



2600 is published by 2600 Enterprises, Inc., an eleemosynary organization. Subscription rates: \$12 1 year, individual. \$30 1 year, corporate. \$2 per back issue. Overseas: \$20 1 year. Lifetime subscription: \$260. Corporate sponsorship: \$2600. Make checks payable to: 2600 Enterprises, Inc. Write to: 2600, P.O. Box 752, Middle Island, NY 11953-0752. Dial: 5167512600 BBS: 2013664431. ISSN: 0749-3851. Write to P.O. Box 762, Middle Island, NY 11953-0762 for advertising rates and article submissions.

RSTS: A Trick or Two

by The Marauder/Phoneline Phantoms

(What follows is a specific discussion on some aspects of the RSTS operating system which is usually found on a PDP-11. This computer is quite popular and found in many schools. For those who are unfamiliar, a general survey of RSTS will appear in future issues.)

Free Space

What is free space? Well, on all RSTS/E systems, there is a portion of the disk assigned to 'free space', which is basically space free for the saving of files. When you issue a save, or open command, RSTS/E simply grabs however many blocks are needed from this space, and stores your file there. Then this space is marked as being 'unavailable'. When you delete, or kill a file the exact opposite happens, RSTS/E moves a few pointers, which mark this space as 'available', (or free) space, leaving the entire file 99% of the time totally intact!! Here is an algorithm for a program to read free space:

```
10 open 'file.ext' as file 1%
20 put #1%, record XXXXX%
30 close 1%
40 end
```

where: file.ext = any valid filename you want the free space to be placed in. XXXXX% = any integer between 1 and 32767 inclusive, telling how many blocks of free space you wish transferred into 'file.ext'.

For example, if I wanted to read 500 blocks of free space into a file called "free.spc" I would write my program as follows:

```
10 open "free.spc" as file 1%
20 put #1%, record 500%
30 close 1%
40 end
```

Now in my directory would be the file "free.spc" holding 500 blocks of free space. You can now simply pip, teco, etc. or any text editor to examine the contents of this file. Whatever was deleted in the past few hours will usually be 99% intact. This includes BASIC programs, any ASCII text files (compiled code

is untranslatable so it's useless). This is especially useful at schools in the beginning or end of year when the administration is deleting and creating new accounts.

NOTE: You (and anyone else) can prevent files from going to free space in a readable format. When deleting a file, program, etc., use the following.

```
pip prog.ext/wo/lo (on RSTS/E v6.00 and earlier)
pip prog.ext/de/er (on RSTS/E v7.00 and later)
```

What this does in effect is tell pip to 'write zeroes' over the entire file before releasing it to free space. (Few persons know to use this, and fewer still ever use it!!)

Programs With 'Holes' in Them

On most systems there are usually a few programs that have holes in them that can be used to your advantage. Here are a few I have found.

If the system you are hacking supports a 'basic +2' runtime system (prompts with 'well?') from the basic keyboard monitor (from 'Ready').

```
sw bp2com
esp
Z (control z)
```

This is a legendary bug in the older versions of RSTS/E; what it basically does is switch to basic plus 2 as the default keyboard monitor, executes the ccl that evokes the rpg editor (esp), then control z's (exits) out of it leaving *full privileges intact!!!* So you can now run any program on the system!

Another big hole I have found is in the program '(1,2)rpgdmp.tsk', which is an rpg ASCII dump program, used for dumping rpg source code and checking for stray control characters that have a way of getting into rpg source and playing hell with the compiler. To use it simply try:

```
run (1,2)rpgdmp
```

It will ask you for a file name, then output device. You can give it any file name on the system (like \$acct.sys), and it will be dumped to whatever output device you selected!!! (screen, lp:, disk)

here's the secret!

by Silent Switchman

(Last month, we presented a story of a phone phreak, who knew of various flaws in various phone systems but was unable to share his knowledge with the company in question. He asked to be paid a small consultant fee, but this was denied him. So, we gave him a means of making this public.)

Check the location of the nearest GTD#5 switch made by Automatic Electric. It is usually installed by a general telephone company of your local area. You will find that the loop numbers do not supervise on either side. Numbers that do not supervise (non-supe) do not charge for the connection; they are free. This is different from toll-free service because the person you call pays for that. Toll-free calls are treated more like a collect call. In this case, the call is free like calls to some telephone company test numbers.

Loop numbers are two or more numbers that connect when each one is called at the same time.

This presents a means for two people anywhere in the country to call each other for free. The GTD#5 switch is being installed all over the country and this works in most of them, including Canada and overseas. Right now, quite a few phreaks in California, Hawaii, and Texas are using these toll-free loops.

I suggest that you call your local General Telephone company and ask them the exchange of the local GTD#5, then see if you can find the number of your local switchman and try to find out the number to the standard loop. These have to be dialed directly, because many extenders charge when connecting to non-supervised numbers, as do some alternate long distance companies.

