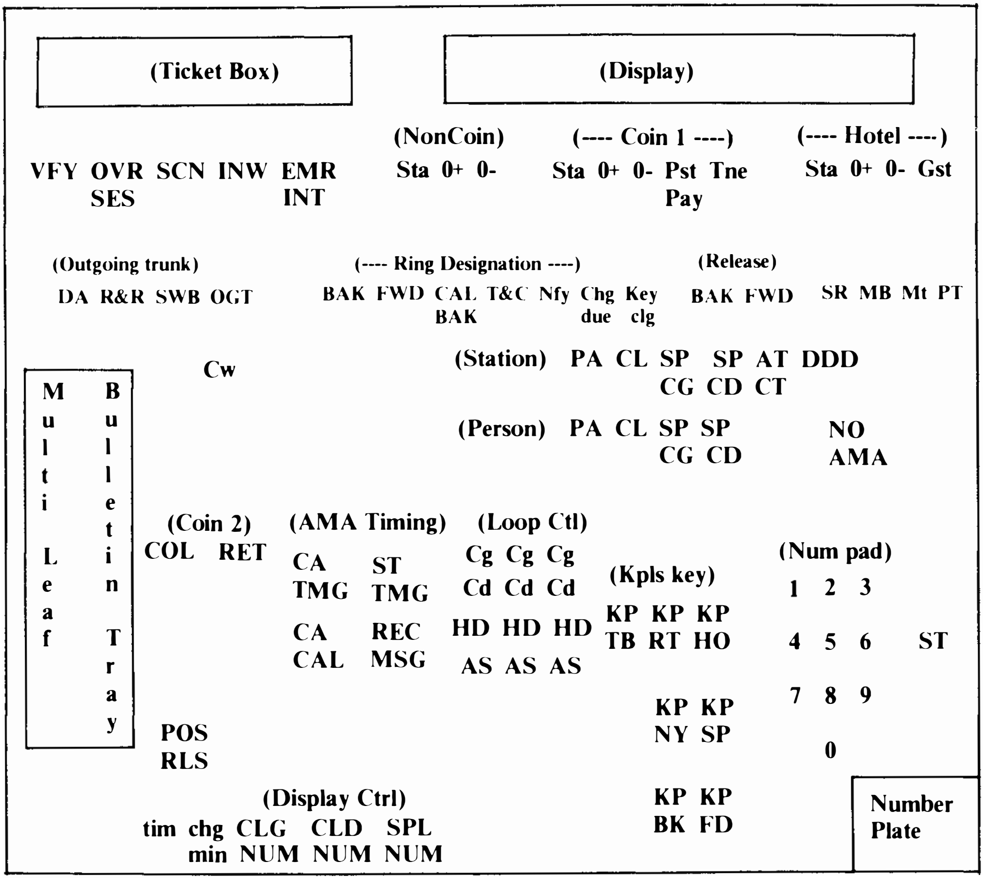
Did you ever want a beeper or paging service but decide against it because of the cost? Well, in many areas the local voice-paging system can be used without charge!

First, a brief description of how a voice-paging system works. Many voice-paging systems work by broadcasting all paging traffic on the same radio frequency in the VHF band around 150 Mhz. All pagers on that system are tuned to the same radio frequency but each one has an audio tone decoder tuned to a unique sequence of audio tones. Every subscriber is assigned a different local or toll-free phone number that people should call when they want to reach him through his pager. When that number is dialed, the caller hears a tone which prompts him to start his verbal message. This is limited to a few seconds, after which another tone cuts him off. This voice message is then temporarily stored in an audio tape buffer or a digital memory subsystem before being routed to the paging transmitter. A unique tone sequence is broadcast just prior to the voice message which triggers the appropriate paging receiver so the subscriber only hears messages intended for him and not everyone else's on that same frequency. The pager times out after the fixed-length message is over.

A couple of years ago while listening to the

(continued on page 21)

A HACKER'S GUIDE



100-B TSPS Console Layout

Abbreviations in capital letters are illuminated keys
Abbreviations in lower case are non-illuminated keys
Abbreviations in upper and lower case are lamps only

by The Marauder
and The Legion of Doom

In this article we will discuss the basic layout, description, and use of the keys found on the standard **AT&T 100-B TSPS Console**. Possible uses for the information contained herein (besides for just wanting to know about the TSPS Console) are primarily social engineering applications. The more you know about operators and their jobs, the more you can get them to do things for you....

Above is the standard AT&T 100-B console layout. While there may be additional or different keys on the various consoles, they will generally resemble the above layout closely. In the lower right hand comer you will notice the numbers 0-9 laid out into what resembles a keypad, which is exactly what it is. The TSPS Operator (**TSO**) uses this keypad for keying in not only routing information (phone numbers, inward routings, etc.) but as a multi-purpose tool for entering various numeric codes recognized by the TSPS software itself. Routing information applied onto the trunks from the TSPS position is done using **MF** (multi-frequency) tones. When a TSO keys in

TO THE TSPS CONSOLE

a number or routing, the console buffers the **KP+information digits** until the **ST** (start) key is pressed, at which time it plays the buffered KP+info digits+ST onto the trunk in a uniformly spaced sequence. So if you were somehow able to listen in on a TSO actually routing a call, it would not sound like someone placing a call on a standard touch-tone telephone (or home-made blue box), but more like someone pressing a "redial key" on a touch-tone phone, except that the tones would be MF tones, not touch tones. The duration of the tone and space between the tones are a network-wide standard, although the network in most cases is quite tolerant to deviations of this standard. (This "loose" tolerance is what allows us to simulate in-band signalling with our blue boxes).

At the upper left hand side of the diagram you will see the **ticket box**. This box has 4 slots marked **New**, **Cancel**, **Scratch**, and **Completed**. I believe this is used for manually filled out trouble and/or time tickets. As far as I know, manually filled time tickets are a thing of the past, however in case of equipment failure the tickets are presumably available. The TSO would manually fill out a trouble ticket to report trouble reaching a number out of her **LAN** (Local Area Network—or the area directly served by her particular TSPS position), whereas to report trouble with a number *in* her LAN she would simply key in a trouble code (utilizing the **KP-TRBL** (Trouble) key) to automatically place a trouble report.

To the right of the Ticket box you will see the **display**. The display works in conjunction with certain keys on the console, and is used to display timing information (hours, minutes, seconds), cost per minute, calling number identification (what most people refer to as **TSPS ANI**), numbers called, and various special codes. The console display can be in one of two states, either displaying digits or displaying nothing (dark). Both of these states have different meanings when resulting from certain procedures attempted by a TSO. Lighted keys and lamps on the console can be in one of three states: not illuminated (dark), illuminated, or flashing. Again, the state of a lamp/lamp-key means different things under different conditions.

Below the Ticket box you will see a row of 5 keys starting with the key labeled "VFY" (Verify). These are various special purpose keys used by TSPS that have no real "grouping" unlike the other "key groups". These are:

(**VFY**)—Verify, illuminated key. Used in conjunction with the keypad, it allows the TSO to verify (listen in) on a telephone call that is in progress, although any conversation taking place on that call is scrambled to the TSO, and despite popular belief *the scrambling process is done at the console level, and not on the trunk level.* If you were to somehow gain access to a verification trunk from a non-TSPS position, the conversation would *not* be scrambled.

(**OVR SES**)—Overseas, illuminated key. Used in overseas call completion through an Overseas Toll Completion Center/Server (**IOCC**). I believe it also allows the TSO to key in more than 10 digits (**standard POTS**) for IDDD call completion.

(**SCN**)—Screen, illuminated key. Lights to notify the TSO that an incoming call has an associated screening code (for example, 74=collect calls only, 93=special billing). Depressing this key causes the code to show on display, and it's up to the TSO to decipher the code and explain its meaning to the customer if he/she is attempting something forbidden by his associated screening code. (For instance, prison phones have a screening code of 74, allowing them to place collect calls only).

(**INW**)—Inward, illuminated key. Lights to notify the TSO that the incoming call is "Operator to Operator", therefore she answers by pressing the key and saying, "Inward". In most cases inward operators are actually TSPS operators with their inward lamps lit.

(**EMR INT**)—Emergency Interrupt, illuminated key. Used in conjunction with the VFY key to interrupt a call in progress while a line verification is being done. Pressing this key causes an audible "beep" to be applied to the line, and de-activates the console scrambling (for roughly 30 seconds), allowing the TSO to talk to the parties being verified/interrupted. Use of this key and the VFY key, is constantly kept track of via various security and maintenance TTY's. Any abuse/misuse will set off alarms.

To the right of the above set of keys you will see three groups of lamps/keys labeled "**Non-**

(continued on page 15)

the telecom informer

BY DAN FOLEY

The passage of the Electronic Privacy Act (see the April column) provides a flimsy legal barrier to eavesdropping on cellular phone calls. The more logical response to eavesdropping would be encryption. There are many products on the market that encrypt telephone conversations (both cellular and normal wireline). These range from mere audio inverters (which take the voice signal and invert it—with training, one can even understand inverted conversations) to digitalizing the voice and passing the data stream through a DES encryption scheme. However, one then has to buy encryption gear at both ends of the call. Since the area of concern is the cellular link, it seems obvious that the cellular phone companies should provide this, and decrypt the call when it gets to their central switch before being passed to the normal phone lines. So far, only one cellular company does this—Bell Atlantic Mobile Systems. In the Washington and Baltimore area, Bell Atlantic offers central switch based cellular encryption. The cellular phone user, however, must buy the AT&T 1620E encryption device ($2,550), which has been approved by the National Security Agency. It uses a proprietary digital encryption algorithm, offering data transmission at 300, 1200, and 2400 bits per second. Scanner users will only hear a hissing if they attempt to listen in. This represents a step in the right direction, but until this becomes widespread, cellular phone users can't really depend on the privacy of their calls.

