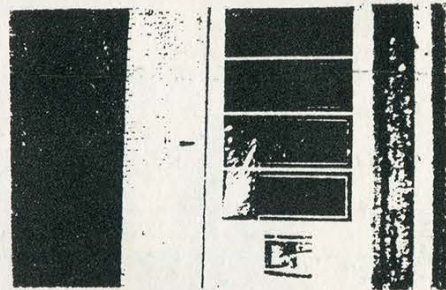# 2600

The Hacker Quarterly

Volume 5, Number 3   Autumn, 1988

A FRENCH PAYPHONE (in France!).

Photo by John Drake

ON THE COVER:
Using a special computer language created by AT&T Bell Laboratories
scientist Gerald Holzmann, two Polaroid photographs showing opposite sides
of a woman's face were combined to create this image. The two 4-inch by 5-
inch Polaroid photographs, through the use of an optical scanner, were digi-
tized so they could be processed by a computer. Using his special computer
language, Holzmann made a mirror image of one of the photographs, then
combined the three of them to create the effect. The combination is completely
seamless, revealing no discontinuities where the three photos meet -- even
under magnification.
Holzmann's language and techniques are the subject of a book, Beyond
Photography: The Digital Darkroom, from Prentice-Hall.

December 10, 1988

Literally for years now, we have been pestering New York Telephone for an exact date on the cutover of our ancient #5 Crossbar office to a more modern and efficient switch. And recently, we were shocked to hear that the date had been set: December 10, 1988. We thought of having a contest. A prize for the first person to call in after the cutover. But this was not to be. You see, our office is going to go *"equal access" on that date. But we're not getting a new digital switch until at least 1990. What we're getting now is something called an "adjunct frame", a device which allows a crossbar to emulate E.S.S. to a degree. Supposedly, it causes lots of problems, so we'll have something to talk about. In this way, N.Y. Tel will fulfill Judge Greene's equal access orders without spending lots of money.*

STAFFBOX

OUTSIDE LOOP DISTRIBUTION PLANT

by Phucked Agent 04
Introduction/Outline

Basically, the outside local loop distribution plant consists of all of the facilities necessary to distribute telephone service from the central office (CO) out to the subscribers. These facilities include all wire, cable, and terminal points along the distribution path. In this article, we shall follow this path from the CO to the subscriber, examining in depth each major point along the route and how it is used. This is especially useful for checking if any "unauthorized equipment" is attached to your line, which would not be attached at the Central Office. I suppose this article can also be interpreted to allow someone to do just the opposite of its intended purpose....

Note that this article is intended as a reference guide for use by persons familiar with the basics of either LMOS/MLT or the operation of the ARSB/CRAS (or hopefully both), because several references will be made to information pertaining to the above systems/bureaus.

Serving Area Concepts (SAC) Plan

In order to standardize the way loop distribution plants are set up in the Bell System of the U.S. (and to prevent chaos), a reference standard design was created. For urban and suburban areas, this plan was called the Serving Area Concepts (SAC) plan. Basically, in the SAC plan, each city is divided into one or more Wire Centers (WC) which are each handled by a local central office switch. A typical WC will handle 41,000 subscriber lines. Each WC is divided into about 10 or so Serving Areas (depending on the size and population of the city), with an average size of 12 square miles each (compare this to the RAND (Rural Area Network Design) plan where often a rural Serving Area may cover 130 square miles with only a fraction of the number of lines). Each Serving Area may handle around 500-1000 lines or more for maybe 200-400 housing units (typically a tract of homes).

From the CO, a feeder group goes out to each Serving Area. This consists of cable(s) which contain the wire pairs for each line in the SA, and it is almost always underground (unless it is physically impossible). These feeder cables surface at a point called the Serving Area Interface (SAI) in a pedestal cabinet (or "box"). From the SAI, the pairs (or individual phone lines) are crossed over into one or several distribution cables which handle different sections of the SA (i.e., certain streets). These distribution cables are either of the aerial or underground type. The modern trend is to use buried distribution cables all the way to the subscriber premises, but there are still a very large number of existing loop plants using aerial distribution cables (which we will concentrate mainly upon in this article). These distribution cables are then split up into residence aerial drop wires (one per phone line) at a pole closure (in aerial plant), or at a cable pair to service wire cross box (in buried plant). The cable pairs then end up at the station protector at the customer's premises, where they are spliced into the premise "inside wire" (IW) which services each phone in the customer's premises (and is also the customer's responsibility).

Although this is the "standard" design, it is by no means the only one! Every telco makes its own modifications to this stan-

dard, depending on the geographic area or age of the network, so it's good to keep your eyes and your mind open.