THE HISTORY OF ESS

by Lex Luthor

Of all the new 1960's wonders of telephone technology—satellites, ultra-modern Traffic Service Positions (TSPS) for operators, the picturephone, and so on—the one that gave Bell Labs the most trouble, and unexpectedly became the greatest development effort in Bell System's history, was the perfection of an electronic switching system, or ESS. ESS should be well known to many a technical enthusiast. It is known as the big brother of the phone system, capable of controlling almost all aspects of any phone call and keeping track of calling patterns. How ESS works and what it is capable of has been covered previously in *2600* (February, 1984) and will be covered in future issues.

It may be recalled that such a system was the specific end in view when the project that had culminated in the invention of the transistor had been launched back in the 1930's. After successful accomplishment of that planned miracle in 1947-48, further delays were brought about by financial stringency and the need for further development of the transistor itself. In the early 1950's, a Labs team began serious work on electronic switching. As early as 1955, Western Electric became involved when five engineers from the Hawthorne works were assigned to collaborate with the Labs on the project. The president of AT&T in 1959 wrote confidently, "At Bell Labs, development of the new electronic switching system is going full speed ahead. We are sure this will lead to many improvements in service and also to greater efficiency. The first service trial will start in Morris, Illinois in 1959." Shortly thereafter, Kappel said that the cost of the whole project would probably be \$45 million.

But it gradually became apparent that the development of a commercially usable electronic switching system—in effect, a computerized telephone exchange—presented vastly greater technical problems than had been anticipated, and that, accordingly, Bell Labs had vastly underestimated both the time and the investment needed to do the job. The year 1959 passed without the promised first trial at Morris, Illinois; it was finally made in November 1960, and quickly showed how much more work remained to be done. As time dragged on and costs mounted, there was concern at AT&T and something approaching panic at Bell Labs. But the project had to go forward; by this time the investment was too great to be

sacrificed, and in any case, forward projections of increased demand for telephone service indicated that within a few years a time would come when, without the quantum leap in speed and flexibility that electronic switching would provide, the national network would be unable to meet the demand. In November 1963, an all-electronic switching system went into use at the Brown Engineering Company at Cocoa Beach, Florida. But this was a small installation, essentially another test installation, serving only a single company. Kappel's tone on the subject in the 1964 annual report was, for him, an almost apologetic: "Electronic switching equipment must be manufactured in volume to unprecedented standards of reliability.... To turn out the equipment economically and with good speed, mass production methods must be developed; but, at the same time, there can be no loss of precision...." Another year and millions of dollars later, on May 30, 1965, the first commercial electric central office was put into service at Succasunna, New Jersey.

Even at Succasunna, only 200 of the town's 4,300 subscribers initially had the benefit of electronic switching's added speed and additional services, such as provision for three party conversations and automatic transfer of incoming calls. But after that, ESS was on its way. In January 1966, the second commercial installation, this one serving 2,900 telephones, went into service in Chase, Maryland. By the end of 1967 there were additional ESS offices in California, Connecticut, Minnesota, Georgia, New York, Florida, and Pennsylvania; by the end of 1970 there were 120 offices serving 1.8 million customers; and by 1974 there were 475 offices serving 5.6 million customers.

The difference between conventional switching and electronic switching is the difference between "hardware" and "software"; in the former case, maintenance is done on the spot, with screwdriver and pliers, while in the case of electronic switching, it can be done remotely, by computer, from a central point, making it possible to have only one or two technicians on duty at a time at each switching center.

The development program, when the final figures were added up, was found to have required a staggering four thousand man-years of work at Bell Labs and to have cost not \$45 million but \$500 million!

equal access may not be "equal" to modems

by The Shadow

Now that AT&T is being divested of its local telephone companies, phone customers across the nation have to choose their long distance carrier as "equal access" is phased in. Advertising campaigns emphasize such aspects as low rates and operator assistance, but almost no one mentions a factor that will affect modem users who use auto dialers for long distance calls. Not all of the alternate long distance carriers provide called party answering supervision on all calls. Called party answering supervision basically has the telephone company start billing *only* when the called party answers the telephone. However, many of the alternate long distance companies still operate with the "fixed timeout" basis for charging. That is, if a call is held for a fixed length of time (usually 30 seconds), the charging starts, *whether or not the call was answered*.

This could cause modem owners large bills if they use autodialers to make long distance calls. Modems are usually set up to wait up to one minute when attempting to make a call, and thus have to timeout through busy signals, long call setup sequences, extender waits, and similar problems. This could result in many billed but unanswered calls.

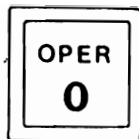
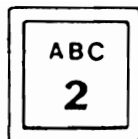
Some of the other carriers provide this on calls to some cities, and others don't support it at all. Only AT&T provides called

party answering supervision on all calls to all points presently. It's almost impossible to get information on how a long distance company charges its calls as they don't want to reveal how their billing is handled.

