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According to the Nov. 16 issue of THE HOUSTON POST: "Someone has figured out how to milk cash from ATMs without using a card, and deficits are showing up at Dallas-area banks as a result, the DALLAS MORNING NEWS said Saturday. The ATM, which is programmed to release a maximum of $300 at a time, showed no signs of forced entry, but someone covered the lenses of the security cameras at the ATM."

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CONSUMERTRONICS

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Changes

Well, we made it. As you can probably tell, our format has changed quite radically since our last issue. We are, to say the least, ecstatic that we’ve finally reached this stage. While the eight pages we had before were good for our original purposes, there were always things we couldn’t do. Eight pages can be very constrictive.

Future articles in 2600 will be longer and more in depth. We have the ability to add on additional pages if we need them and we probably will.

We also are able to print photographs now, so we’d be happy to get some of those as well, preferably in black and white. Unusual or antique telephones, blue boxes, central offices, that kind of thing.

As we start our fourth year, we find we have indeed come a long way. Our first issue was mailed to less than a hundred people. We had no idea where it would wind up going but we just knew it had to be done. Today our subscribers are in the thousands and include a large number of computer hackers and phone phreaks, an even larger number of people who are interested in developing their abilities, and a significant number of corporations and intelligence agencies that feel the need to keep up to date on technology and its abuses.

Our staff has multiplied as well, with people helping us out in most parts of the country and many other parts of the planet.

***

The world is changing too. We’re becoming very dependant on computers for almost everything. This will backfire eventually and 2600 is here to explain how and maybe even when. It’s no longer easy to make a telephone call. 2600 exists to show the world how it’s done, present alternatives, and offer solutions.

Technological wizards no longer seem to be regarded as enemies of the people, at least not as much as when we first

STAFFBOX

(continued on page 21)

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by Cheshire Catalyst

There are lots of ways I can start this article. But mostly I'm sad that I have to write it like this—as an explanation as to why I let TAP die.

TAP was founded as YIPL, the Youth International Party Line. There were two facets of this name. The Youth International Party, or YIPpies, was a loose group of anarchists founded by Abbie Hoffman and Jerry Rubin, who later went on to become defendants in a trial in Chicago (called Czechago by those in the know at the time, just as the country was called Amerika). And there was the pun on the telephone term “Party Line”.

As this is meant to be an historical account, I’ll even define Party Line, since it is pretty rare, even today. It is where the Telephone Company (Telco) strings a line to the farthest party on the network, and everyone in between them and the central office is connected to it like extension phones. By using “selective ringing” you knew when a phone call was meant for you. It was common for people to listen to their neighbors’ conversations, and thereby share the information. YIPL was to be such a sharing of information among members of the “party”.

The Yippies realized that revolutions don’t travel on their stomachs anymore, they don’t even travel (if they can help it). After all, travelling costs money (dirty rotten capitalist money, of course). While there were methods for avoiding payment for travel (see Abbie’s book “Steal This Book” for techniques), telecommunications was where it was at. With telephones, you could keep in touch with the revolution from the comfort of your Bleeker Street digs. And as the sixties ended, so did the monopoly of Pa Bell, The Phone Company.

In 1969, the Carterfone decision of the Federal Communications Commission (FCC) declared that people could hook up their own “devices” to the phone network. Yet before all this, there had been experimenters playing with The Bell System. These people called themselves Phone Phreaks, and had their own little underground deep in the heart of Bell’s own network.

In 1971 (legend states on May Day no less), Abbie Hoffman got together with a phone phreak who called himself “AI Bell”. They got the idea of a newsletter so that members of the technological underground could have their own “journal” to share information in, just as the Bell System publishes information for its own engineers.

The newsletter went along in a pretty random manner for about two years, and contained some rather anarcho-techno stuff. Basically how to mess up The System, picking locks, making pipe bombs, and other radical stuff.

So one day in 1974, Al Bell said to himself, “What’s all this political shit doing in what should have been a technical newsletter?” A good question, he thought, and promptly left the fold of the Yippies, changed the name of the newsletter to TAP, and set up shop in a cheap, rundown office building on Broadway.

When AI Bell first “wrenched” the newsletter away from the Yippies, he called it the Technological American Party. It was called that for a while, and then the name was changed to Technological Assistance Program (so as to keep the acronym). When I asked Tom why the name was changed, he said that they had had difficulty opening a bank account with “Party” in their name, without being a Bona Fide political party.

This rundown office is where I found the newsletter when I walked into the office in 1977. Where was I before 1977? Well, I grew up in Western New York State. I later moved to Boston, and after a year in Beantown, moved down to The Big Apple. I had been a subscriber while living Upstate. I filed my change of address to my new Boston PO Box when I moved to there. I resubscribed when I moved to New York City, but I never got around to “dropping by on a Wednesday evening” for about a year.

When I did, I found that Al Bell was no longer affiliated with the newsletter, and that “Tom Edison” had taken over the publication. What a rundown hovel. But what fun!

If you got the newsletter in those days, it gave you the address of “The Mail Drop”, a place where no one lived, but where the disreputable could collect their mail. It also said that if you wanted to help fold issues, stuff and lick envelopes, and all the other assorted jobs associated with putting out a newsletter, just come by to the office any Wednesday. So, one Wednesday, I did.