At this point, we will detail each point along the Loop Distribution Plant.

Cable Facility F1 - CO Feeder

The F1 cable is the feeder cable which originates at the Main Distribution Frame (MDF) and cable vault at the local CO and terminates at the SAI. This cable can contain from 600 to over 2000 pairs, and often more than one physical F1 cable is needed to service a single Serving Area (at an SAI). The F1 is almost always located underground, because the size, weight, and number of feeders leaving the CO makes it impossible to put them on normal telephone poles. Since it is also impractical to use one single piece of cable, the F1 usually consists of several pieces of large, pressurized, or armored cable spliced together underground (this will be covered later) into a single cable.

Cable Numbering

In order to make locating cables and pairs easier (or possible, for that matter), all of the cables in the loop distribution plant are numbered, and these numbers are stored in databases such as LMOS at the ARSB or other records at the LAC (Loop Assignment Center) or maintenance center. When trying to locate someone's cable pair, it helps a great deal to know these numbers (although it can be done without them with experience and careful observation). Probably the most common place to find these numbers is on a BOR, in the "Cable and Assignment Data" block. The F1 is usually assigned a number from 00 to 99 (although 000-999 is sometimes used in large offices). Cable *pair* number-

ing is different however, especially in older offices; typical F1 pair numbers range from 0000 to 9999. Keep in mind that the pair number is not concrete -- it is merely nominal, it can change, and it doesn't necessarily have any special meaning (in some well organized offices, however, the cables and pairs may be arranged in a certain way where you can determine what area it serves by its number...such as in my area, heh heh). In any case, it's up to you to figure out your area's layout. The cable-pair number is usually written in a format such as 02-1495, where 02 is the cable and 1495 is the pair (incidentally, since this is the CO Feeder cable pair that is connected to the MDF, it is the one that will be listed in COSMOS).

F1 Access Points

Although the F1 is run underground, there is really not a standard access point down there where a certain pair in a cable can be singled out and accessed (as will be explained next). There is, however, a point above ground where all the pairs in the F1 can be accessed -- this point is known as the Serving Area Interface (SAI), and it will be detailed later. In LMOS or other assignment records, the address of the SAI will be listed as the TErminal Address (TEA) for the F1 cable handling a certain pair in question; therefore, it is where facility F1 stops.

Underground Plant

The term "Underground Plant" refers to any facilities located below the surface of the earth. This includes truly "buried" cables, which are located 6-or-so feet underground surrounded basically by a conduit and dirt, as well as cables placed in underground cement tunnels along with

CRAWLING INTO MANHOLES

other "below-ground" equipment (such as seen in most urban areas). Whereas the first type is really impossible to access (unless, of course, you want to dig for a day or so and then hack into an armored, jelly-filled PIC cable -- then you should take a bit of advice from our resident Icky-PIC "Goo" advisor, The Marauder), the latter type can be accessed through manholes which lead to the underground tunnel.

Manholes

Bell System manholes are usually found along a main street or area where a feeder cable group passes through. Using an underground cable location map is the best method for locating cable paths and manhole appearances, although it may not always be available. These maps can be acquired from the Underground Service Alert (USA) (at 800-422-4133), but often a "cable locater" will be dispatched instead (usually he will just mark off how far down or where you can dig without hitting a cable), so this is not a very practical method. Of course, you can always follow the warning signs on telephone poles ("call before you dig", etc.) and the spans between SAI bridging heads until you find a manhole. The F1 for the SAI nearest the manhole should be found down there along with others en route to the areas they serve.

There are several types of manhole covers, both round and rectangular. The rectangular ones are sometimes just hinged metal plates covering an underground terminal or cable closure, and these are easily opened by one person. A non-hinged one may require two people. Round manhole covers (which, by the way, are round so that a lineman can't accidentally drop the cover down the hole) are basically all the same, except for the types known as "C" and "D" type manhole covers which utilize locking bolts (these can be removed using a standard crescent or hex socket wrench). These covers are the same as the standard "B","A", and "SA" type covers once the bolts are removed. The best way to open a cover is to use a manhole cover lifter (i.e., Defiance Corp. PTS- 49 or B-type Manhole cover lifter), although an ordinary 3/4 - 1 inch crowbar (hook-side) can be used. Put the tool into one of the rim slots and press down on the bar until the hook is pressing up against the cover flange. Then push or lift the cover a few inches up and slide it off the hole. You can use a bent sprinkler turn-off wrench on the other side to lift up if there are two of you. You

> *"One must use good sense when entering a manhole."*

should have no problem with two people, although it can be done alone provided you are strong enough.