The alternate carriers get called party supervision when the *destination* location goes equal access. However, there has been no quick action on the part of the alternate long distance companies to make use of the supervision data as they would have to get equipment for passing the information back to the billing computer at the originating point. Thus, called party answering supervision often ends up being ignored by these carriers even when available.

The lower rates of alternate long distance companies must be weighed against the timeout problem as it affects autodialing modems. One way to circumvent this is merely to set your modem to a shorter waiting-for-connect time, but this may not provide enough time for the call to go through. You could also claim credit for each and every one of the calls you get billed for that doesn't actually connect—but that can be very time-consuming.

Keep in mind also that alternate phone companies with primitive billing methods will often *not* detect short 20-second phone calls....



Columnist Attacks AT&T

Combined News Sources

Syndicated newspaper columnist Mike Royko said he would not stop "guerrilla tactics" against AT&T until callers trying to reach a company office stop ringing him instead.

AT&T publicly apologized yesterday to him by placing a quarter-page advertisement in the Chicago Tribune reminding customers to dial 1-800 before the seven-digit number to reach its consumer products office. Otherwise, the number is the same as that of Royko's Tribune office.

After the phone company suggested he change his number, the columnist said he adopted guerrilla tactics, including suggestions that callers throw faulty phones out the window and telling callers AT&T would not provide service because they were Italian or Polish.

He said he did not expect AT&T to change its number, but that the company should not expect him to stop his vendetta.

No Dial-it Calls For Feds

Associated Press

Those casual calls to get the time, weather, or hear a recorded joke are becoming a thing of the past for federal workers. Telephones in most federal offices in New York and Chicago have already been blocked electronically from making these calls, and the process is now underway in Washington.

The price of such calls ranges from 6.9 cents to \$1, depending on which service is telephoned. Federal officials figure they can save \$300,000 annually by eliminating these expenses. The government last year was billed \$34 million for calls made within government agencies in the Washington area and \$6 million more for outside calls. The latter included about \$250,000 for weather and time checks and \$40,000 for calls to pre-recorded messages.

Eighty-six percent of the federal telephones in the area are on an electronic system that can block certain types of calls.

Dial-it Sex Numbers Argued

Combined News Sources

Senators Jesse Helms, R-N.C., and Jeremiah Denton, R-Ala., are leading the fight to make it illegal to transmit "obscene, lewd, lascivious, filthy or indecent" material via telephone or cable television. The bill, introduced by Helms would make it a federal crime even for a married couple to have a sexually explicit conversation over the telephone. It would be punishable with a fine of \$50,000 and up to two years in jail. Helms and Denton say children are the unwitting victims of "pornography" distributed over the telephone and by cable television. They fear of the telephone number through friends, dial it, and are subjected to "gross sexual descriptions of bestiality, homosexuality, defecation, urination and so on," according to a Denton aide.

The bill is vigorously opposed by the American Civil Liberties Union, which says it would eliminate most R and PG rated films from cable television.

Bowing to public pressure, Central Telephone Co. of Nevada has withdrawn a request to offer dial-it 976 services, thus losing a possible \$500,000-a-year in revenue. The company pulled its proposal from the state Public Service Commission after 300

Southern Nevadans complained that Las Vegas already suffers from a "sin city" image without allowing easily accessible Dial-a-porn too. The residents identified themselves as church civic organizations were among those testifying against implementing the service.

Bell of Pennsylvania is suing to switch off the companies that program the sex talk on its dial-it services. It asked the Court of Common Pleas in Philadelphia to rule whether the six companies that program sex talk on 10 numbers in Philadelphia and seven in Pittsburgh are disseminating sexually explicit material to minors.

Bell of Pennsylvania like other phone companies are essentially powerless to refuse the Dial-it numbers, which begin with "976" to anyone who wants to lease them.

In May, Mountain Bell in Phoenix, Arizona, was allowed to turn off five sex lines after a federal judge ruled that the messages were obscene and unlawfully available to minors. But this was later overturned by a Federal judge who ruled that the state law used was unconstitutional and that it deprived the companies that supplied the service of its First Amendment right to free speech.

Big Deal for Little Town

United Press International

A dozen miles of cable were laid and the first telephones were recently installed in 11 homes in two remote towns in Kitsap County, Washington.

The towns of Toonerville and Dewatto were one mile outside Pacific Northwest Bell's service area, so the towns were finally hooked up by Inland Telephone Co.

Most of the area's 50 homes still have not signed up for phones because of the \$51 monthly bill for local service.

Springsteen Mania

Combined News Sources

When tickets went on sale in July for concerts this August, no one expected this to affect almost all aspects of New Jersey telephone service. New Jersey Bell officials reported 24 million more calls than normal, because tickets to see the Boss were made available through Teletron. There were many reports of people waiting for minutes for dial tones; some of them got busy signals when they tried to call the operator.