What I found when I finally showed up was an ancient, smelly copier that made copies on expensive, flimsy paper (the kind that libraries always have for 25 cents a copy) that constantly broke down (just like the ones in libraries), a drafting table for laying out the issues, an old wooden desk full of “Distructive Assistance” information and unanswered mail, and a pile of articles waiting to be laid out.

There was also a motley assortment of people there, like Number 6 (named for the protagonist in Patrick McGooohan’s 60’s TV series The Prisoner), Computer
IS DEAD

Wizard, Dave Bowman (named for the computer defying astronaut in the movie 2001), and Mr. Phelps (named for the leader in the TV show Mission: Impossible), and me, Cheshire Catalyst. Others dropped in from time to time, but these made up “The Regulars”.

Then there were the authors who wrote articles for the newsletter. People like Alexander Mundy (named for the lead in the TV show It Takes A Thief) who wrote about locks, and Agent MDA who wrote about fabricating drugs in the privacy of your own home laboratory. Authors didn’t come by the TAP offices much. After all, TAP just published the stuff. Heaven Forbid anyone should actually do any of the despicable acts written about. Those acts were probably illegal, immoral, or at the very least, fattening.

TAP had a checklist of things to make sure were published in every issue. Things like the mailing address, the postage indicia, and those infamous words “Published for Informational Purposes Only”.

TAP had a real “bad-boy” attitude, which was one reason it was such fun to read. It was mischievous. Tom said he once got a letter from some little old lady in the midwest renewing her subscription saying, “I’d never do any of the things you print, but it’s so good to know that someone is out there getting back at the phone company.”

Let’s face it, Telco was “The Company You Love To Hate”. In the classic motion picture The President’s Analyst starring James Colburn, there was an organization out to control the world called TPC, which turned out to be The Phone Company. I still make out my check for phone service to The Phone Company. They never bitch about it, and the computers at the bank don’t care either.

So what did I do at TAP? I wrote a few articles, especially in the days when the TWX teletype network was “hackable” from the telephone network. I made my reputation on the fact that I could reach any Telex machine in the World from my home computer terminal. Not completely for free, mind you. I did pay Telco my one message unit for the phone call. But I mostly became TAP’s press agent.

I like playing with “The Publicity Machine”. It helps to have a computer to keep the mailing list on. That computer can also Word Process the press release, and the all-important cover letter. Tom Edison didn’t like the press. TAP mostly got new subscribers by word of mouth. A subscriber showed it to his friends, and they’d maybe subscribe. Underground newspapers mentioned us occasionally. And of course, there was the annual race.

Every year, in January, phone companies around the country would send their customers their new Credit Card (now called “Calling Card”) for the year. There were methods for devising your own credit card number that would be acceptable to the telephone operator, but would be unbillable. Since the billing cycle was much later in the month, this left the Telco holding the bag, and if the called party knew enough to “play dumb” when Telco’s flacks called asking who made the call, everything would be all right. Of course, these calls were always made from pay phones, since the calling number was on the toll records.

The Yippies were still around, and still understood that telecommunications was the key to the revolution.

(continued on page 11)
Once a hacker has gained access to a VMS system, his goal should be to try to get ahold of the most powerful privileges he can. Here are some tips on taking over a VMS system.

There are two routes to take—either through programming or by modifying the User Authorization file. The first method generally requires the CMKRNL privilege. This privilege allows one to modify the data structures used by the operating system. By writing the correct code a hacker can change his, or anyone else’s, privileges and quotas. This method requires very detailed knowledge of the operating system and should be left only to the very experienced. If you do not know what you are doing, it’s very likely that you will crash the system and if you do there will be an accurate and detailed record of what you did. (You should never take down a system because doing so leaves a trail that the system manager can use to track you down.)

The easier way to gain control of a system is through the User Authorization File or UAF. If you modify the UAF you must log out and then log back on to get any privileges you added to your account. With programming you can make them take effect immediately. The cost you pay is complexity.

First, here are some tips for breaking onto a VAX:

Every VAX that is serviced by DEC has a Site Management Guide. This is a brown loose-leaf binder that the DEC field service personnel use to keep a maintenance log. Field service people like to write the FIELD password down in this book. If you can get a quick browse at it you may be able to come up with several passwords. If you find the FIELD password, you are all set to take control of the system.

The VT200 series terminals have an answerback feature that allows the terminal to save a character string that can be recalled by pressing CTRL/BREAK. Users often make this character string “username(CR)password(CR)”. This allows them to log in by pressing two keys. It also allows you to do the same. The way you can get in is by bringing up the username prompt and by pressing CTRL/BREAK. You won’t be able to see the password, though. To get the password, enter "$CREATE PASSWORD.DAT CTRL/BREAK CTRL/Z" then "$TYPE PASSWORD.DAT". This method is more likely to work with a terminal that is in someone’s office as opposed to a terminal that is in a common area.

Of course, the simplest way to get in is through a terminal that is left logged on. If you have access to a user area, you probably can find a terminal that has not been logged off.

A list of usernames on a system is often helpful. In my experience, around 50% of all passwords are usernames or slight variations on the username. This is especially true of such usernames as GAMES, DEMO, and USER.

Once you are logged on to a system, the very first thing you should do is enter the command "$DELETE/SYMBOL/ALL/GLOBAL". Digital-related trade magazines are filled with articles on how to catch hackers and prevent them from doing things by defining global symbols. If you execute that command you have removed all of those silly little traps.