Once inside, check around for any test equipment or papers which may have been left inside. Basically, there is really no pair access down there, as it is mainly a place through which the protected feeder cables are run and spliced together. These splice points are usually sealed in pressurized air and waterproof closures which protect the open splices from corro-

AND CLIMBING UP POLES

sion and ultra-violent rodent attack. If for some reason you happen to find an open splice case or a cable with its armor and sheath removed, then it may be possible (although not easy) to match color codes (see chart) and find a certain pair. You would have to strip the wire near the splice, though, and this is not recommended. Don't get the bright idea to pry open, or (worse yet) blow open a splice case, as they are often pressurized (see "manhole dangers"), and the telco will frown on your actions sooner or later. Anyway, the feeder cables generally are labelled at a point near the manhole, so it is easy to find and follow any certain cable. Because of this, the manhole access points in your neighborhood are good places to examine (and even sketch or map) the cable distribution plant in your area. This could be interesting, especially if you find a lot of recently installed groups or special service cables, etc. There could even be several types of apparatus cases containing either analog or digital carrier equipment (i.e., T1 digital or O, L, or N analog), pair gain systems, repeaters, equalizers, or loading coils (which help compensate for shunt losses caused by the parasitic capacitance between pairs in pressurized cable). A typical underground apparatus facility is the BERT (Below ground Electronics Remote Terminal). However, it's unlikely that you will find any of this special equipment down there (other than loading coils, which look like metal cylinders) unless you are in a very rural or specialized area, or you happen to be in a manhole serving an inter-office trunk span (smile here).

Manhole Dangers

One must use good sense when entering a manhole, however, especially if you don't have the right equipment. First, you could drop the cover on your foot, or get a crowbar or bent sprinkler tool (the *worst*) in the groin. Secondly, you must take precautions if you stay down long, because the atmosphere in the hole will become oxygen depleted in a matter of minutes and there may be suffocating or otherwise dangerous gases in the manhole. Third, if you tamper with nitrogen-pressurized cables or closures, a depressurization alarm signal may be set off at the maintenance center, and technicians could be sent out while you are still in the hole. It is also known that expensive electronic equipment mounted below-ground (i.e., SLC remote terminals) may be equipped with tamper alarms, and they are securely locked as well.

Serving Area Interface - SAI

The Serving Area Interface (SAI) is basically the point on the loop distribution path where the F1 feeder cable is cross-connected over into one or more F2 aerial (or buried) distribution cable. This terminal can be pole, pad, or pedestal mounted -- however, for this article, we will concentrate on the pedestal mounted cabinet as it is by far the most common (the other forms are functionally similar, anyway). These things are seen all over -- the 4-foot high gray-green "boxes". There are several names for this terminal -- technically it is called the SAI or FDI (Feeder Distribution Interface), but it is usually called a Bridging Head, Pedestal, B-Box (lineman term), or just plain "Box". The standard cabinet is the Western Electric 40-Type cabinet, and it comes in several sizes, depending on the amount of cable pairs in

cellular update

by The Glitch

There is rising interest in the cellular scene, the retail and the free aspects of it. Here's some insight into what's going on!

Expanded Spectrum -- yes, the cellular system, designed not to be overcrowded like the earlier mobile systems, is now getting packed in some urban areas. The FCC allocated 156 more channels to the system, bringing the total number of channels from 666 to 832. All manufacturers in the current marketplace are coming out with new phones (or upgrades to older phones) to cover the new channels. Uniden has upgraded their primary line, the CP-1000, to the CP-1100. Motorola has a new line, the Mini-Tac, which is feature-packed and much smaller than their previous Dyna-Tac series. This also has 832 channels. The NEC P-9000 portable (about the size of a cordless) also has 832 channels with an available upgrade to the earlier portables. Mitsubishi had designed the radio circuits of their older model line to be able to cover extra frequencies, so all it needs is a change of software EPROMS for its upgrade. Audiovox has a new model called the BC-20 with not only 832 channel capability, but also a very useful "self-test" mode (available to service technicians) which allows full manual control of the phone, including receiving any of the 832 channels individually (for testing purposes only, of course). I do expect to see other manufacturers, such as Novatel, Oki, Hitachi (a.k.a. AT&T), Fujitsu, Panasonic, and many others.

The new channels are non-linear with the rest, with some appearing "above" the old cellular band and the rest "below" the band. Likewise, some cellular test gear manufacturers, such as IFR, are coming out with new software upgrades to facilitate testing of the newer phones.