One independent company, Murphy Realty, was receiving more than 50 calls an hour because of the Springsteen concert. The new branch office was assigned a new phone number which had been the prior number of a ticket agency. Since these sales offices were made available 24 hours a day, the calls started coming in to the home of Lois Roland, the salesperson who had the office phone diverted to her number.

Meanwhile, New Jersey Bell had to suspend seven of its employees—including six managerial-level workers for using company equipment to get through busy circuits to order the Springsteen tickets. The seven were suspended without pay for two weeks or less, because they violated Bell's code of business conduct by using official company equipment for personal use. The employees used test equipment normally used to check out the company's network in order to seize available lines to give them preferential access to Teletron on the Friday that the concert tickets were made available.

LETTERS, Box 99, Middle Island, NY 11953-0099

Dear 2600:

On a trip in Ohio, I was phreaking with the phone and no codes worked. Then my girlfriend's daughter asked me what I was doing. I tried to explain phreaking to her (she's 12). She said "watch this." She dialed her home phone number, let it ring three times and hung up. It rang (ringback). So later I tried it in a pay phone. Nothing. 958—nothing. 311—nothing. Anyway, this is a small phone company in Germantown, Indiana. But this technique might work elsewhere, why not?

HAL-9000/Beast 666

Dear 2600:

Proper use of the Carrier Identification Codes (November 1984) can lead to free calls. If your area supports equal access merely dial 10XXX (XXX=carrier access code) + 1 + NPA + Phone# (or even a # in your NPA). What happens is that the alternate carrier doesn't have the proper billing address for you. You tell your local switch to charge it to you via the alternate service, but the alternate service doesn't know where to send the bill. Don't expect this method to last. Most carriers have wised up and prevent dialing via them unless you sign up. However, GTE Sprint (XXX=777) still allows this for most areas of the country. It is rumored that dialing the CIC from a pay phone results in a free call as well.

Lord Phreaker

Dear 2600:

I have recently become a 'long distance' subscriber to 2600 and find it very interesting—well done.

The reason I joined was to find out more about the U.S. telephone system—I am fairly familiar with our local equipment, naturally.

My particular interest is trading and making recordings of the various tones (ringing tone, dial tone, busy tone, etc.) from all over the world—I have several tapes full. I have noticed a fair bit of variety among the ringing tones encountered on calls to the States, and I imagine the trained ear can recognize from the ringing which type of switch he is connected to.

Normally, USA ringing tone is a single beat, repeated every few seconds—occasionally, however, it is a double beat then silence, etc. This is much more similar to the British double beat ringing, and I wondered exactly what sort of switch produces this. Some people have told me the very latest electronic switches, but this cannot be, as I have heard it for 15 years or more.

By the way, the piece on Israeli phones (June 1985) was a bit off beam. Dialing there—and all over Europe—is standard loop disconnect. In Britain at any rate, off-hook line voltage is often 7 or 8 volts, not as low as 3.5 as suggested in that article

a.e. in Britain

Dear 2600:

Is it true that blue boxing is on the way out? I hear it has

something to do with CCIS. What exactly is this and why is it so troublesome to phreaks?

Worried Phreak

Dear Worried:

Blue boxes are indeed a dwindling resource. But there's no need to throw them out yet. They aren't going to be totally useless for quite some time.

Basically, AT&T is converting gradually to CCIS trunks. These don't allow boxing.

In-band signaling is the only kind of trunk signaling that supports boxing. It is by far the most prevalent at the moment. Basically, in-band uses a 2600 hertz tone to indicate that a trunk is idle, and thus can accept routing instructions from an "outsider".

To box a call, the criminal blasts 2600 down the line after making a long distance call. The line thinks it's idle and waits for routing instructions. Now the criminal puts a KP tone and a ST tone around the number that he's trying to get through to. These comprise the routing instructions. Thus, the line thinks it's idle, then it receives the routing instructions, and routes the call to wherever the person sent it. Now, his central office (CO), which does all billing still thinks he is making the call to wherever, so it keeps on billing him at that rate. If it happens to think he was making a toll-free call, it won't bill him at all!

Another form of signaling is out of band. This uses control tones out of the normal band of telephone transmission (approximately 800 hertz to 3000 hertz). The idle tone is 3200, others shifted upward as well. So why couldn't you just make a new box? Don't forget, it's out of band. These tones aren't in normal transmission, so the local CO and customer interface loop just don't bother to transmit them. You can blast all the 3200 you want—it won't go through the CO to the trunk. But this is not the "death of boxing" as it has several disadvantages to the telco too numerous to mention.

The real death of boxing lies in Common Channel Interoffice Signaling (CCIS). This is a direct connect data line going from one ESS switcher to another at speeds up to 4.8 kB (usually 1.2)—incredible speeds. All routing instructions are sent through these lines. It isn't looking for control tones on the trunk; it's getting them elsewhere. This means that you can blast 2600 hertz tones all you like. It won't make a difference because the equipment is no longer listening for them. This kind of signaling is being phased in all over the country. Look for one in your neighborhood.