Now for taking over that VAX. First, the easy way. Once you are logged in use the "$SHOW PROCESS/PRIV" command to see if you have any of the following privileges:

BYPASS
SYSPRV
SETPRV
CMKRNL

If you do have one of these, you already have the system in your hands. If you have BYPASS or SYSPRV you can modify the UAF directly. Just enter the command "$SET DEFAULT SYS$SYSTEM" and then the command "$RUN AUTHORIZE". Then follow Lex Luthor’s instructions in the VMS series, the last of which appeared in the March 1986 issue of 2600. If you have SETPRV you have all privileges available. Just enter the command "$SET PROCESS/PRIV=ALL" and then follow the instructions above. If you have CMKRNL enter the command "$SET UIC [1,4]" and then follow the instructions above.

Also, use the "$SHOW PROCESS" command and see if the first number of your UIC code is 10 (octal) or less. UIC’s look like [100,4]. If you do, you have SYSPRV automatically even if it is not listed when you SHOW PROCESS/PRIV.

An easy way for a system manager to help keep you off of his system is by not creating any privileged accounts. Fortunately for the hacker, system managers do not follow this rule (often not by personal choice). The only privileged accounts that are needed to run a VMS system are the FIELD and SYSTEM accounts (the FIELD account is not absolutely required). In spite of this, very often executives in computer departments (as well as system managers) keep privileged accounts for themselves (presumably for ego purposes) even though they have nothing to do with maintaining the system. Also, support people often have system privileges when they could get by with group privileges. At colleges, many of the professors have privileged accounts. The excuse is that they need to read their students’ files. The more there are the more targets there are for the hacker. It’s harder to get in if five people know the SYSTEM password than if all five people have privileged accounts.
Here's a little story for you. When I was in college the “systems people” created a command called ORACLE so that users could send them mail messages. For some reason they also created an account called ORACLE to read the messages. Guess what the password for the account was? ORACLE, that's right. How did you know? Would you believe that this account had full privilege also? The whole school knew the password to the account.

A smart system manager is also going to use the SYSTEM account only to manage the system and use a personal, nonprivileged account to program with and to write memos. Luckily for you, most system managers are lazy. They use their CHKRL privilege to change their UIC code so that the SYSTEM account temporarily becomes their personal account (but with privileges, of course). The more the SYSTEM account is in use, the more likely it is to be left logged on. In my experience, this is the absolute easiest way to get to take over a system. The SYSTEM account should only be used from a secure area.

When I was in college, I had a reputation for breaking into the computer. Now I am going to reveal the Mole’s break-in secret to the world. Every time I got in it was because someone in the computer department had left a terminal logged on to a privileged account. That was the only method I ever used personally (although I did teach other people more sophisticated means). So I never broke in. I just walked right through the front door. As a direct result of my “hacking” (if you can really call it that), the school created all sorts of rules governing computer use when all they really needed was some common sense from their “systems people”.

Once you’re on a VMS system you should try to get a copy of the program SYS$SYSTEMAUTHORIZE.EXE. Once you get a copy of this program, bring it back to your microcomputer and save it. The AUTHORIZE program should be protected but often it is not. Once you get it from one system, it is good anywhere.

Now what do you do once you get your own AUTHORIZE program? Create a new UAF of course. Enter “$RUN AUTHORIZE”. That will generate an error saying that there is no UAF and a prompt asking if you want to create one. Of course you do, so you answer yes. Next, enter “(UAF) MODIFY SYSTEM/PASS=MANAGER”. Now in your own UAF MANAGER is the system password. So what good is having your own UAF when the system is not going to use it? Well, why not make the system use it? At this point you need a privilege called SYSNAM. Many programs, especially scientific ones, require that the user have it so it is not too difficult to find an account with this privilege. When you are logged onto the system, enter “$SET PROCESS/PRIV=ALL” and then “$SHOW PROC/PRIV”. If you see SYSNAM listed you are in luck. Enter “$SHOW DEFAULT” to get your directory name. Then enter “$DEFINE/SYSTEM/EXEC SYSUAF dev[directory]SYSUAF.DAT”, where dev and directory are the names you get from the SHOW DEFAULT command. Now log out and log back on to the SYSTEM account using the password you just created.

SYSNAM privilege is also nice if you want to just screw up a system. By redefining such logical names as SYSS$SYSROOT, SYSS$SYSTEM, SYSS$SYSDEVICE you can bring the system to a halt.

If you have not guessed by now, I am a VMS system manager. I am assuming that many of the people who are reading this are other system managers who, like myself, are trying to keep hackers off of their systems. I think the benefit from system managers reading this in a hacker publication is greater than the harm that could come from hackers reading it.
Readers from the U.K. will be interested in the discovery of an easy hack on British Telecom pay phone debit cards making them infinitely reusable. These cards aren’t like AT&T calling cards which bill a customer’s account, but instead come with a set number of calling units—either 5, 10, 20, 40, or 100. The card is the size of a credit card, and is made of thin metal. A number is printed on front indicating the number of calling units purchased. Also on the front in a band, about where the magnetic strip on a credit card is, there are tiny squares protruding from the surface, one for each calling unit unused. This method appeared in the front-page lead story in The Sunday Post in Scotland on December 14, 1986, with the banner headline “Dial World Wide for Nothing—Telecom Hit by ‘Phone Fraud’”. The trick was discovered by a British soldier “fed up with paying a fortune to call his Scottish girlfriend,” and the method is supposed to be spreading quickly among British troops. The newspaper states that they know how it is done, and have proved that it works. The hack probably involves preventing the payphone from removing calling units, such as covering the squares with something that physically prevents this or inserting the card improperly.