For the cellular system to have the ability to know if a subscriber's phone is capable of being told to move to a higher channel, the phone must somehow be able to tell the cellular switch that it can accept such a command. Fortunately, when cellular came out, there were some extra bytes in the programming to allow for this. This is called the "Station Class Mark" or SCM. It is a 4-bit binary number. Bit #1 is a "1" for 832 channels or "0" for the old 666. Bit #2 is "1" for voice-activated transmit (used as a battery saver in portables) or "0" for a mobile unit. Bits #3 and #4 identify the power class of the phone: 00=3 watts, 01=1.2 watts, 10=.6 watts, and 11 is currently undefined.

So when the phone sends out a call, it will send something to this effect:

703-591-1635 (sample phone number)
8E0F1234 (sample serial number)
1000 (sample SCM)
00 (this is the "group ID")
05 (this is the "access overload class")

Most cellular systems will not be upgrading their equipment for quite some time, or at least until they begin to get overcrowded. But come the time that they do, the cellular system will try to keep these newer phones on the upper channels when space permits so that the older cellular equipment won't have to deal with overcrowded conditions. If you are in the market for a cellular phone, don't worry about getting an older or even a newer phone with 666 channels, as I seriously doubt they will fall into obsolescence for many years to come.

WHO THE HELL WAS ALMON STROWGER, ANYWAY?

It could be fairly stated that Almon Strowger was the first phreak ever to exist. It seems he had this thing for operators....

Strowger, to begin at the beginning, was an undertaker who lived in Kansas City toward the close of the century. Accounts of his life are rather sketchy, but it does seem rather fair that he may have had something of a problem with authority. He became convinced that the Kansas City Telephone Company operators had conspired to force him out of business. They were, he thought, switching calls intended for him to his competition. When he tried to place calls himself, the operators always seemed to report nothing but busy signals and wrong numbers. Registered complaints got him nothing and nowhere. It drove Strowger to such a pitch of exasperation and inspiration that in 1889 he invented what he called the first "girl-less, cussless telephone", or more neutrally, the Automatic Switch. The dialed call was the ultimate result.

Strowger first pared the definition of phone service to a single function: connecting Party A with Party B. In the old days operators did *much* more than this. They would forward calls to someone's likely location, took messages, and advised callers whom best to call for a solution to a plumbing or medical problem. To Strowger these extra services reflected power that invited abuse. (He was not necessarily being paranoid. In the early years of phone service, there were many complaints of back-talk, biased service, and eavesdropping. Lily Tomlin's routines speak to a half-forgotten memory of those experiences.) The more things change....

Then, by substituting an automatic switching machine for the operator, Strowger gave subscribers the power to place their own calls. In oversimplified terms, his system worked like this: A subscriber who wished to call Mr. Strowger, say, would punch a button on the phone a specific number of times. The number that would be assigned to Strowger -- 3 perhaps. Each punch would send an electrical pulse to a central office, where Strowger's switch was installed. A motor would drive the arm of the switch a number of steps around a circle corresponding to the number of times the button had been pushed. In the example here, the arm would stop at Mr. Strowger's number, the third step. The arm would stay there for the duration of the call, with the voice signals passing back and forth throughout the switch arm. When the parties hung up, the switch would reset. No matter which subscriber wished to call Mr. Strowger, the same number of pulses would make the same connection in every case.

In effect, the dial pulses replaced the operator. The pulses worked like electrical trailbreakers. They built the path to the destination phone by commanding switches to move to the proper point and freezing them in that position, thus reserving those connections for the voice signals to follow along. When the called party answered, his "Hello?" retraced the path the digits had built, back to the original caller. You now know what a step-by-step, or crossbar, office is, and although they are very rare, anyone who's ever been in one can tell you the noise from all those cross-bars moving and "ker-plunking" into position is extremely loud.

Almon Strowger Jr.
(No, not the real one)

What's Going On

Only Five Left

We've been running out of many things recently. Clean air, clean water, trees, and space, to name a few. But that's minor in comparison to the ultimate crisis facing Americans today. We've got a mere handful of unassigned area codes left. And just what the hell are we going to do when *those* are gone?

Already, plans are well underway for the splitting of the 415 (San Francisco) area code in 1992. We don't know what the new area code will be. Perhaps they'll take suggestions from the public. But there are only five possibilities left: 708, 903, 908, 909, and 917. And it's not very likely that 903 will be used since that used to be used as an area code for part of Mexico. Reassigning it could cause confusion. Theoretically, area codes 200, 300, 400, 500, and 600 could also be assigned. But those would be such nice numbers to waste. It would also be possible to assign 210, 310, 410, 510, 610, 710, 810, and 910. But we haven't heard any definites.