Violations

An outspoken corporate supporter of the new cellular privacy laws is now alleged to engage in illegal cellular interception. In a complaint filed with the FCC, Metroplex Telephone Company charged that its wireline competitor in Dallas, Southwestern Bell Mobile Systems (SBMS), engages in "deliberate commercial spying" by monitoring data transmissions of the Metroplex network for its own competitive benefit. In its response, SBMS admitted that it monitored Metroplex transmissions, but only to "obtain an estimate of its market share" and "has not used the information for its own or another's benefit." SBMS said that "transmissions that may be intercepted by the use of readily available scanning equipment are not protectible," even though in Congressional testimony it argued for laws to protect communications privacy regardless of the technology used to provide the communications service. SBMS also termed the cellular signals it received "noncommunicative" and contended that Section 705 of the Communications Act (which prohibits unauthorized use of radio transmissions) "does not apply to cellular data transmissions." Metroplex replied that SBMS "presents a totally confused and inaccurate picture of interception law" and said that its competitor has been "caught with its hands in the cookie jar."

Predictions

A market research report by Frost and Sullivan projects a sixfold increase in the number of European cellular subscribers from the 240,000 using the service at the end of 1985. "This optimistic scenario is drawn for Europe in spite of acknowledged pitfalls as high subscriber costs and some poor reception quality," the research firm said in a news release. The report predicts that shipments of mobile phones will reach 510,000 by the end of the decade, amounting to $506 million. Usage revenues will amount to $984 million a year by then, yielding a total 1989 cellular market "just shy of $1.5 billion"

(continued on page 20)

More Telenet Addresses

```
¦41507  ¦  HP 3000    ¦ .admin .a
¦41520  ¦             ¦ Dialog
¦41527  ¦  IBM 3033A  ¦ Stanford Data Center (SYS A)
¦41530  ¦             ¦
¦41532  ¦  IBM VM/370 ¦
¦41533  ¦  IBM VM/370 ¦
¦41534  ¦  DG AOS/VS  ¦
¦41537  ¦  HP-3000    ¦ CASTOR
¦41538  ¦  HP-3000    ¦ POLLUX
¦41539  ¦  RSX-11     ¦
¦41545 $¦  19.2.17    ¦ Primenet CESSF
¦41548  ¦             ¦ Dialog
¦41549  ¦             ¦ Dialog
¦41550 $¦             ¦ "Network (BUR) terminal must sign-on"
¦41553  ¦  VMS 3.5    ¦
¦41557 $¦             ¦ "Network (BUR) terminal must sign-on"
¦41559  ¦  19.2.11    ¦ Primenet MD.NWR
¦41560  ¦             ¦ Leasametric
¦41566 $¦             ¦
¦41567 $¦             ¦ "Network (BUR) terminal must sign-on"
¦41574 $¦  DG AOS/VS  ¦
¦41575  ¦  20.2.1     ¦ Primenet MD.SCV
¦41577  ¦  20.2.0     ¦ Primenet RS.WC
¦41578  ¦  19.2.11    ¦ Primenet MD.SAC
¦41579  ¦  19.4.2.R11 ¦ Primenet MD.SFO
¦41580 $   Systar Elf ¦ Harper Group Information Network
¦41585  ¦  19.1.1     ¦ Primenet COUR
¦415111 ¦  Burroughs  ¦ RCC Palo Alto B7800 (348)
¦415120$¦  IBM VTAM   ¦ USS-10 Please Sign On:
¦415124               ¦ "Enter Session Establishment Request:"
¦415125 ¦             ¦ "Enter Session Establishment Request:"
¦415130$¦  DG AOS/VS  ¦ R05A
¦415131$¦  DG AOS/VS  ¦ R05F14A
¦415133 ¦             ¦ hplabst.arpa  San Jose
¦415138$¦             ¦
¦415140 ¦  19.3.4     ¦ Primenet ROSCOA
¦415154$¦             ¦
¦415157 ¦  VAX/VMS    ¦ VAX Node One
¦415158 ¦  Systar Elf ¦ ESPRIT DE CORP Info System
¦415164$¦  DG AOS/VS  ¦ S27A
¦415166 ¦  IBM VM/370 ¦ "Enter System ID" (Type V for VM/370)
¦415167 ¦  19.4.3     ¦ Primenet VESTEK
¦415168$¦             ¦
¦415169$¦  DG AOS/VS  ¦ R05F14D58A
¦415175 ¦  HP-3000    ¦
¦415233 ¦  DG AOS/VS  ¦ Berkely Solar Group
¦415234 ¦  HP-3000    ¦
```

```
¦415242 ¦  VAX/VMS    ¦
¦415254 ¦  IBM VM/370 ¦ "Enter System ID" (Type V for VM/370)
¦415257 ¦  IBM TSO    ¦ (Running ACF2)
¦415259 ¦  IBM TSO    ¦ (Running ACF2)
¦415260 ¦  19.3.6     ¦ Primenet CORP1
+-------+-------------+------------------------------------------
¦50335 $¦  DG AOS/VS  ¦ R06F12D07A
¦50340 $¦  DG AOS/VS  ¦ R06F12D01A
¦50345 $'  DG AOS/VS  ¦ R06F16D02A
¦50371 $¦  DG AOS/VS  ¦ R06F01A
¦50373 $¦  DG AOS/VS  ¦ R06F18D04A
¦50374 $¦             ¦
¦50375  ¦             ¦ "Please Sign On"
¦50376  ¦  DG AOS/VS  ¦ R06F07A
¦50377  ¦  DG AOS/VS  ¦ R06F18D03A
¦50378  ¦  DG AOS/VS  ¦ R06F01D01A
+-------+-------------+------------------------------------------
¦50420 $¦             ¦
¦50431 $¦             ¦ "ID  incorrect Location ID"
¦50433 $¦  DG AOS/VS  ¦ R08F07D14A
¦50436 $¦             ¦
¦50437 $¦  DG AOS/VS  ¦ R08F07D14A
¦50439 $¦             ¦
¦50444 $¦             ¦
¦50445 $¦  DG AOS/VS  ¦ R08F06D05A
¦50446 $¦  20.0.4.R2  ¦ Primenet GROUSE
¦50450 $¦  DG AOS/VS  ¦ R08F06D04A
+-------+-------------+------------------------------------------
¦50530 $¦  DG AOS/VS  ¦ R03A
¦50540 $¦  DG AOS/VS  ¦ R03F06A
¦50560 $¦             ¦
¦50570 $¦             ¦
¦50575 $¦             ¦
+-------+-------------+------------------------------------------
¦50921  ¦  19.1.1     ¦ Primenet AIS
¦50926 $¦  DG AOS/VS  ¦ R06F17D07A
¦50927 $¦             ¦
¦50931 $¦             ¦
¦50932 $¦             ¦
¦50933 $¦             ¦
¦50934 $¦             ¦
¦50935 $¦             ¦
+-------+-------------+------------------------------------------
¦51250 $¦             ¦ AHSC (American High School CXXX)
+-------+-------------+------------------------------------------
¦51330  ¦             ¦ Lexis/Nexis
¦51331  ¦  Port Sel.  ¦ Meadnet
```

```
¦51337 $¦  19.4.8.GE9 ¦ Primenet E03
¦51350 $¦  HP-3000    ¦
¦51351 $¦  HP-3000    ¦
+-------+-------------+------------------------------------------
¦51530  ¦             ¦ Lexis/Nexis
+-------+-------------+------------------------------------------
¦51630  ¦  VAX/VMS    ¦ New York Institute of Technology Node Offices:
¦51635  ¦             ¦ CCI Multilink Services
¦516140$¦             ¦ TDK Electronics Corp.
¦516200 ¦  VAX/VMS    ¦ "909 208 Connected" Telenet INFO System
¦516201 ¦  VAX/VMS    ¦ "909 208 Connected" Telenet INFO System
¦516601$¦  TOPS-20    ¦ Contel Business Networks, N.A.C.
¦516610 ¦  19.3.6     ¦ Primenet P550
¦516620 ¦             ¦ S.W.I.F.T. GLOBAL
¦516622 ¦             ¦ VTI NYK
¦516623 ¦             ¦ VTI NYK
¦516624 ¦             ¦ VTI NYK  VITEL SAV078447
¦516625 ¦  VAX/VMS    ¦
+-------+-------------+------------------------------------------
¦51729  ¦  RSTS       ¦ Scientific CC
¦51730  ¦  IBM TSO    ¦
¦51731  ¦  IBM TSO    ¦
¦51740 $¦             ¦
+-------+-------------+------------------------------------------
¦51830  ¦             ¦ "USS MG610 MHP201A UPK06X01 * Version 4 * Application
¦51831  ¦             ¦ "USS MG610 MHP201A UPK06X01 * Version 4 * Application
¦51835  ¦             ¦ "USS MG610 MHP201A UPK06X01 * Version 4 * Application
¦518601 ¦  VAX/VMS    ¦ <SYSTEM PASSWORD INSTALLED>
¦518617 ¦             ¦ IAS Program Dev. Metcalf & Eddy Engineering Computing
+-------+-------------+------------------------------------------
¦60333 $¦  DG AOS/VS  ¦
¦60336 $¦             ¦
¦60340 $¦  VAX/VMS    ¦
¦60346  ¦             ¦ "User Number--"
¦60352  ¦  Gateway    ¦ DEC Easynet X.29/DECnet Gateway
¦60353  ¦  IBM VM/370 ¦ TELUS Proposal System - Chubb Securities
¦60354  ¦  IBM VM/370 ¦ TELUS CMSSEG - System Name
¦60366  ¦             ¦ "User Number--"
¦603605 ¦  VAX/VMS    ¦
+-------+-------------+------------------------------------------
¦60733  ¦  IBM VM/370 ¦
¦60734  ¦  IBM VM/370 ¦
¦60744  ¦  IBM VM/370 ¦ "Enter System ID" (Type B for VM/370)
¦60745  ¦  IBM VM/370 ¦ "Enter System ID" (Type B for VM/370)
¦60767  ¦  IBM VM/370 ¦ Cornell Computer Services
+-------+-------------+------------------------------------------
¦60921  ¦  IBM VM/370 ¦ CIGNA Corporate Network  (Type VM then LOGON)
¦60922  ¦             ¦ "''SUYHK!!"
```