Something more of interest to readers on the East Coast is Railphone, a telephone service presently available on Amtrak Metroliners. They look like Bell Charge-a-Calls, and are located in the Amcafe and in the Coach sections of Metroliner trains. To use them, you insert a credit card and dial your call. You get a dial tone almost immediately, which seems too soon to check to see if the card is valid or if there is enough money to cover the cost of the call. Rates presently are $5 for the first minute, and $1 for each additional, which is less than the ship-to-shore rates or services like Airphone, which are $7.50 for the first 3 minutes, and additional at $1.50. Railphone does have periods where it is “blacked-out” such as in tunnels, but it re-connects with no additional charge if you do get disconnected.

A topic looming on the telecom horizon is ISDN (Integrated Service Data Network), so here’s a brief overview. The service will appear, to the small user, as two 64 kilobit-per-second (kbps) full-duplex channels and one 16 kbps full-duplex channel on each ordinary telephone line. One of the 64 kbps channels would normally be used for voice, although it could be used for data. The 16 kbps channel would be used for both signaling (presumably replacing touch tone, etc.) and data while the other 64 kbps channel would be entirely for data. If this service were provided at a reasonable price, then current “audio-frequency” modems would soon be obsolete.

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Evolution of the Telephone

1890's. Most of our communicating is through the mail.

1920's. Gradually, the first primitive phone connections are established.

1970's. Almost everyone has a phone and America wonders how it ever got along without these marvelous little devices.

1980's. Deregulation catches America by surprise. Figuring out how to make a call becomes as hard as learning a foreign language.

1990's. Most of our communicating is through the mail.
but they'd realized that the only technology they needed to make their "Freedom Fonecalls" was this credit card information. So each year there would be a race to see who compiled the complete code first. It was a matter of honor to tell the other guy what the code was, because the first guy to get it would have to be credited in the other guy's publication. The Yippies had always put out their irregularly published tabloid Yipster Times, which later changed its name to Overthrow. There were years when we got it to them first, but they'd get it in print first.

TAP was published bi-monthly, but it was mailed out with two issues in the envelope to save postage, one of the biggest expenses of the newsletter. This meant that three times a year, you'd get two newsletters, each printed on an 11 by 17 sheet of paper, folded into four 8½ by 11 pages. Bulk mail subscribers got one issue folded up inside the other one, and the back of the second issue had space at the bottom of the last page for the postage indicia, the return address, and a mailing label.

Al Bell used to run off the mailing labels at a college he used to go to that had an "open" computer center. For years after he dropped out, he'd drop back and do the label run. After he left TAP, getting labels from him was getting to be a progressively "iffy" situation. Tom Edison took out a loan, and bought a Sol-20 personal computer, and learned to use the Wordstar and Mailmerge programs for keeping TAP's mailing list. Since there were never more than 1200 names on the list at any one time, it was manageable on the Sol-20's 8-inch floppy disks.

TAP's mailing list was never loaned out to other movement groups. Ours was a paranoid bunch of people. We were writing articles about bugs and taps on telephones, and in people's lives. We knew better than anyone what the wrong people could do with a list of people who knew how to take technology into their own hands.

Occasionally there would be a letter from some local newspaper in Oshkosh or somewhere, asking to be put in touch with TAP subscribers in their area. Tom would get in touch with them (usually calling collect), and tell them to send 25 copies of the letter in 25 stamped, unsealed envelopes. He'd enclose his ow note saying that he'd mailed the letter, and it was up to the individual subscriber to get in touch with the newshound, if they wanted to.

I got such a letter when I was living Upstate, so I was familiar with the routine. I actually got in touch with the guy from the local "underground" newspaper in my town, and showed him back copies of TAP, and explained some of the jargon to him. This was the start of my education in "playing the publicity machine". From this I learned to have short, quick quotes that are tight, concise, and get the point across. A good quote that has the right "ring" to it has a better chance of getting your point of view past the reporter's editor (the guy who finally decides whether your quote gets printed), than any long-winded "educational" rhetoric that you might spout off with.

In 1983 I was working for a "Large Manhattan Bank" in midtown, and I heard from an editor at Technology Illustrated magazine. They featured a largely unknown person in the scientific and/or technical community, and would I like to be interviewed for an article? "Sure, why not." Little did I know how well their marketing had been. Even though the photographer had photographed my face in shadows, or behind rays of light, or with my features blurred by motion, anyone who knew me well could have picked me off.

A number of people in the bank recognized me, since I was a technical troubleshooter for the data communications department. The word was getting around. There was a "Hacker" working for the bank. Since the movie Wargames had come out, the term had been given connotations of "evil intentions" by the press, and there was little I could do to stop the tide. No one would listen to my boss who was trying to explain to anyone who would listen of the various security holes that I had pointed out to him for fixing. With in a week I was fired.