Since CCIS has benefits for really high volume trunks, you can try looking for long distance trunks to Canada, or rural states. These probably won't be phased in for a long time, if at all. (Remember, very few companies just invest in new technology for new tech's sake; even AT&T won't be able to do this for long).

In the October 19 issue of *The New York Times*, it was reported that at least 23 teenage computer users had broken into a Chase Manhattan Bank computer installation by telephone in July and August and "significantly damaged" bank records, according to the FBI.

In *The Wall Street Journal* on October 21, Michael Urkowitz, executive vice president for operations and systems, said that in public statements and documents the FBI had characterized the invasion of the system as more serious than it was in order to obtain search warrants of the youths' homes.

"We know absolutely that they didn't damage or manipulate data," he said, although they did change some passwords. "It

wasn't an event that caught us unaware. Everything worked the way it was supposed to.... We got caught between the FBI's need to make this sound alarming and the facts as they are."

He said that the youngsters broke through only the first level of security, which didn't give them access either to the names of customers or their balances.

But, according to *The Times*, interviews with Federal investigators "drew a picture of officials of the nation's third-largest bank bewildered and a bit frightened by a series of seemingly inexplicable events in one of their key computer systems."

Who do you believe?

The 2600 Information Bureau

TEST NUMBERS BY THE SHADOW - not guaranteed, of course.

011-44-61-2468011 : US dial tone then "When this system changes, this is the new dial tone you hear" (UK is changing dialtone)
 201-226-0709 : alternating tones, then "warble"
 201-267-9922 : sweep tone
 201-267-9966 : 600 ohm termination
 201-232-9924 : (tone 1,2,5-beep, bleep; 9, #- 1200 baud static, beep, bleep; 6-tone, higher tone, bleep)
 201-232-9959 : tone 11 sec. silence, repeats...
 201-233-9972 : multitude of clicks
 201-233-9974 : busy 15 sec. then tone w/ clicks
 201-241-9916 : hissing with clicks
 201-328-9971 : 1000 hrtz tone
 201-376-9907 : "is being checked for trouble. Please try again later"
 201-464-9915 : low tone 15 sec, silence
 201-464-9916 : low tone 2 sec, silence
 201-464-9963 : buzz
 201-464-9974 : busy 15 sec, low tone
 201-543-9902 : "If you'd like to make a call, hang up and try it again."
 201-543-9903 : "We're sorry, your call did not go through."
 201-543-9904 : "the number you have dialed requires a .20 cents deposit."
 201-655-9900 : "cannot be completed as dialed from the phone you are using"
 201-769-0205 : People's Express Reservation system
 203-771-4920 : telephone company employee newslines
 207-866-4411 : 1000 hrtz tone
 212-233-9980 : (tone 1,2,3,8-tone, higher tone, bloop; 5-tone, bloop; 9, #- static,beep,bloop)
 212-369-7003 : "you have reached 212-369-7003 in zone 3" (?)
 212-799-5017 : ABC New York feed line
 213-621-4141 : telephone employee newslines
 213-935-1111 : sweep tone with echo at top of range (?)
 215-489-0036 : tone, bloop (1,2,5-tone bloop, 3,6,9-tone,higher tone,tone)
 215-489-0040 : "please check your instruction manual or call repair service for assistance"
 215-489-0042 : "if you like to make a call please hang up and try again"
 215-489-0043 : "We're sorry, your call did not go through."
 215-489-0044 : "The call you have made requires a 25 cent deposit"
 215-489-0045 : "You must first dial a 1 when dialing this number."
 215-489-0074 : LOUD tone, stops, repeats
 215-489-0075 : 600 ohm termination (silence)
 215-489-0078 : tone, silence