(continued on next page)

```
¦60923 $¦ Port Sel. ¦ P.C.C. (1=TOPS-20)
¦60925  ¦           ¦ CIGMA Corporate Network
¦60938  ¦ IBM VM/370¦ (Running ACF2)
¦60942  ¦           ¦ Dow Jones
¦60963 $¦           ¦ "XXX"
¦60968 $¦           ¦ "XXX"
¦60977  ¦ IBM VM/370¦
¦60978  ¦ IBM VM/370¦
¦609100 ¦ Prime     ¦
¦609108 ¦ 19.4.11   ¦ Primenet PRINCE
¦609200 ¦           ¦ "909 849 Connected"
¦609242 ¦           ¦ Dow Jones
+-------+-----------+---------------------------------------
¦61203  ¦           ¦ Westlaw
¦61206  ¦ TOPS-10   ¦ A.C. Nielson Information Center
¦61207  ¦           ¦ Westlaw
¦61209  ¦           ¦ Westlaw
¦61241  ¦ TOPS-10   ¦ A.C. Nielson Information Center
¦61246 $¦ Port Sel. ¦
¦61252 $¦ Prime     ¦
¦61256  ¦           ¦ Westlaw
¦61257  ¦           ¦ Westlaw
¦61262  ¦           ¦ Westlaw
¦61276  ¦           ¦ Westlaw
¦612135 ¦ VAX/VMS   ¦
+-------+-----------+---------------------------------------
¦61421  ¦           ¦ STN INTL
¦61430  ¦           ¦ "ID  Incorrect Location ID"
¦61431  ¦           ¦ STN INTL
¦61433  ¦ 19.4.5.R7 ¦ Primenet SYSC
¦61442  ¦ DG AOS/VS ¦
¦61444  ¦ Prime     ¦ "Good Evening"
¦61445  ¦ Prime     ¦ "Good Evening"
¦61447  ¦ Prime     ¦ "Good Evening"
¦61448  ¦ Prime     ¦ "Good Evening"
¦61449  ¦ HP-3000   ¦
+-------+-----------+---------------------------------------
¦61641 $¦           ¦
¦61642  ¦           ¦ Telenet Async to 3270 Service
¦61643A ¦           ¦ Telenet Async to 3270 Service
¦61650  ¦ Port Sel. ¦
¦61660  ¦           ¦
¦61661  ¦           ¦ "Incompatable Destination"
+-------+-----------+---------------------------------------
¦61720  ¦ 19.4.11.A ¦ Primenet PBN27
¦61722  ¦ 19.4.11.A ¦ Primenet BDSD
¦61723 $¦ RSX-11    ¦
¦61724  ¦ Port Sel. ¦ "ts=tso i=interact v=vm"
¦61730 $¦ LAN       ¦ GTE-LAN  GS/1>
¦61737  ¦ 19.4.11.A ¦ Primenet BDSH
¦61739 $¦           ¦ BBN-TC-TELNET
¦61746 $¦ 19.2.7F   ¦ Primenet BDSS
¦61747 $¦ Port Sel. ¦ "HOST:"
¦61748  ¦ Prime     ¦ IRI System 4
¦61749  ¦ 19.4.11.A ¦ Primenet OASD
¦61750 $¦ 19.4.11.A ¦ Primenet BDSP
¦61751 $¦ VAX/VMS   ¦
¦61761  ¦ IBM TSO   ¦
¦61763  ¦ Prime     ¦ IRI System 3
¦61764 $¦ 19.4.11.A ¦ Primenet ALLYN
¦61767  ¦ Prime     ¦ IRI System 1
¦61772  ¦ Prime     ¦ IRI System 2
¦61778 $¦ 20.2.0    ¦ Primenet MD.D
¦61784 $¦ LAN       ¦ Marlboro HPS/C Software Engineering  X28SRV
¦617114$¦ 20.2.0    ¦ Primenet MD.B
¦617115 ¦ 20.2.0    ¦ Primenet TRNG.E
¦617119 ¦ Port Sel. ¦ "Enter i=irving t=test v=interact c=idasdc"
¦617127$¦ RSX-11    ¦
¦617130 ¦ Honeywell ¦ "$$ 00 + Datanet8 DNS 2.6"
¦617133 ¦           ¦ Weather Services International (WSI)
¦617135$¦ VAX/VMS   ¦ Arthur D. Little Inc.
¦617137 ¦ IBM VM/370¦
¦617138 ¦ Multics   ¦ Massachusetts  Institute of Technology
¦617143 ¦ IBM VM/370¦ IDC
¦617148 ¦ 19.4.11.A ¦ Primenet OASD
¦617151$¦ IBM TSO   ¦ "Enter logon or )aplogon" (Running ACF2)
¦617152 ¦ IBM TSO   ¦ (Running ACF2)
¦617153 ¦ Unix 4.2  ¦ (csnet-relay)
¦617158 ¦ 19.4.11.A ¦ Primenet BDSW
¦617160 ¦ 19.4.9    ¦ Primenet S38
¦617163$¦ 19.4.2.R3 ¦ Primenet BARBIE
¦617164 ¦ Gateway   ¦ Systar Corporation Gateway/GTE Sylvania Gateway
¦617169 ¦ 19.4.11.A ¦ Primenet PBN36
¦617191 ¦ Prime     ¦ IRI System 5
¦617196 ¦ Port Sel. ¦ Yankee Data Communications Network
¦617200$¦ VAX/VMS   ¦ Joint Computer Facility Vax
¦617226 ¦ IBM VM/SP ¦ IRI System 6
¦617230 ¦ IBM VM/370¦
¦617239 ¦ Prime     ¦
¦617255 ¦ 19.4.11.A ¦ Primenet PBN43
¦617256 ¦           ¦ MGH Teaching Supervisor
¦617270 ¦ VAX/VMS   ¦
¦617272$¦           ¦ "Incorrect Location ID"
¦617275$¦ LAN       ¦ BBN TC-TELNET  Address 192.1.2.11
¦617315$¦ 19.2.7F   ¦ Primenet BDSP
¦617338$¦ DG AOS/VS ¦ Shawmut Bank Of Boston  MV10A
¦617343 ¦ VAX/VMS   ¦ Sylvania Lighting Center Engineering Comp. & Math Dept.
¦617350 ¦ 19.2.7F   ¦ Primenet PBN39
¦617351 ¦ 19.4.11.A ¦ Primenet BDSU
¦617352$¦ 19.4.11.A ¦ Primenet OASB
¦617353 ¦ 19.4.11.A ¦ Primenet PBN34
¦617361$¦ VMS 4.3   ¦ DECnet Node3  Information Services Cluster
¦617380 ¦ 19.4.8    ¦ Primenet L01
¦617381 ¦ 19.3.7    ¦ Primenet P01
¦617382 ¦ 19.4.8    ¦ Primenet Y01
¦617383 ¦ 19.3.7    ¦ Primenet H02
¦617384 ¦ 19.4.8    ¦ Primenet V01
¦617385 ¦ 19.3.7    ¦ Primenet R01
¦617387 ¦ 19.3.7    ¦ Primenet B01
¦617403 ¦ Prime     ¦
¦617443 ¦ IDC/370   ¦
¦617446 ¦ 19.4.10.R4¦ Primenet ENG
¦617510 ¦ 20.2.0    ¦ Primenet EN.C06
¦617512 ¦ 19.4.11.A ¦ Primenet EN.C19
¦617516 ¦ 19.4.11.A ¦ Primenet PBN38
¦617525 ¦ Prime     ¦ IRI System 8
¦617551 ¦ 19.4.10   ¦ Primenet CSP-A
¦617552 ¦ Prime     ¦
¦617554 ¦ 19.4.11.A ¦ Primenet PBN29
¦617558 ¦ 20.2.0    ¦ Primenet CS9950
¦617551 ¦ 19.4.10   ¦ Primenet CSP-A
¦617552 ¦ Prime     ¦
¦617554 ¦ 19.4.11.A ¦ Primenet PBN29
¦617558 ¦ 20.2.0    ¦ Primenet CS9950
¦617559 ¦ 19.4.5    ¦ Primenet EN.C02
¦617560 ¦ 19.4.11.A ¦ Primenet BDSN
¦617562 ¦ 19.4.11.A ¦ Primenet BDSZ
¦617563 ¦ Prime     ¦
¦617564 ¦ 20.0.4    ¦ Primenet MD.NE
¦617566 ¦ 20.2.0    ¦ Primenet MF.NPL
¦617568 ¦ 19.4.11.A ¦ Primenet CASI
¦617572 ¦ 19.4.10   ¦ Primenet S59
¦617587 ¦ 19.4.3    ¦ Primenet TR.SCH
¦617592 ¦ 19.4.5.E4 ¦ Primenet CS
¦617605$¦ DG AOS/VS ¦ Shawmut Bank of Boston
¦617609 ¦ VAX/VMS   ¦ Xyplex CC8 Controller (Type Connect) Waltham Comp.
¦617611$¦ Unix 4.2  ¦ (sh.cs.net)
¦617613$¦ TOPS-10   ¦ NIH - Prophet  Node DNA
```

```
|617614$|           |
|617622 |  Unix 4.3 | (media-lab.mit.edu)
|617637 |  IBM VM/370|
|617638 |  IBM VM/370| MIT-VM