My landlord hassles had started up a few months before. Now I had an excuse for not paying the rent I didn't have the money to pay. I could even go into TV (continued on page 15)
Beepers

Dear 2600:

Do you have information on interception/decoding paging beepers (long range)?

No, but if we get it, we’ll certainly print it.

GTE Telcos

Dear 2600:

I was wondering if GTE uses the same methods as Bell, I just moved to a part of the country that’s GTE and it seems that there are quite a few phone numbers in the XXX-99XX range. Where do they keep their loops? What type of ESS system do they use, as I have access to all the custom calling features (how good of a security system)? Also, I’m having trouble using my LDX number through LDX’s 800 number (the phone begins ringing after 3 digits). They said that we needed to dial a * before the code but this didn’t work. Any help?

Arthur Dent

We’re not all that familiar with GTE phone companies but hopefully some of our readers are. We do know that some phone companies hide loop numbers and other tests in the 00XX area instead of 99XX. Regarding residential lines that somehow managed to get 99XX numbers, it’s very easy to get your local operator to believe those numbers belong to the phone company. We know of several instances where the caller claimed to be calling the telephone company and so was never charged!

LDX is going to have to help you with your problem, assuming you have a valid, legal code. If not, get one so you can at least ask them some questions.

Preacher Hams

Dear 2600:

I picked up a copy of the magazine Free Inquiry at the bookstore today. The cover article was written by James Randi (the magician who debunks lots of ESP frauds). In fact, the magazine seems to be run by the same folks who do the Skeptical Inquirer, but is slanted more towards religious debunking.

Randi’s article was titled “Peter Popoff Reaches Heaven via 39.17 Megahertz”. Popoff is one of the most notorious TV faith healers. Randi’s group went to the shows and noticed that Popoff wore a hearing aid. Then they got a scanner and quickly found the frequency his wife was using to tell him the names and ills of people whom she had pumped for information before the show.

Now ponder the fact that the Communications Privacy Act would have made this expose illegal. The conversation was meant to be private, and Popoff certainly would have objected to its interception.

Could there be a connection here? Hmm....

Phil

Student Restrictions

Dear 2600:

I’m a student living on campus in a university in which one must dial a 9 to obtain an outside line, thereby restricting our calls to local ones since the dormitory residents cannot be charged and are provided with free local service. The only methods we can use to make long distance calls are using a calling card, calling collect, or using some alternate long distance company. We can’t even charge long distance calls to our home phone! Operator-assisted calls don’t work either. I’d like to know if anyone out there knows any ways to defeat this little phone system at our school. Could we lead the operator to believe that we’re not calling from the dorms (for operator-assisted calls and third number billing calls)? Is it possible for
us to obtain a normal line, such as the one that our home phone has? I'm certain there are other readers in similar predicaments. Please help us.

An "English Soccer Fan"

Why is it that dormitory residents can't be charged for calls? It's important to determine if the system you have is incapable of this function or if it's some kind of a policy at your school.

We assume you've tried the obvious tricks such as putting a 1 or a 0 in front of the number you're dialing. You might even try dialing your own area code in front of the exchange you're trying to reach (assuming it's inside your area code). The system might not be programmed to reject that.

It's possible that the operator has no way of verifying your phone number and that is the reason you're refused access. Make a credit card call to a number whose bill you have access to. See what number the call shows up as having been dialed from. If it's the main switchboard of the university, then that is indeed the case. If you have a way of getting an ANI (Automatic Number Identification) on your outside line, see what it comes up as and then try dialing that number. You might get a dial tone.

Finally, hack around inside your phone system. See what all other numbers besides 9 will get you. Usually, only certain numbers are reserved for actual phone numbers—the rest, particularly those beginning with 1, 7, or 8, can be for other outside lines, some with more access than others.

An Acronym Maker

Dear 2600:

After reading about your readers' interest in phone number acronyms, I thought I should send this in. This program originally appeared in the May 1985 issue of The Transactor magazine. This program was written for the Commodore 64 but is easily modified to work with any other computer. The program goes through and tries every combination of letters for the phone number you enter. In a 7 digit phone number, there are 2,187 different combinations.

Note: In line 100, make sure not to include "Q" or "Z", as they do not appear on modern phones.

The Gladiator

```
100 L$="000111ABCD3FGHIJKLMNOPRSTUVWXY"
110 INPUT "PHONE NUMBER":PNS
120 N=LEN(PNS)
130 DIM P(N),N$[N]
140 FOR I=1 TO N
150 N$(I)=MID$(L$,VAL(MID$(PNS,1,1))*(I+1,3));P(I)=1
160 NEXT I
170 FOR I=1 TO 3*N
180 PRINT I,
190 FOR C=1 TO N:PRINT MID$(PNS[C],1);:NEXT C:PRINT
200 CARRY=1
210 FOR J=1 TO N
220 P(J)=(P(J))+CARRY):CARRY=0
230 IF P(J)3 THEN CARRY=1:P(J)=1
240 NEXT J,
```

More TAP Woes

Dear 2600:

First let me say I enjoy your magazine very much and look forward to each issue.