215-489-0080 : 600 ohm termination
 215-489-0097 : tone, (lower pitched than -0078) silence (also at -0098)
 215-489-0104 : 1000 hrtz tone
 216-861-8300 : tone, then higher tone
 301-256-9987 : 1000 hertz
 301-546-7777 : "Due to Telephone Company facility trouble your call cannot be completed at this time"
 301-725-9904 : "deposit .20"
 305-263-0000 : repeating bloop (keypress 2 : slow reorder w/ bleeps, clicks)
 305-994-9963 : pay fone instructions
 305-994-9966 : "telephone you are calling from is not in service"
 312-222-9948 : tone (keypress 1,2,3,6,7,8-tone,high tone,bleep, 4-tone,bloop, 9, #-static,beep,bloop)
 312-222-9954 : "Test Center"
 312-222-9990 : clicks, ticking like
 312-222-9996 : LOUD tone, repeats
 312-368-8000 : Illinois Bell Communicator (employee newslines)
 312-592-0000 : tone (keypress 2222, then other digits, at re-order type 8 to restart) (?)
 313-223-7223 : telephone employee newslines
 313-333-9981 : LOUD tone, silence
 313-333-9989 : high tone (enter touchtones for a while, eventually get "metallic" echo, then 5-high pitched tone, random re-orders)
 313-333-9990 : beep, click repeats, with "winks"
 313-333-9994 : tone bloop (keypress in 2-tone,bloop, 3-tone,higher tone,tone, 9-static,beep,bloop)
 313-333-9995 : 600 ohm termination (silence)
 313-333-9996 : wierd siren/sweep tone, multi-frequency
 313-430-4300 : beep, beep, beep, then reorder
 313-698-9998 : sweep tone
 314-247-5511 : Southwestern Bell Telenews (employee newslines)
 315-471-9934 : "deposit 5 cents for next five minutes"
 408-255-0081 : (any two 2,4,8,0-tone)
 408-294-6969 : beep, click, computer voice repeats number
 408-395-1110 : (tone 2-beep,glitch; 3-beep,higher beep;#then number-loud tone,bleep)
 408-738-8190 : (tone 1,3,6,7,8-tone, high tone,tone;2-beep,cluck;9, #-static,tone,beep)
 408-745-6060 : high pitched tone, low tone then repeats
 408-994-0044 : tone end of loop
 412-633-3333 : telephone company employee newslines
 414-628-0001 : continuous tone
 414-628-0002 : continuous tone (higher pitched, sounds like muted dial)

414-628-0004 : high pitched tone, bloop, silence
 414-628-0006 : brief very high tone (also -0007)
 (multiple keypresses of 2,5,8,0 tone
 repeats)
 414-628-0010 : loud tone, stops, repeats...
 414-628-0011 : loud tone, stops
 414-628-0013 : 600 ohm termination (silence) (also
 -0017, two in an exchange?)
 414-628-0014 : continuous tone (sounds like wierd
 dial), eventually stops
 414-628-0015 : LOUD tone, repeats
 414-628-0028 : "Your call cannot be completed as
 dialed
 414-678-3511 : Wisconsin Bell Newsline
 414-781-0004 : high tone, silence (keypress
 2,5-beep,bleep, 3,6-beep,longbeep,
 bloop, 9-static,bloop)
 415-284-1111 : one sweep, then silence
 415-327-0046 : sweep tone
 415-388-003 : tone,bloop (keypress 2-tone,bloop,
 3-tone,high tone,tone,
 9-static,beep,bloop)
 415-472-0046 : sweep w/ glitch at top
 415-545-8800 : Pacific Bell Newsline
 415-467-0097 : fast DTMF tones, keypress to repeat
 415-777-0020 : 1000 hrtz tone
 415-777-0037 : tone, bloop (keypress 2-beep,bloop,
 3,6-tone,higher tone,
 9-static,beep,bloop)
 415-777-0046 : sweep tone with echo
 415-777-0105 : tone,bloop (keypress 2-beep,bleep,
 3,6-tone,higher tone,tone,
 9-static,beep,bloop
 415-826-0022 : tone, click, tone (sounds like a busy)
 415-994-0710 : multitude of clicks
 512-472-2181 : "if you would like to make a call,
 please hang up and try again"
 512-472-4263 : garbled recording (?)
 512-472-9833 : "you must first dial a 1 or 0 before
 calling this number"
 512-472-9936 : "please check your instructions or call
 your business office for assistance"
 512-472-9941 : "insert 25 cents"
 516-222-3825 : LOUD tone
 516-234-9914 : New York Telephone Newsline
 516-751-9979 : sweep tone
 518-471-2272 : New York Telephone Newsline
 518-789-3299 : weird busy, multitude of clicks
 609-267-9966 : busy with clicks in background
 609-267-9967 : 600 ohm termination (silence)
 609-267-9968 : 1000 hrtz tone
 609-267-9971 : LOUD tone, stops, repeats
 609-267-9972 : rings with clicks in background (also
 -9973 and -9974)
 609-877-9924 : high tone (tone in 1,2,5-tone, bloop;
 3,6,8-tone, higher tone, bleep;
 8-static, beep, bleep)
 609-877-9929 : 1000 hrz tone
 617-553-9953 : tone end of loop
 617-890-9900 : sweep tone
 617-955-1111 : telephone company employee newsline
 619-748-0002 : tone increases in pitch, silence,
 repeats in monotone
 619-748-0003 : sweep, repeat, hangs up
 702-789-6711 : Nevada Bell Newsline
 713-354-0000 : touch tone in #, then new #, then 5 -
 listed, 9 - unlisted)
 713-482-3199 : "We're sorry, all circuit are busy
 now."
 713-652-5111 : touch tones echo back "metallic",
 something about "drivers licence
 number" replys in a female recorded
 voice
 717-255-5555 : Bell of Pennsylvania "Inside Line"
 (employee newsline)
 718-429-9900 : "Please slide a valid credit card
 through the slot now"
 800-221-5959 : tone (# makes it ring)
 800-228-8466 : Sensaphone (tm) demo (time etc. (EST)
 (wait 7+ rings))
 800-321-3048 : non-connecting loop with 800-321-3049
 800-321-3052 : loop (dont know where other end is)
 800-321-6366 : Centagram's Voice Memo System
 (extension 100 for demo)
 800-323-6321 : tone, stops, bloop repeats
 800-327-0000 : "Announcement three, Dallas" (changes
 sometimes)
 800-344-4001 : non-connecting loop with 800-344-4002
 800-524-0000 : "Announcement 1 Atlanta"
 800-554-5924 : Cable News Network audio feed
 800-824-8274 : "Enter your password service code"
 802-955-1111 : telephone company newsline
 808-533-4426 : Hawaiian Telephone Newsline
 816-391-1122 : recorder (keypress 1-toggle on/off,
 3-rewind, 4-stop, 7-play)
 907-269-0955 : tone (sounds like extender, doesn't
 take touch tone (?))
 914-232-9901 : "Daytona, New York DMS-100
 verification"
 914-268-9901 : "Congers DMS 100 Verification"
 914-268-9903 : "your call cannot be completed as
 dialed"
 914-268-9968 : (keypress 2-high tone, 3-high, higher
 tone, 6,0-click, 7- hangs up, sometimes
 0,8,8-harmony)
 914-359-9901 : repeats the number dialed
 ("914-359-9901")
 914-359-9960 : wierd tone, stops, clicks, repeats
 914-623-9968 : (keypress 2,5-beep glitch, 3,6-tone
 highertone)
 916-480-8000 : Pacific Bell Newsline