|617641 |  DG AOS/VS | Timeplace, Inc.
|617644$|  DG AOS/VS | Shawmut Bank of Boston
|617645 |           |
|617663 |  IBM TSO   | "PCI Please enter logon DFH2001"
|617735 |           | GTE Telenet Async 3270 Servi:e  Norton Corporate Network
+-------+-----------+--------------------------------------------------+
|61931 $|  OS/32     | Terminal Monitor 08-02 Beta  San Diego
|61941  |  IBM VM/370|
|61943 $|  HP-3000   |
+-------+-----------+--------------------------------------------------+

|70320  |  DG AOS/VS | R09F21D04A
|70321  |  DG AOS/VS | R09F21D05A
|70330  |  DG ACS/VS | R08F08A
|70333  |  DG AOS/VS | R08F14A
|70340  |  VAX/VMS   | Gannet News Media Services
|70341  |  VAX/VMS   |
|70343  |  UNIX      | DCA-EMS C70UNIX
|70344  |  DG AOS/VS | AOS Project HOPE - MV10 System
|70346  |  UNIX      | DCA-EMS C70UNIX
|70357  |  Port Sel. | "Select Service" (Wylbur, PCI, CMS, TSO)
|70368 $|  DG AOS/VS | R08F08D02A
|70370 $|  DG AOS/VS | R09F08D03A
|70371 $|  DG AOS/VS | R08F08D05A
|70372 $|  DG AOS/VS | R09F14D05A
|70374  |  TOPS-20   | AAMSHAPE Remote Computing Services
|703101 |           | "Please Login" ADNET
|703102 |           | "Please Login" ADNET
+-------+-----------+--------------------------------------------------+
|70430  |  19.4.7    | Primenet JONES
|70460 $|  DG AOS/VS |
+-------+-----------+--------------------------------------------------+
|71115  |  Prime     | GTCNET
|71116  |           |
+-------+-----------+--------------------------------------------------+
|71325 $|  TOPS-20   |
|71329 $|  Port Sel. | M.E.I. Systems
|71334 $|  18.3.175  | Primenet GVC
|71347  |  DG AOS/VS | Dresser Magcobar
|71353 $|  IBM TSO   | Hou..D. Tenneco Inc. (ACF2)
|71354 $|  IBM TSO   | Hou..D. Tenneco Inc. (ACF2)
```

```
|71355 $|  IBM VM/370| Tenneco Corporate VM Systems (ACF2)
|71356 $|  IBM VM/370| Tenneco Corporate VM Systems (ACF2)
|71357  |  IBM       | (Running ACF2)
|71359 $|  DG AOS    |
|71365  |           | "ERR-Invalid Action Code"
|71369  |           | "ERR-Invalid Action Code"
|71386 $|  IBM MVS/SP| Tenneco MVS/SP System (ACF2)
|713170 |  20.2.1    | Primenet MD.HOU
|713171 |  20.2.1    | Primenet CS.HOU
|713172 |  19.4.5    | Primenet IR.HOU
|713173 |  19.4.5    | Primenet MD.AUS
|713176 |  20.2.0    | Primenet TRNG.D
|713196 |  19.4.2.R  | Primenet PRFVS1
+-------+-----------+--------------------------------------------------
|71430 $|  HP-3000   |
|71439 $|  19.4.2    | Primenet SYS1  PacTel Mobile Companies
|71441 $|  DG AOS/VS | ROSF
|71448  |  19.3.3    | Primenet TWCALF
|71449  |  Port Sel. | "Service ID:"
|71455 $|  HP-3000   |
|71472  |  19.4.9    | Primenet FSCOPE
|714123$|  HP-3000   |
|714142 |  HP-3000   |
|714143 |           |
|714606 |  HP-3000   |
|714608 |           | "Select:"
+-------+-----------+--------------------------------------------------
|71625  |  Burroughs |
|71641  |  VAX/VMS   |
|716605 |  IBM       | Bausch & Lomb Data Center
+-------+-----------+--------------------------------------------------
|71730 $|           |
|71731 $|           |
|71732 $|           |
|71733 $|           |
|71734 $|           |
+-------+-----------+--------------------------------------------------
|80125  |           | Wasatch Security Services Timeshare
|80126  |  Unix 4.1  | Berkeley Wasatch System VAX/UNIX BSD 4.1
|80144 $|  DG AOS/VS |
|80149 $|           |
|80150 $|  DG AOS/VS | S22A
|80154 $|  VAX/VMS   |
|80160 $|  DG AOS/VS |
|80162 $|           |
|80165 $|  DG AOS/VS |
+-------+-----------+--------------------------------------------------
|80423  |  Port sel. | Babcock and Wilcox Computer Center
```

```
|80424  |  Port sel. | Babcock and Wilcox Computer Center
|80425  |  VAX/VMS   |
|80460 $|           | "ID  Incorrect Location ID"
|80461 $|           |
|80462 $|           |
+-------+-----------+--------------------------------------------------
|80530 $|  DG AOS/VS | R05F07D55A
|80550  |  VAX/VMS   |
|80551  |  VAX/VMS   |
|80558 $|  HP-3000   |
|80560 $|           |
|80561 $|           |
|80562 $|           |
|80563 $|           |
|80564 $|           |
|80565 $|           |
+-------+-----------+--------------------------------------------------
|80850  |           | ">>"
|80855  |           | "ID ?"
|80865  |           | "ID ?"
|80870  |           | ">>"
|80885  |           | "ID ?"
|80895  |           | "ID ?"
|808500 |  HP-3000   |
+-------+-----------+--------------------------------------------------
|81230 $|  DG AOS/VS | R09F11A
+-------+-----------+--------------------------------------------------
|81331 $|  IBM VM/370|
|81335  |  19.4.5    | Primenet S9750
|81343  |  Honeywell | "$$ Device Type Identifier:" (Type A!)
|81352 $|  TOPS-20   | Price Waterhouse Timesharing
|81353 $|  TOPS-20   | Price Waterhouse Timesharing
|81355 $|           | Price Waterhouse System
|81359 $|           |
|81360  |           |
|81365  |           |
|81373  |  IBM VM/370|
|81374  |  Honeywell | "$$ Device Type Identifier:" (Type AI)
|81377  |           | "MCS: Transaction "" is not recognized(205)
|813132$|  IBM VM/370|
|813140 |           | IBM Information Network (3270 Emulation only
|813143 |           | IBM Information Network (ASCII Emulation)
|813144 |  Honeywell |
|813160 |  VAX/VMS   |
|813170 |           | "Access Code:"
|813172 |           | IBM Information Network (ASCII)
-----------------
```