I hate to bring this subject in front of you again—I know how sick of it you must be. I realize you are in no way associated with TAP, but do you have any ideas on obtaining back issues? The only outlet I have discovered is the Consumertronics company owned by John Williams in New Mexico. What this guy is charging is outrageous. If the issues were coming straight from TAP, the $2 he is asking (as compared to TAP's 75 cents back issue rate) would be more than reasonable and pose no problem. But all he is doing is placing someone else's work on a copy machine and reselling it at a highly inflated rate. Then after all this he insists, "Please pay with cash." I think Mr. Williams should join us back in the real world. So scratch that idea.
### Cellular Telephone Channel and Frequency Assignments

(continued from page 10)

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NOTE: IT'S NOW ILLEGAL TO LISTEN TO THESE FREQUENCIES!
interviews without “shadow masking”, since there was no more job to protect. I was getting by on unemployment checks, and not much else.

In August of ’83 I got a phone call from Tom Edison. “My house just got broken into and firebombed. Get this TAP stuff out of here by Friday, or it all goes into the dumpster.”

Tom had been spending a bright summer's day riding roller coasters, which are pretty numerous in the New York area (if you know where to look, and you have a car). He got home to find fire trucks and police cars. The cops said it was a real professional break-in. They took the Sol-20 computer, all the disks, the printer, the disk drives, and other assorted computer gear. The fire marshal said it was a real amateur arson.

The blackguards had poured some flammable liquid (gasoline most likely), lit it, and run. But they didn't open the windows to let it get air, so the fire upstairs died out quickly when the available air was used up. In the living room downstairs, however, the heat was intense enough to cause the picture window to shatter, feeding the fire in that part of the house. Neighbors called the fire department.

Tom’s insurance was supposed to take care of the damage, but the insurance adjuster was coming on Friday, and Tom wanted to have the stuff out of his house by then. So my roommate, also an unemployed ex-hippy, helped me schlepp what was left of TAP from Tom's basement (untouched in all the brouhaha).

This included boxes full of back issues, the damn copier that still didn't work (we put it in the dumpster), the exhibits of the 1972 Phone Phreak Convention that included a working Red box that “sounds” to the central office like the electronic tones generated by modern pay phones when money is dropped in, and the Distructory Assistance files. DA was service that Tom ran. If you sent some neat information, and mentioned what kind of stuff you wanted in return, he'd run off copies on the ancient, decrepit copier, and pop it in the mail to you.

My roommate, J.P. McClimans, worked with me to get the next few issues of TAP out, and in the mail. It was a bitch. Everything took longer than expected, and there were few people we could call on to help when we finally got around to things.

Then came my own eviction. I rented a storage locker in Flatbush, and what I couldn't get into it, went (can't you guess?) into the dumpster. All those precious back issues. What a pain.

Since the eviction, I haven't had the resources, or the time, since I still have yet to find real “gainful” employment. I've been surviving lately by selling articles on data communications to a New York based magazine, and I teach every few months at a local college (datacom of course). I also occasionally find a few microcomputer (read “IBM-PC”), since that’s the only market around) consulting clients.

Lately, though, there have been people who wanted to take over TAP. One group I'd even have liked to help, since they seemed to understand what TAP was about. Now I'm not so sure. The kids that are getting into TAP these days aren't realizing that unless they watch their step, they could get into very serious trouble. And of course, “it can't happen to me.”

I recently attended a communications security conference in Washington, DC where a number of exhibitors were former subscribers to TAP, and in fact, had gotten into the business because they had so much fun as kids with tapping and bugging gear, that they had to get into the business to legitimize their interest.

In fact, this is why I don't feel there is as heavy a need to publish TAP, or TAP-like things anymore. The readers who need TAP and others like it are in the corporate arena, wondering what those kids are up to now. The kids have the electronic Bulletin Board Systems (BBS's). Today, any 12-year-old with a Commodore 64 thinks he's the best system cracker to hit the scene since Wargames came out.

I'll admit that computerized “publishing” of information may not yet have the First Amendment protection that print media seems to enjoy. And if these kids keep trying to get into the computers of government installations, they shouldn't be surprised that some Fed takes it into his head to “take out the threat”. Remember, he's expecting Ivan and his cronies to be at the other end of the modem.

I realized a long time ago that if the Soviets ever came over Lake Erie, people like me who knew how to manipulate the communications network on behalf of otherwise unorganized freedom loving rabble would not be looked kindly upon. That government certainly isn't my friend. My own government seems to emulate them alot in its paranoia, but as the old 60's adage states, “Just because you're paranoid doesn't mean they're not out to get you.” Even in grade school, when I recited the Pledge of Allegiance, when it got to “And to the republic for which it stands”, I would think to myself, “not what it's become.”

As a result, I looked at TAP as being the “Boy Scout Manual” for the days when a "Technological Underground" might be needed. For this reason, I'm sorry that TAP couldn't go on longer. But the kids don't realize how much power those C-64s and Apples represent, and therefore, how much responsibility they should carry.

When you stop to think about how much computers can do, and how people believe a computer printout, whether it displays facts or fiction, the power to (continued on page 21)
### VERY ILLEGAL FREQUENCIES

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A British Telecom card-reader phone.

Photo by John Drake
Here are some numbers you may find interesting. At 800-538-7002 is a demo recording belonging to VYNet. A voice gives you information about their services and has you input your phone number and then repeats it to you. At 800-554-4477 is the "TeleTax" system belonging to the IRS. A variety of options may be entered from your touch tone phone.