SYSTEMATICALLY SPEAKING

Avoid Phones in Storms!

The New Brunswick Home News

Prompted in part by the mysterious "phone death" of a Piscataway, New Jersey youth, a federal governmental agency has begun persuading telephone companies throughout the nation to warn consumers not to use telephones during electrical storms.

The Consumer Product Safety Commission recently sent letters to the nation's seven regional phone companies, asking them to consider publishing advisories in their directories.

Rural Customers Denied Access

2000 News Service

On March 1, in an effort to help customers of small independent phone companies, the FCC ordered that any independent telco must offer equal access within three years if any legitimate long distance company requested it. Step-by-Step switching equipment, first introduced in 1917, and crossbar switching equipment, first introduced during WW II, are not sophisticated enough to handle the electronics of equal access.

In Sussex County, New Jersey, long-distance companies have not requested equal access, because of the antiquated switches there. This means that people cannot choose any carrier they wish from their company—United Telephone. Companies like MCI and Allnet said they simply could not work with the technology that United offers.

What the FCC has decided to do in cases like this is offer the smaller independent companies three years to install the necessary equipment and upgrade their systems after they receive any requests from long-distance companies, requests that are likely never to come in Sussex County. They hope that the small companies will eventually replace their switches with digital technology when they wear out, but an FCC engineer says that "It's probably always cheaper to fix stepper switches than replace them." He said, "I guess that could be done forever."

Police Dept. Wants Cellular Phones

Associated Press

The old and often inoperative emergency telephones along city highways in New York will be replaced by new cellular telephones that cost less and are easier to maintain, according to the police department.

The department did not want to replace the system with similar telephones that could be knocked out of service in bad weather, and the technology for outdoor cellular telephones, which operate over the air, had not been developed until recently. A prototype placed on the Bronx River Parkway at Allerton Avenue in February has operated flawlessly, according to a spokesman.

Toll-free From *Where?*

Reuters

AT&T has applied to extend its international toll-free service to South Korea and the Dominican Republic, allowing people in those nations to make toll-free calls to American companies.

Toll-free calls using the 800 service over AT&T lines currently is available from Canada, France, Bermuda, the Netherlands, the United Kingdom, and Antigua.

The telephone company said U.S. customers subscribing to the service from Korea would pay \$135 an hour or \$2.25 a

minute, while it would be \$87 an hour, or \$1.45 a minute from the Dominican Republic.

Pacific Cable Planned

The New York Times

Nine American telecommunications companies, led by AT&T, have applied to build and operate the first fiber-optic cable system to span the Pacific Ocean.

The undersea system would have two parts—a 7,200-mile segment connecting California, Hawaii, Guam, and Japan and a 1,500-mile link between Guam and the Philippines.

In addition to AT&T, the companies seeking approval from the FCC for the systems are Hawaiian Telephone, ITT World Communications, MCI International, GTE Sprint, Western Union Telegraph, RCA Global Communications, FTC Communications, and TRT Telecommunications.