(continued on page 14)

letters, po box 99,

A Mystery

Dear *2600*:

When we in Grand Blanc, MI had crossbar in the 694 and 695 exchange, we could simply pick up the phone and dial 930. If I fused two lines together you could enter a phone number after a short code that was shortly hacked out, and listen to anything on that line. Could you explain just exactly what that was, and/or how it worked? Now on ESS-5 it is busied out.

Silicon Rat and the Mice

We don't know what it was you did, but if anyone out there has knowledge on the subject, we'd be most happy to hear about it. Numbers such as the one you've mentioned have long been rumoured to exist, but conclusive proof simply hasn't been presented.

In Reply

Dear *2600*:

This letter is to reply to your review of *ATM III* in the February issue of *2600*. A few of the comments made about *ATM III* were valid. However, the review contains so many gross and unfair distortions that I must question the reviewer's agenda. The reviewer's flippant attitude about our freedoms and privacy reinforces this suspicion. Our response to some of his complaints are:

(1) The size of the print used in *ATM III* is 75 percent of elite type, and is larger than the print used in many national publications. It is very readable. *ATM III* is compactly and concisely written and contains more info in 18 pages than many books 100+ pages long. *ATM III* is one of a kind—this info is not found in any other publication available to the general public!

(2) *ATM III* is reproduced on a Canon NP-155 copier. Some variations in quality may exist, but to make a blanket statement that *ATM III* consists of 18 badly xeroxed pages is a gross exaggeration! A copier allows us to economically make a smaller number of copies so that we can update publications when important new information arrives.

(3) *ATM III* has one "cartoon" and does not contain "cartoons". Another gross distortion made is the reviewer's assertion that most of the newspaper clippings provided in *ATM III* have nothing to do with ATM fraud. *ATM III* summarizes 31 news articles. Of these, 28 relate to ATM and debit fraud, one to ATM networking, one to night depository crimes, and one to PAC contributions.

(4) This review badly glosses over the three-page feedback questionnaire, which, in itself, contains many, many ATM security insights. And it permits anyone to systematically make an in-depth security analysis of ATMs. And, by way of feedback, it provides us more specific info for future editions of *ATM*.

(5) While the reviewer felt that my statement, "ominous risks to our freedoms and privacy" was "entertaining reading" to him, many people regard the impact of EFT devices upon our freedoms and privacy as extremely grave. About 75 percent of the feedback we receive regarding these "ravings" are favorable. About 25 percent are not. They add to the seriousness of the work because they make it clear that ATMs are a serious threat to average, law-abiding citizens.

(6) The current price of *ATM III* is $20. If anyone wants to produce his own, unique ATM publication at a lower price, he's certainly entitled to do so.

(7) 90+ percent of the material that goes into our publications is contributed by readers. We are not afraid to publish anything on ATMs—

no matter how lengthy, detailed, or shocking. But only if we can obtain that info. We are working on *ATM IV*. Please contribute info to it. Our publications are what you make of them!

John J. Williams
President, Consumertronics
P.O. Drawer 537
Alamogordo, NM 88310

Military Madness

Dear *2600*:

I recently ordered a book that was confiscated by the military. Apparently they feel *2600* is safe to read, so I don't mind the lack of an envelope. I do like the new format.

Thanks for the info on *TAP* and *Computel*. I lost money on *TAP*.

I'd like to see more hardware info. I am fairly competent on computer architecture (I built a home-brew using a Z-80 and have started on a robot), but I can't find telecommunications stuff. I'd like to build a modem for my home-brew. Any suggestions?

MDLP

Ads in the 2600 Marketplace usually yield quick results. And they're free to subscribers.

More Publications

Dear *2600*:

As an avid info junkie, I suggest you print a list of recommended readings in a future issue. You often refer to publications that seem interesting and related to the info/telecom enthusiast, but are usually unobtainable at my local newsstand or library. Addresses and subscription/sample copy information for magazines like *The Ace*, *Monitoring Times*, *Pay Phone Magazine* and no doubt many others which you receive would be appreciated. (How about contacting Mark Tobias and printing an unexpurgated version of his payphone article?)

I look forward to your reply.

Best wishes from 216
Tabula Rasa

The Ace and Monitoring Times provide a great look at the exciting and subversive world of radio. The Ace costs $12 a year and their address is PO Box 46199, Baton Rouge, LA 70895-46199 (first 10-digit zip we've ever encountered). Monitoring Times is $15 a year and you can write to: Grove Enterprises, PO Box 98, Brasstown, NC 28902. Payphone Magazine is in its third year now. They print lots of neat articles and advertisements on payphones. Subscriptions are $33 a year and their address is P.O. Box 42371, Houston, TX 77242. Let us know about any other good magazines out there.

Additional Facts

Dear *2600*:

Regarding the mini-review of *Who, What, and Where in Communications Security* (page 21, April issue), here are a few additional facts your readers might find useful:

(1) The 1981 edition was mostly a compilation of information from manufacturers' brochures about security-related products, along with a "selected bibliography", a section explaining commonly-used acronyms, a glossary of communications terms, and some introductory articles about various aspects of communications security. It's nice to have all that information in one place (even though it contained nothing that you couldn't have learned by reading easily-available trade journals, or attending any of the comsec conventions or trade shows), but the price for this convenience was a bit steep—$175.

(2) The above book was actually a minor revision of a study first done for Uncle. It first appeared as a National Telecommunications and Information Administration Contractor Report, # NTIA-CR-80-9, "Users' [sic] Guide, Voice and Data Communications

(continued on page 18)

(continued from page 11)

Telenet

'*' at end of UNINET host name signifies system temporarily out of service.
'$' at end of address signifies 'will not accept collect connection' thus, you need a 'Telenet ID' or some other means to connect to the system.
Any addresses responding with "Rejecting" or "Not Operating", are temporarily down. ALL above addresses were working as of the date of update.

Definitions of abbreviations:

DG - Data General
P-E - Perkin-Elmer
AOS - Advanced Operating System (DG)
ACF2 - Access Control Facility 2, Software Security Package for IBM Mainframes.
CICS - Customer Information Control System (IBM)
TSO - Time Sharing Option (IBM)
TOPS - Total OPerating System (DEC)

Port Sel. - Port Selector - could be a MICOM, a PACX, or other which enables you to connect to various host systems.
RSTS/E - Resource System Time Sharing /Environment (DEC)
Multics - O/S Made by Honeywell (no longer in production)
CDC - Control Data Corporation (Makes CYBER Computers)
LAN - Local Area Network

Legion Of Hackers
Contributors: Lex Luthor / Gary Seven (LOH)

```
:813255$:            : "Security Subsystem  Please enter your security code"
:813620 :  IBM VM/370:
+-------+------------+---------------------------------------------------------+
:81450  :  19.4.8    : Primenet SYSA
+-------+------------+---------------------------------------------------------+
:81634  :            :
:81636  :            :
:81644 $:  DG AOS/VS : P00F05D22A
:81645 $:            :
:81657 $:            :
:81658 $:            :
:81659 $:            :
:81690  :  TOPS-20   : AMCI - Kansas City (SAME AS C AMC)
+-------+------------+---------------------------------------------------------+
:90160 $:            :
:901651 :  Gateway   : Schering Plough Corporation  Systar Corp. Gateway
:901652 :  Gateway   : Schering Plough Corporation  Systar Corp. Gateway
+-------+------------+---------------------------------------------------------+
:90445 $:  DG AOS/VS :
:90449  :  VAX/VMS   : Alliance Mortgage Automated Communication System
:90450 $:  DG AOS/VS :
:90451  :  IBM       : "Command Uncrecognized"
+-------+------------+---------------------------------------------------------+
:90995  :            : Telemail
:909761 :            : Telemail
+-------+------------+---------------------------------------------------------+
:91433  :  IBM VM/370: (Running ACF2)
:91403 $:  IBM VM/370:
:91441 $:  IBM VM/370:
:91442 $:            : "ZAN0001 com-plete is active"
:91456  :            :
:914247 :  VAX/VMS   : Pergamon Infoline
+-------+------------+---------------------------------------------------------+
:91555  :  19.4.10   : Primenet FIMSAC
:916607 :  Unix      :
+-------+------------+---------------------------------------------------------+
:91655  :  19.4.10   : Primenet FIMSAC
:916007 :  Unix      :
+-------+------------+---------------------------------------------------------+
:91830 $:            : "ID  Incorrect Location ID"
:91831 $:  DG AOS/VS : R00F09D06A
:91870 $:  DG AOS/VS :
+-------+------------+---------------------------------------------------------+
:91930  :  IBM       : "Please reenter logon line"
:91931  :  IBM       : "Please reenter logon line"
:91932  :  IBM       :
:91933 $:            :
:91943  :  IBM VM/370: "Enter System ID" (Type 'd')
:91946  :  IBM VM/370: "Enter System ID" (Type 'd' 'j' 'v' 'r' 'p')
+-------+------------+---------------------------------------------------------+

UNINET HOSTS AVAILABLE ON TELENET:

-------------------------------------------------------------------------------
:C APPLE     : Ultrix V1.2 :                                                  :
:C BOEING    : Unix        :
:C PRIME     : 19.4.3      : Primenet SYS750
:C AMC       : TOPS-20 V5.1: AMCI - Kansas City
:C SUMEX     : TOPS-20 V6.1: Stanford University
:C INFO      : TOPS-20     :
:C EIES      :             : NJIT Electronic Information Exchange System
:C FSU       : CDC Cyber   : Florida State University Cyber Network
:C ESC       : SYS/32 VOS  : United Computer Services Group
:C ITS       : SYS/32 VOS  : United Computer Services Group
:C SIS       :             : Scientific Information Services
:C NETWORK   :             : AAMNET
:C ADNET     :             : ADNET
:C OLS       :             : OLS System 3

:C CMS       :             : "Enter a for astra"
:C COS       :             : "Enter a for astra"
:C NSF       :             : "Access to this address not permitted"
:C SPR       :             : UIS Supra
:C VUTEXT    :             : VUTEXT Services
:C MAIL      :             : Telemail
:C TELEX     :             : Telemail
:C NET       :             : Newsnet
:C SIT       :             : Sitenet
:C DOW       :             : Dow Jones
:C CIS       : TOPS-20     : The Information Service
:C DELPHI    : VAX/VMS     : Delphi Computer services
:C S10 - S19: Prime        : Source System 10 to Source System 19 Respectively
:C WELL      :             : The Well Mail Service
:C BLUE      :             :
:C KBC       :             :
:C COM      *:             :
:C OAG      *:             : Official Airlines Guide
:C DIR      *:             :
:C ABJ      *:             :
:C AFS      *:             :
:C CEN      *:             :
:C KCI      *:             :
```