Arab 149

Thanks for the info. Regarding TAP, $2 isn't all that unreasonable considering the effort involved in getting ahold of those issues in the first place. The mere fact that no one is doing any better should tell you something. As far as selling something that really doesn't belong to you in the first place, that's something else. Then again, it's TAP, not The Wall Street Journal.

800 Directories

Dear 2600:

Is there such a thing as a WATS directory? If so, how do you get one? If not, would it be possible to generate one for experimental uses?

Cocopelli

If you call 800 information enough times, eventually one of those operators is going to ask you if you're interested in getting an AT&T 800 directory. They'll give you a phone number to call, but you can call 8002220300 to get more info.

AT&T offers two books, one for people and one for businesses. These are probably the most complete books around, but there are quite a lot of 800 numbers that aren't publicly listed. That's where a phreak/hacker version comes in handy. We need people to help organize this.

You might also try wandering around some bookstores. There are several toll-free guides out there that may have additional numbers.

Searching for ANI

Dear 2600:

I'm also trying to find out what my ANI is in the 215 area code. I tried all the numbers that were printed, and nothing worked. I even called the operator and asked for the Drop Line ID. She asked me what my code was. Eventually, I had to hang up. I ran out of codes.

P.S. Please devote more articles on phone numbers instead of computers. Not everyone has a computer, but everyone has a phone!

Also frustrated in PA

The trick to finding your ANI is to make a little sheet of all possible exchanges in your area code, even ones with 1's or 0's as the second and/or third number (211, 706, etc.). Then go through the front of your phone book where they list all active exchanges. (You may need other phone books to complete your area code.) Put a check next to all the exchanges that are in use. The ones that are left are the ones you have to check out. Sometimes you may have to put a 1 in front of the exchange, sometimes you may have to dial seven numbers after the "exchange". Even if you don't find your ANI in this fashion, you'll probably find something else.

We know that in some parts of 215, dialing 410 plus four digits gets you an ANI. But it could be completely different in your area.

In answer to your last point, everybody may not have a computer, but more than a few computers have you in their database. And that's why it's important.
HEY YOU! This is the chance you've been waiting for! A new service of 2600 Magazine. Got something to sell? Looking for something to buy? Or trade? This is the place! And it's free to subscribers! Just send us whatever you want to say (without making it too long) and we'll print it! And, if you send in the only ad we get, you'll get the entire page to yourself! Only people please, no businesses!
So few of us really see the possibilities when we look at our telephones. But just think of what’s really there. Especially today.

With a telephone, you can take a trip to anywhere. The average person sees it as an everyday tool, an annoyance, a necessity, nothing to play with, nothing to wonder about, nothing to get excited about. What a pity. But in a way, how much better for folks like us who recognize the beauty of it all.

We pick up the phone and we hear a dialtone. The game is afoot. Where are we going? Who are we going to speak to? What exchanges work near us? What area codes work throughout the country? Can we make international calls? How many different operators can we find and what can we make them do?

On a phone, there is only one way to be judged. Your voice tells the whole story and if you can do things with your voice, there is no limit to what you can do over a telephone. This column, and in many ways this whole publication, is dedicated to those who have made telephone use into an art form.

Ask the average person what they think of the AT&T breakup and you’ll hear what a bad idea it was. Ask the average telephone repairman and you’ll probably get a 40 minute dissertation. (We should listen to these—they can be very revealing.) Ask an elderly person and you may even see some tears. What does this tell us? Did Judge Greene make a mistake? Will making a phone call ever be a simple process again?

All of a sudden phone calls are being treated differently—as a product instead of a natural right we’re all kind of born into. We have to make decisions now where they were made for us before. It’s all kind of like racial integration. Some preferred the status quo, but it’s obvious the system had to change to even approach being fair. And that means we all have to work a little harder, at least for a while to come. We may not even get it right the first or second time. But it’s a change that had to happen. Those of us who understand it all a bit better than others should lend a hand and not assume the answers will show up in the front of the phone book.

While the mood here in the States is negative, over in England it’s indifference. British Telecommunications PLC was denationalized in late 1984 and according to a recent survey, 72% of those polled think the quality of telephone service hasn’t changed since. Another 12% thought service had improved, 10% thought it had declined, and 6% had no opinion whatsoever.

Meanwhile, British Telecom has launched a new service for the London area called Talkabout. It enables up to ten telephone callers from the same area to be linked together on the phone for a chat.

There are two lines to choose from. Both are available 24 hours a day. One is for adults who dial 0055 0055 to join the service. The other is the service for teenagers up to 18 years, who dial 0055 0033.

Callers to the service first hear a recorded message telling them the cost of the call, informing them that all calls are monitored, and—for the teenage line—advising them to tell their parents that they are calling the service. This message is followed by a tone and customers are then linked in with the other callers. The tone alerts other callers that they have a new member joining their group.

So that callers do not lose track of the time, a buzzer sounds every ten minutes on the adult line to remind people how long they have been connected, and

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TAP
destroy people's lives is also available. The case of the Newsweek reporter harrassed by some TRW crackers who made his life miserable is a case in point.

In spite of what I said earlier, I look forward to reading publications like 2600, and Processed World (which calls itself "the magazine with the bad attitude", 55 Sutter St, San Francisco, CA). They point out what has been done with computers, and point out that life should not be made miserable now that the technology no longer belongs only to the corporations, but that computers and communications can make better lives for those who apply the technology for themselves, and for others (sorry for getting the schmaltz all over your shirt, it will wash right out).