Meanwhile, an AT&T ship has been installing, in nearly 9,000 feet of water, the world's first deep-water fiber-optic system, which will connect two of Spain's Canary Islands, Tenerife and Grand Canary. It will have to withstand pressures exceeding 12,000 pounds per square inch.

Free Kiddie Dial-It Calls

Communications Week

Bell Atlantic Corp. revealed that it is not charging subscribers for 976 "dial-it" calls if the customers report that the calls were made by unsupervised children or through other inadvertent household hi-jinks.

The policy, described by the company as a "compassionate" approach, is designed to save the pocketbooks of parents whose toddlers ring up hundreds of dollars in calls made to recordings of Santa Claus or Muppets. Such cases have drawn consumer outrage around the country and at least one class action suit in California court.

Bell Atlantic said that while the company is willing to give consumers a break the first time they report telephone misuse, and even possibly the second time, consumers who continue running up charges won't be able to duck payment indefinitely.

AT&T to Read E-Mail

Newark Star-Ledger

AT&T has begun offering a letter opening service for electronic mail users.

It's called Message Access Service, and the target is business people who travel and need frequent access to their electronic mailboxes.

The service will be provided through electronic mail service vendors or corporations that have their own such service.

AT&T's first customer is Compuserve, which offers its Infoplex service to some 160 corporations. Electronic mail customers will dial 800 numbers to reach the AT&T message access center in Norfolk, Virginia to receive or send messages.

Attendants at the center will act as surrogates for the mailbox user, reading messages for customers or entering messages into the vendor's database. Each database is owned and operated by individual electronic mail vendors, and not by AT&T. Vendors will be billed monthly for the total number of minutes that subscribers use. Prices will be based on volume, AT&T said.

Vendors will in turn bill subscribers for the service. Compuserve will charge its customers \$1.50 per minute plus normal Infoplex charges. The service is available now from any telephone, according to an AT&T spokesman.

The Early Phreak Days

by Jim Wood

When I decided to get married back in 1962, I traded my DJ and broadcasting odd jobs for one at the phone company; employment which, at that time, was ultimately secure though my take-home pay was about \$300 a month.

Assigned to the Palo Alto, California central office as a Toll Transmissionman, my duties included maintenance of toll traffic circuits and related short-haul N and ON carrier equipment. Circuit testing was initiated at a black bakelite Type 17B Toll Testboard. A field of several hundred jacks gave access to as many inter-office trunks, many to the San Jose 4A and Oakland 4M 4-wire switching centers.

Though it was strictly forbidden, one could easily and safely "deadhead" toll calls for one's self, family or friends from the testboard. Around Christmastime our office could easily have been confused with the Operator room on the floor below.

The 17B testboard had a 0-9, DTMF keypad arranged in two rows of 5 buttons wired to the central office "multifreq" supply. A rack of vacuum tube L/C oscillators comprised the MF supply and was buried somewhere in the bowels of the building.

Long days with too much (mostly union) staff and not enough to do precipitated a lot of screwing around on the job. Some of the guys would just daydream out the windows, others would hassle and torment the Operators downstairs. One favorite trick was to sneak into the access space behind the bank of 3C switchboards and push the cords slowly up toward the Operators. The screams and commotion caused by a tip, ring,

and sleeve "snake" was worth the risk of getting chewed out by the old battleaxe who ran the place. Myself, I just played with the Bell System; never with any intent to defraud, merely to increase my understanding of how the whole thing worked.

It was during a singularly dull day that I hit on the idea of "deadheading" calls through one of the local subscriber loop jacks which rang into the testboard. Sure enough, I could rotary-dial through the step office to Sacramento (the shortest hop on L carrier with inband signalling), "dump" the call in Sacramento with a blast of 2600 from the 19c oscillator mounted overhead, then multifreq out of Sacramento anywhere I wanted to go. Wow! I could hardly wait to demonstrate this potential source of lost revenues to my first-line supervisor. Both he and his boss were mildly impressed, but assigned minimal importance to the event since, in their words, "no one has a multifreq supply at home."

Ma Bell invented the transistor but was among the last to put it into service. One of the few places a transistor was used in our office was in the alarm circuit of the ON carrier system. The 13H was a wretched little "top hat" PNP with just enough beta to work in a bridged-T oscillator configuration. A half-dozen of these, some Olson Radio pushbuttons, and a handful of resistors and caps made a dandy MF supply.

The next demonstration was from the Chief's own desk and did finally raise some concern. I was asked to "donate" the box and told to keep my findings strictly to myself. I have done so for more than 20 years now.

ATTENTION READERS!
Last month, you received an orange postage-paid survey card. Please fill it out and mail it now. We have received many, but some of you have not yet sent it in. If you take the time to fill it out, we can try to accommodate your needs, and we will be able to hear your comments and criticism. Thanks. If you wish to whine and complain at great length send a letter that includes any suggestions or comments to: 2600, Box 99, Middle Island, NY, 11953-0099.

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