TSPS

(continued from page 7)

coin", "**Coin 1**", and "**Hotel**". The TSO utilizes the condition of these lamps to identify the status of incoming calls. There are three lamps that are common to each of the three groups. These are:
(**Sta**) "Non-coin" lamp lights when a non-coin caller requires TSPS assistance in placing an otherwise direct-dialable call (in some rural areas that have limited DDD features). "Coin 1" lamp lights on direct-dialed coin calls that are sent to TSPS for payment collection. "Hotel" lights on Hotel originated DDD calls. The TSPS also receives the room number the call is being originated from.
(**0+**) Lights to signify that the incoming call was originated by a customer dialing a "0+telephone number" for an operator assisted call in each of the three groups (coin, non-coin, hotel/motel). (Example: if a customer were to place a "person-to-person (operator assisted) call from a payphone, this would cause the "0+" lamp in the "coin" group to light, one placed from a residential phone would cause the "0+" lamp in the "non-coin" group to light, etc.)
(**0-**)—aka "Dial Zero". Lights to signify that the incoming call was originated by a customer simply dialing 0 (zero), in each of the three categories (non-coin, coin, hotel/motel).
(**PST PAY**)—Post Pay, illuminated key. This shows up in the coin group only. It's depressed by the TSPS operator when a customer requests a "post pay" call from a payphone, allowing him to deposit the full charge at the completion of the call.
(**Tne**)—Tone, lamp. This shows up in the coin group only. I believe this lamp lights to inform the TSO that a coin customer has flashed his/her switchhook during a call in progress, requesting operator assistance.
(**GST**)—Guest, illuminated key. This lights on all hotel-originated calls.

Below the above rows of keys and to the far left you will see a row of keys labled "**Outgoing Trunks**". TSPS utilizes this group of keys to select various outgoing trunk groups. The keys are used as follows:
(**DA**)—Directory Assistance, illuminated key. Used by TSO to place calls to the directory assistance group.
(**R&R**)—Rate and Route, illuminated key. Used to place calls to rate and route. The Universal Rate and Route position known to all you boxers is found at KP+800+141+1212+ST. *(Editor's note: This has just been phased out. TSPS operators can now get this information without calling another operator.)*
(**SWB**)—Switchboard, illuminated key. I believe this key is used to reach a cord-board position, although I have no evidence of this.
(**OGT**)—Outgoing Trunk, illuminated key. Depressed by the TSO to select an outgoing trunk to be used to place operator assisted calls, special purpose calls (such as Inward), etc.

To the right of this row of keys you will find the group labeled "**Ring**". These keys are utilized by TSPS to activate special purpose ring features and line handling.
(**BAK**)—Ring Back, illuminated key. Used by the TSO to ring the originating party's line while holding the forward line in the event that the originating party loses his connection.
(**FWD**)—Ring Forward, illuminated Key. Exactly the opposite of ring back.
(**CAL BAK**)—Call Back, illuminated key. Used in special operator call back situations on person-to-person calls where the called party is not available but a message is left anyway. I really don't understand its full potential and most positions I have spoken with don't either.
(**T&C**)—Time and Charges, illuminated key.
(**Nfy**)—lamp. Used in Non-**ACTS** (Automatic Coin Toll Service) originated calls and lights to infom the TSPS to notify caller of expiration of initial n minute period (n being number of minutes entered via the **KP NFY** key at the origination of the call).
(**Chg Due**)—lamp. Lights to inform the TSO that more money is needed at the completion of a TSO assisted coin call. The usual procedure is to ring the coin station back and attempt to frighten the customer into making the proper deposit ("If you don't pay we'll bill the called party....").
(**Key Clg**)—Key Calling, lamp. This lamp is used by TSPS to determine the status of an incoming "Operator Number Identification" (**ONI**) marked caller or an incoming caller that was routed to TSPS due to an "ANI (Automatic Number Identification) Failure" (**ANIF**) Both call conditions show up as a "0+" call (hotel, non-coin, coin—see above). If the calling party is

(continued on next page)

A GUIDE

marked as "ONI Required" the appropriate "0+" lamp will light, and the "Key Calling" lamp will be lit steady. If the incoming call was due to an ANIF, the "0+" lamp will be lit, and the "Key Calling" lamp will be lit and flashing.

Directly to the right of the "Ring" group of keys you will find the "**Release**" set of keys. These two illuminated keys allow the TSO to selectively release (disconnect from) either the calling, or called parties by pressing either the "Release Back" (**BAK**), or "Release Forward" (**FWD**) key respectively.

To the right of the release set, you will see a group of four keys with no particular "group designation". These again are various multi-purpose keys that do the following:

(**SR**)—Service (assistance) Required, illuminated key. Pressed by the TSO to forward the calling party to a supervisory console (i.e. irate customers demanding supervisor). It can also be used if the TSO is confused and needs assistance.

(**MB**)—Make Busy, illuminated key. Used to "busy out" the console, lights when pressed. The console will not take any incoming calls until it is pressed again. (This is useful when gabbing, doing nails, or filling out time/trouble tickets.)

(**Mt**)—Maintenance, lamp. This lamp illuminates to wam the TSO that her console has been placed into remote maintenance/testing mode. A flashing MTNC lamp indicates a faulty console.

(**PT**)—Position Transfer, illuminated key. A TSO depresses this key to transfer the call in progress from her console (position) to another console.

Below the "Outgoing Trunk" keygroup, you will see a lamp marked "**Cw**"—Call Waiting. This lamp lights on every active console to inform the TSO that there are incoming calls waiting.

To the far right of the "Cw" lamp, you will find the **AMA** group of keys, broken into two sub-groups, which are "**Station**" and "**Person**". A complete description of each key in this group would require more room than is available here. Basically these keys are used in conjunction with the "KP" and "AMA Timing" groups of keys (see below), for attaching the appropriate class of charge to the call being originated. The keys in the "Station" sub-class from left to right are "Paid" (**PA**), which is used to attach a "Station-to-Station" originating caller paid class of charge, "Collect" (**CL**) to attach "Station-to-Station" Collect Call, "Special Calling" (**SP CG**), and "Special Called" (**SP CD**) which are both used in "Special" Station-to-Station billing procedures, such as third party, or credit card calls. "Auto Collect" (**AT CT**), used in coin billing procedures and "Direct Distance Dialing" (DDD), attaches a DDD class of charge in cases where you have trouble dialing a number and require operator assistance in completing a call. Below this row of keys you will find the "Person" sub-group of AMA keys. Their uses are identical to those in the "Station-to-Station" group only they attach a "Person-to-Person" rate of charge. The "**No AMA**" key is pressed to eliminate a charge for a person-to-person call where the called party is unavailable. Although all the keys in this group can take on different meanings under different conditions, the above definitions are suitable for the sake of this article. All keys in this group are illuminated keys.

Below the "Cw" lamp you will find two keys under the heading "**Coin 2**". Their uses on "coin originated" (payphone) calls are: "Coin Collect" (**COL**)—which causes the payphone to collect coins, and the "Coin Retum" (**RET**), which causes it to retum a coin. Both are illuminated keys.

To the right of the "Coin 2" group, you will find the "**AMA Timing**" group. These keys are used in conjunction with the "AMA", and "KP" groups for:

(**CA TMG**)—Cancel Timing, illuminated key. Cancels AMA timing charges and also allows the TSO to change the class of charge on a call.

(**ST TMG**)—Start Timing, illuminated key. Used to start AMA timing after the appropriate class of charge has been entered, and the calling party has reached the called party in person-to-person calls (or in station-to-station DDD calls, when the destination ring has been established).

(**CA CAL**)—Cancel Call, illuminated key. Used in conjunction with the Cancel Timing key to Cancel a call and mark a "non-completed" call on the AMA tapes (such as a person-to-person call where the called party is not available).

(**REC MSG**)—Record (AMA) Message, illuminated key. Used at the completion (meaning calling and called party are done talking), to record the time of the call and the appropriate class of charge onto the AMA tapes and to release their forward connection.

To the right of the AMA timing group you will see three columns of four buttons under the heading of "**Loop Control**". These allow the TSO to access any of the three loops available to her for placing calls. The keys have identical meaning in each set. They are used in the following manner:

(**CLG**)—Calling Party, lamp. Lights to signify person on said loop is a calling party.

(**CLD**)—Called Party, lamp. Lights to signify that person on loop is a called party.

(**HLD**)—Hold, illuminated key. Places a loop into a hold state. The calling and called party can talk to each other, and AMA timing can be started. The call is held at the console.

(**ACS**)—Access, illuminated key. Used by the TSO to initially access a loop. Pressing this key selects an outgoing loop, and readies the console for placing a call onto it. It is also used to allow the TSO back into a loop or loops in a hold state.