So that's the basic story. There's some stuff I've left out, and some things we'll never know. Tom Edison still had a job to protect, so we couldn't ask for a full investigation of those we'd liked to have had checked out. At least not without more coming out than would have been healthy for him and his job. I haven't seen him since the day I drove the U-Haul out of his driveway. I hope he's doing OK. J.P. moved to the west coast after the eviction, where he's doing fine. And if anyone needs a microcomputer support person with a datacomm background, just give me a call, and my resume will be sent to your nearest BBS.

Keep smiling.

There is no doubt that TAP is dead. This must be distinctly understood, or nothing wonderful can come of the story that has just been reilled.

Old TAP is as dead as a doornail.

In fact, since 1983 it's been pretty obvious that TAP's future was in serious question. But it wasn't until July of 1986 that their maildrop was closed. Up until then, by his own admission, the cash that unwitting subscribers sent went right into Richard Cheshire's pocket. TAP has certainly left us all with a rather bad taste in our mouths.

There have been many claims and rumours with regards to starting a new TAP. Since we began publishing in 1984, we've heard at least two dozen such reports, not one of which has come anywhere close to fruition. And we think that's unfortunate—TAP should be allowed to rest in peace without others attempting to cash in on their name. Actually, anyone who tried to do that would probably face more of a hassle from all of the outraged customers who were short-changed by TAP.

So consider this the end. We'll always remember TAP. We'll always be passing back issues back and forth among ourselves. And some of us will even go to the weekly meetings still known as TAP meetings held in New York City. But there'll never be, nor should there be, another TAP magazine.

Changes
came on the scene. We've always looked at hackers and phreaks as being the possible salvation of our techno-crazy society. Somebody must know the way certain parts of the machine work and how to relate that to human needs. Give us the chance and we'll show you all kinds of little details that are right there in front of you.

Our format is not the only thing that is changing. Our prices will be changing as of February 15. Details are within this issue. And starting in March, our issues will be mailed without envelopes, just like most other magazines. There is no reason to be alarmed by this—2600 is not an underground or "illegal" publication. However, if you want your issues mailed in envelopes, contact us by March. At the moment, there's no additional charge for this service.

We hope to see more of you become involved with the production of 2600. Send us articles, pictures, clippings, or whatever else comes to mind. The address is 2600, PO Box 99, Middle Island, NY 11953-0099.

We also want your opinions on our new format. Do you like it, do you hate it, is the type too small, etc. This change was based on your previous comments so we do listen.

You may even see some copies of 2600 on newstands in the near future. If you know of a newstand or distributor that would be interested in carrying us, let us know. And if you're interested in selling advertising for 2600, we'd really like to hear from you.
PHONES

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monitors personally interrupt callers on all lines approximately every ten minutes to remind them of the cost of using the service.

In addition, callers to the teenage line are automatically cut off after ten minutes.

We've seen it before; many phone companies in the United States have already given this a try. But the phone phreaks have been doing it the longest, either through teleconferencing or loops.

People and companies try making money in the strangest ways. Conferencing is only one. Now there's even competition for what you listen to while on hold!

Businesses have begun to program customized advertisements—pitching everything from corporate securities to used trucks—for customers who get put on hold. But Robert D. Horner, president of The Hold Co. Inc. of Fort Washington, Pennsylvania says, "We don't like to call it advertising." Can anyone blame him?

Meanwhile, W. Evan Sloane of San Diego has started a telephone service that offers advice on how to beat drug testing at the workplace. The two-minute, tape-recorded message provides callers with information on the lengths of time that commonly used, illicit drugs stay in the body and suggests ways to doctor urine samples to mask evidence of drug use.

Sloane's a member of a group called Question Authority which he defines as "an attempt to focus some common sense on what's going on in our lives. The little guy is getting beaten down by this and doesn't know how to defend himself because he assumes these tests are accurate. We believe forcing people to take a urine test to get or keep a job is an unwarranted search and is unconstitutional."

Not to mention unpleasant. As is the latest move within the Soviet Union to eliminate unlimited local dialing. It's all part of Gorbachev's drive to reduce government subsidies.

Soviets currently pay the equivalent of a couple of dollars a month for as many local phone calls as they want. But the party is over. All calls will have to be paid for very soon.

The Soviet phone system has its problems. Every call to another city or out of the country must be booked through the operator and it can take hours to get through. Direct dialing was introduced briefly just before the 1980 Olympics, but was then abruptly terminated.

It's also next to impossible sometimes to get phone numbers since directories aren't available. You can call directory assistance, but the number is almost always busy. And if you need the number of someone with a common name, you'll be turned away.

But things may be looking up for the folks in Yugoslavia. The phone companies of the Slovenian Republic and Ljubljana have ordered the country's first System 12 digital telephone exchange. This will lead to local manufacture of nearly 700,000 lines of System 12 in Yugoslavia over a five-year period.

There's a lot going on down those little telephone wires. Telecommunications may indeed be a business for some, but for the entire human race it's becoming a vital link, a taste of freedom. We can never let control slip from our fingers.
ATTENTION

This is your last chance to beat the price increase. On February 15, 1987, our prices are going up. But if you act now, you can renew your subscription at the old price.

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