To the right of the loop control group you will see the "**Keypulse Key**" group. These keys are pressed by the TSO to initialize the keypad parser into the proper mode for entering information, which is completed/entered by pressing the ST key (to the right of keypad). Their uses are as follows:

(**KP TB**)—KP Trouble, illuminated key. Used to enter various TSO-encountered trouble codes such as noisy line, customer(s) were cut off, couldn't complete call, etc. I believe the format for entering a trouble code is as follows: "KP TBL + TC + NTE + CN + ST" where KP TBL is the KP Trouble Key, TC is the 2 Digit trouble code, NTE is the number of times trouble was encountered (1 Digit), CN is the caller's phone number, and ST is the start key. A record of the trouble is made on the AMA tapes and the calling party is usually given credit.

(**KP RT**)—KP Rate, illuminated key. Used to enter and display rate (charge) information. Can also be used to display rate information at a customer request.

(**KP HO**)—KP Hotel, illuminated key. Used for manually entering a verbally requested room number on hotel/motel originated calls.

(**KP NY**)—KP Notify, illuminated key. Used for entering time in minutes on a non-ACTS originated Coin call. When entered time duration is up, it causes the NFY lamp (see above) to flash.

(**KP SP**)—KP Special, illuminated key. Used for entering special numbers such as credit card ID's and third party billing numbers. It causes TSPS software to automatically query the **BVA** (Billing Validation) database to check the validity of the number or credit card and will flash if billing to an illegal card or number is attempted.

(**KP BK**)—KP Back, illuminated key. Used in entering the calling number in ANI failures (ANIF), and ONI (Operator Number Identification) required situations.

(**KP FD**)—KP Forward, illuminated key. This is the most commonly used KP key. It's used to enter the called party's number on all TSO-assisted calls. Pressing the ST (start) key causes the entered number to be applied onto the accessed trunks in MF tones.

(**ST**)—Start, illuminated key (found to the right of the keypad). Used in completing all KP+number sequences listed above.

Below the "Coin 2" set of keys you will see the (**POS RLS**)—Position Release key. This key is used by the TSO to release her position from the call. She would hit POS RLS after completing a call, and also to release a person calling to ask her questions and not actually requesting that a call be placed (name/place requests, etc.)

Below the Position Release key you will see a set of 5 keys labeled "**Display Control**". These keys are used to make the console display show assorted information. Their use is as follows:

(**tim**)—Time, unlighted key. Displays time of day in military format.

(**chg min**)—Charge per Minute, unlighted key. Displays the charge per minute on a call in progress.

(**CLG NUM**)—Calling Number, illuminated key. Displays the number of the calling party.

(**CLD NUM**)—Called Number, illuminated key. Displays the number of the called party.

(**SPL NUM**)—Special Number, illuminated key. Displays various special numbers such as Calling Card numbers and third party billed numbers. Use

(continued on page 20)

(continued from page 13)

Protection Equipment," and cost around $10 or $20.

Many firms and individuals who contract with Uncle to put together these reports later re-package the information so they can sell it on their own. This is especially true of companies within 75 miles or so of Washington, DC.

Uncle is a wonderful source of information. Many agencies and departments of the government wil! happily send to anyone who asks for a list of publications which they have published. The complete catalog is the GPO Monthly Catalog, put out by the Government Printing office. This catalog is also available as a database on several of the leading database services. You can do a search in a minute or two that will save you tons of time, and it's one of the most reasonably-priced databases around—only $35 per hour.

The Librarian

Autovon Info

Dear *2600*:

There seems to be a passing fancy with Autovon in your "letters" column. The rumours and disinformation that you have printed in the past have been amusing, but maybe it's time for a few straight facts.

The AUTOmated VOice Network was conceived by DoD in the early sixties to eliminate the high cost of the redundant networks that each of the armed services was operating. In addition to providing a uniform dialing plan for DoD installations worldwide, Autovon allows off-net calls to other ("commercial") phone numbers. By calling the local Autovon switchboard, you can also place an off-net to off-net call, but you will need a special 8 character authorization code (these change quarterly).

From an Autovon-capable line you may place "Routine" precedence calls. But since all the Washington desk-bound paper pushers clog the network with their endless jabbering, a "Routine" call frequently gets blocked. A very select few Autovon lines ("4-wire") or the Autovon operator can select a higher precedence by pressing one of the keys in the fourth column of the touch-tone pad. This is done by dialing the precedence before the number: D for "Priority", C for "Immediate", B for "Flash" and A for "Flash Override". Autovon operators don't object to giving you a "Priority" or "Immediate" trunk, but asking for anything higher will require special keywords and brass balls. If you dial one of these precedence keys on a normal ("Routine") Autovon line you'll get a recorded announcement from the Autovon switch telling you that the precedence you selected is not available on the line you're using. When you call another Autovon switchboard using "Priority" or higher precedence you hear a "Priority ring," which is a 3 to 4 second ring followed by a one second pause. This usually succeeds in getting Emma's attention at the distant switchboard.

The Autovon-to-commercial translations you've printed in the past would be more interesting if you added the FTS translation, too. A collaboration among your readers might result in a compendium that would be a handy desk reference for military and federal employees.

Rusty Diode

It's always time for this kind of information in these pages. Let's hear some Autovon stories—experiences and problems people have had with the system!

Visions of Doom

Dear *2600*:

I live in Pasadena, a few miles from

(continued on page 22)

2600 marketplace

BEST HACKER AND PHREAKER written public domain software for the Apple II family. Two double sided diskettes full of communication and deprotection utilities. These programs were combed from the best BBS and clubs nationwide. Send $10 cash, check, or MO to Mark B., 1486 Murphy Rd., Wilmington, OH 45177-9338.

WANTED: Technical data for pay phones, dot matrix printers, and/or modems. Looking for schematics and theory of operation. Call (205) 293-6333/6395, 7 to 4 CST. Ask for Airman Parochells. Cannot accept collect calls.

TAP BACK ISSUES—complete collection, vol. 1-84 plus supplemental reports and schematics. Approx. 400 pages of quality copies sent via UPS or US Mail. $100 includes delivery. Send cash, check or MO (payable to PEI). Cash sent same day, others allow 4 weeks, to Pete G., Post Office Box 463, Mt. Laurel, NJ 08054.

DOCUMENTATION on electronic & digital PBX's and switching systems. Willing to trade/purchase. Also looking for Bell System Practices and other such paraphernalia. Write to Bill, c/o 2600, PO Box 752B, Middle Island, NY 11953.

32K MODEL 100, U1-Rom II, drive, TS-DOS, spreadsheet, modem cables, AC adaptors, briefcase included, good condition, $1200. New, make an offer. Tandy 2000 version of WordPerfect 4.0 $150 or trade for 1200 or 2400 baud external modem. IBM PC & XT & AT version of WordPerfect 4.1 and MathPlan 2.1. $250 or trade for 1200 or 2400 baud external modem. Call (803) 244-6429 or (803) 233-5753. Ask for Paul.

WANTED: Looking for a good used 5 or 10 megabyte hard drive for the Apple II series of computers. If you are selling one or know of anyone that is then send replies to: Brian F., 1003 W. Main, Apt. 3, Ottawa, IL 61350.

TAIWAN! All Taiwan computers and accessories available for direct shipment for cost plus shipping plus 3% (quantities of 50 or more). Giles, PO Box 12566, El Paso, TX 79913.

2400 BAUD MODEMS. Internal, for PC's and clones. $200. 516-751-2600, Randy.

I NEED INFO on a power supply made for Western Electric by ACME Electric Corp. in 1971. It is designated: Rectifier Semiconductor Type—J87233A-2 LI. Input is 208/240v, output 48v/30a using SCR's as control elements. Any info would be appreciated. A schematic would be wonderful. I'll be glad to reimburse copying costs. J. Klein, 12330 Takilma Rd., Cave Junction, OR 97523.

FOR SALE: Texas Instrument "Afeisperuriter" (Silent 700 series) intelligent data terminal. Many uses. Reasonable. Contact Ted K., PO Box 533, Auburn, NY 13021-0533.

SCHEMATICS—BUY, SELL, TRADE. We are interested in enlarging our collection of circuit diagrams for interesting electronic devices. Send list of what you want/have and a SASE to: J.R. "Bob" Dobbs, PO Box 444, Shawnee Mission, KS 66202.

PRIVATE INVESTIGATOR Ben Harroll would like to hear from other P.I.'s and/or ANY other "spooks" i.e. N.S.A., C.I.A., F.B.I., etc. for purposes of exchanges in ideas, techniques, sources, and equipment. (619) 239-6991. 425 "F" St., San Diego, CA 92101

TAP BACK ISSUES. Reprints of complete collection. Quality copies. Delivery included. Send cash, cheque, or MO (Payable to IPS). $60. John L., P.O. Box 722, Station A, Downsview, Ontario M3M 3A9.

2600 MEETINGS. Fridays at 5 pm at the Citicorp Center in the Atrium—153 East 53rd Street, New York City. Come by, drop off articles, ask questions. We'll be in Philadelphia on July 31. Check July issue for exact location or call 516-751-2600 after July 1.

GOT SOMETHING TO SELL? Looking for something to buy? Or trade? This is the place! The *2600* Marketplace is free to subscribers! Just send us whatever you want to say (without making it too long) and we'll print it! Only people please, no businesses!

Deadline for July issue: 7/5/87.

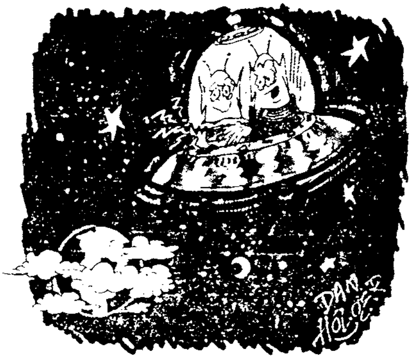
TSPS

(continued from page 17)

of this key in displaying Calling Card numbers is as follows: Press it once and you get the first 10 digits of a 16 digit Calling Card. Press it a second time and you get the second 6 digits of the Calling Card. Press it again and it darkens the display.

That's it for the keys on the console. On the left hand side of the diagram you will see the "**Multi Leaf Bulletin Tray**". This is an all-purpose holder for information leaflets that contain information on special numbers, Rate and Route information, special non-standard assistance routes, and various other TSPS-related information. At the lower right hand side of the console is the "**Number Plate**". This is simply the console's Position number and ID number. It is a stamped metal plate. I haven't figured out any way to abuse it yet, other than scaring a TSO by knowing of its existence.

(Special thanks to Bill from RNOC, Phucked Agent 04, and The (602) Scorpion for their help in acquiring and compiling this information.)



"All right, so I made a mistake. I thought for sure they'd know how to use telephones by now!"

Telecom Informer

in constant 1985 dollars.

A market research firm predicts that the "interactive voice" industry will grow explosively over the next five years to more than $4 billion. Interactive voice includes voice messaging, 976 dial-it services, "talking yellow pages," voice response, and audiotext—all the services and equipment that permit people to interact with computers and communications networks through a tone-dial telephone, according to Link Resources Corp. The company says that the interactive voice services market, $440 million in 1985, is expected to grow by a factor of more than 5, to $2.3 billion by 1991. The 1985 market for interactive voice equipment, $525.3 million, is expected to grow to $1.8 billion by 1991. "If government regulations permit the telephone companies to enter these markets, you can count on a value far in excess of $4 billion," according to director of research services Dr. C. William Reed.

(continued from page 8)

Cel-Tel to the Rescue

Kurt Voss, a Milwaukee insurance agent, had his cellular-equipped 1981 Olds Toronado stolen from a service station parking lot. Voss called his own car phone, and the person who stole his car answered the phone, according to an article in the *Milwaukee Journal*. Voss told the newspaper that he was so shocked that the youth had answered the phone that he "just flew off the handle." Through his cellular carrier, Voss obtained a number that had been called six times from his car. In that way he was able to get the culprit's home address. "I was so upset and angry at my car being stolen that, at whatever expense, I wanted to catch the guy," he said.

paging

(continued from page 5)

local voice-paging channel on my scanner, I figured that anybody could just call any one of those phone numbers and get their message on the air. So after calling some numbers above and below my friend's voice pager number I found that this was true—I heard myself on the scanner. Problem was, you had to listen to everyone else's messages, too. Some kind of selective tone decoder for the scanner was in order—the cheaper the better. Also, some kind of tone-encoding system was needed that anyone had access to, so why not use touch tones? After some experimenting, I found that a touch tone decoder chip with two 2N2222 transistors and a few resistors and capacitors (about $10 total at Radio Shack) could be used to decode the * (or any other) touch tone from the scanner's audio section and switch the audio on to the speaker. It all fit quite nicely into a matchbox-sized container taped to the back of my portable scanner, and could be powered by the scanner batteries.

Now, when anyone called *any* of the paging system phone numbers and preceded their voice message with the * touch tone, the scanner speaker would sound off and allow me to hear it. At least a full second of tone was needed to unlock the decoder chip. Whoever was assigned that pager number would also hear the * tone and the message, so it wasn't entirely private, but it was *free* and you could take a "free ride" on any of the several hundred pager phone numbers to help avoid detection. The scheme worked quite well for over a year and it never was found out. Those paging me had to be careful not to give out their regular phone numbers or exact locations over the air, so a simple code was devised to allow a "modified" phone number to be broadcast without giving the intended one away.

If you already own a portable scanner, you already have most of a voice-pager. A programmable unit is needed to find the proper radio-paging frequency, but once you know it, a less expensive crystal unit can be used. The paging system phone numbers can be found by dialing numbers above and below a known pager number (ask somebody who has one or call the paging company and tell them you forgot yours). A schematic for the tone-decoder chip circuit is included if you buy it at Radio Shack, but the hook-up to your scanner's audio section depends on your model. You can usually get a schematic for your scanner by writing the manufacturer, and a friendly hardware hacker can help you with the hook-up details if you're not electronically inclined. If you can bear listening to all the other paging traffic while waiting for your messages, you can skip the modification altogether and just tune in.

Scanner World in Albany, NY probably has the lowest scanner prices around. They sell a crystal-controlled, pocket size, single-channel receiver that's ideal for this application for only $39. Be sure to specify the right frequency before ordering it, though. Since you'll want to leave your unit turned on most of the time, it's cheaper to use rechargeable Ni-Cd batteries. One could get fancy and add a 555 timer IC to the circuit which would automatically time-out and shut the audio off after the message is over, but turning the scanner off and back on again will reset it just the same. Some mobile scanners have enough room in them to mount the extra circuitry right inside, but portables are too tight a squeeze.

You probably don't need to be reminded that theft of telecommunications services is a crime, and that calling the same pager number repeatedly (not very smart, and unnecessary anyway) could be considered harrassment. But if one is reasonably careful about what is broadcast, changes the pager number frequently, and places calls from payphones when possible, the chances of being found are almost zero.

Another *2600* Public Get-Together

Friday, July 31, 1987

5:00 P.M.

IN PHILADELPHIA

(exact location will be announced in our July issue)

(continued from page 18)

L.A., and have been having trouble with the local 818-350-1028 Metrophone port. They have just upgraded to better software making it almost impossible to hack the system. I have heard that U.S. Sprint has bought the company and they're going through serious changes that may affect us all. Rumours are that prefixes will be added to the codes and maybe more than that. I also have found some weird codes that give carriers, call unknown homes/businesses and the Metro operator. If you or anyone could explain what is happening or list some local ports I would be very thankful.

Hex Converter

First of all, GTE Sprint bought U.S. Tel and, thus, changed their name to U.S. Sprint. As far as we know, they're not interested in acquiring Western Union's Metrophone service. Second, every independent carrier has gone through a phase of making their authorization codes a little harder to guess. Metrophone is simply one of the last to finally get around to it. It doesn't mean the end of the world by any stretch of the imagination. And finally, almost all long distance companies have "weird" codes that hook you up to special numbers. In most cases, it's either an internal office at the company itself or a special "toll free" service provided to the people whose phone you wind up ringing. Simply ask customer service what kind of "toll free" service they provide to understand it better.

Words of Praise

Dear *2600*:

I received the March issue of *2600* and was delighted by the poem about Captain Crunch. In fact, I would like to see a "bio" piece done on him, similar to the one done recently on *TAP*.

Let me also say that I support a magazine like *2600* because it allows people to decide for themselves how they will interact with the world's expanding electronic networks. I work for a large cable company, and can say that the whole issue of scrambling is repugnant. The networks earn plenty of money from subscribers' fees and the reason scrambling was initiated was purely money-oriented—it had nothing to do with the Captain Midnight affair. Our system uses Videocipher II hardware, which I have heard has been breached in the Caribbean and illegal decoders are currently being manufactured there. Our management knows this, and despite this it is buying more descramblers to complete its set-up, since all the major services will be scrambled by the end of next year (at least in theory). It should surprise no one, then, if these devices begin to be distributed in the United States—all that is needed is a clever legal euphemism (just as infinity transmitters quickly became "Electronic Babysitters" when the surveillance laws became stricter). I am not in a highly technical position, but should any interesting data appear I will send it in.

BBQ

ATTENTION

Does your address label say "Time to Renew"? Don't miss an issue. Renew your subscription today and enjoy peace of mind.

$15	1 year subscription or renewal
$28	2 year subscription or renewal
$41	3 year subscription or renewal
$40	1 year corporate subscription or renewal
$75	2 year corporate subscription or renewal
$110	3 year corporate subscription or renewal
$25	overseas subscription or renewal (1 year only)
$55	overseas corporate subscription or renewal (1 year only)
$260	lifetime subscription

BACK ISSUES are available. Prices are:

$25	1984, 1985, or 1986 issues (12 per year)
$50	Any two years
$75	All three years (36 issues)

(Overseas orders add $5 for each year ordered)
Allow 4 to 6 weeks for delivery.

Send all orders to:
2600
PO Box 752
Middle Island, NY 11953 U.S.A.
(516) 751-2600

ALLNET HORRORS 4

PAGER TRICKS 5

TSPS GUIDE 6

TELECOM INFORMER 8

TELENET GUIDE 9

LETTERS 12

2600 MARKETPLACE 19

2600 Magazine
PO Box 752
Middle Island, NY 11953 U.S.A.

SECOND CLASS POSTAGE
Permit Pending at
East Setauket, N.Y.
11733
ISSN 0749-3851