So what's the solution? Fortunately, there is one. But it's not going to be easy.

Beginning in July of 1995, a brand new numbering scheme will begin to take effect. On the first of that month, area codes will be liberated. They will be able to be any number they wish, no longer having to have a one or a zero in the middle.

What it basically means is that the makeup of an area code will be as flexible as that of an exchange insofar as the number of variations that are possible. 554-556-1234 could be a phone number with area code. Don't be surprised when people start noticing how much phone numbers are starting to look like social security numbers....

The Right Choice

Bugs in computer software are being blamed for this summer's massive failures in an AT&T System 85 phone system. The customer in this case was the House of Representatives in Washington, DC. According to the Washington Post, the outages have moved mysteriously around the various House office buildings, sometimes affecting all of the 16,000 lines it ties together and sometimes only affecting one building. The $16 million system went crazy four times in a single week.

Calling Morality

A code of practice has been established on British Telecom's Callstream network covering the content of the messages, as well as advertising and promotional material. Callstream is the equivalent of America's mass

With Phones/Computers

announcement (often 976) numbers that are creating such a stir. Callstream uses phone numbers beginning with 0898, 0077, 0066, and 0055. They are billed at higher-than-normal rates.

Here's some of what the code says: (1) Communications must not encourage or incite anyone to commit a criminal offense; create racial disharmony; contain false or misleading information; involve an unreasonable invasion of privacy; or cause outrage or gross offense by reason of sexual or violent content. (2) Communications aimed at audiences which include children must not include references to sexual practices or contain language that reasonable parents would not want their children to hear.

Speaking of reasonable parents, it is now legal for married couples to place wiretaps on their home telephones in order to catch their spouses doing nasty things like having affairs. U.S. District Judge Roy Harper says it is no longer necessary in such cases for one of the parties to know they are being recorded.

A Legend Apprehended

For eight years a man known as James Clark has been journeying back and forth across America robbing pay telephone coinboxes. Such a feat had been considered impossible, but Clark supposedly developed a lock-picking device that no one has been able to figure out. Not only that, but he has been able to stay at least 24 hours ahead of whoever has been looking for him. Until now, that is.

Clark was arrested in late August in Buena Park, California. The 49-year-old was supposedly arrested at a house in which he was living. He was supposed to have been returned to Akron, Ohio to face charges. Security officials have said they are eager to find out his methods.

Clark had developed a kind of folk hero status among many, including the FBI. They described him as the only person in the United States capable of picking the locks on the approximately 1.8 million pay phones in America.

His annual salary from his endeavors got him about $70,000 before taxes. (That was a joke.) An Ohio Bell security official had said, "Unless somebody gets lucky, he'll probably never get caught. He's well organized, he's smart, and he's not greedy. He only hits a few widely spaced spots each day. He's always looking over his shoulder to see if there's a police car or a telephone company vehicle." According to Pacific Bell security, Clark's ability to open the phone's coin drawer, remove the box, and close the

drawer again meant that nobody would notice what he had done until a company coin collector came around.

So another dangerous criminal is off the streets. Now if they could only find the people who keep scraping "Praise God" on every pay phone in New York City.

Mystery Hacker

Authorities are all upset about a hacker who penetrated the Jet Propulsion Laboratory's computer system in May. The mystery person managed to get into three computers in a single outing, including one belonging to the Navy. JPL says it's going to use stricter security measures, a move that could wind up costing them 4 million dollars. One of the things that JPL says is at least theoretically possible for a hacker to do on its systems is to send "bogus commands" to one of the eight unmanned interplanetary explorers they currently operate.

***

Almost as upsetting are the mysterious phone calls that have started pouring into Arizona-based CSC Management Corporation over the past couple of months. They made the mistake of hooking up an 800 number. Now people are calling them thinking it's a dating line, demanding money back from the phone company, and even threatening suicide. A spokesman figures the callers think it's some kind of emergency hot line. Apparently somebody's going around putting stickers on pay phones telling people to call the number 24 hours a day which is exactly what they're doing. And the company won't change it's number because then they would have to notify all of their clients, which they say would cost them even more than all of these toll-free calls they're now accepting.

AOS Happenings

You may have noticed that everyone is ranting and raving about AOS. That stands for Alternative Operator Services, which basically means that another company other than AT&T completes your AT&T calling card call from a payphone, usually without your knowledge. You become aware of the fact when your phone bill arrives and the price for the call is many times what you thought it would be. Customer owned pay phones sometimes hook into other companies and the only clue the caller has that AT&T isn't putting through the call is an operator or computer that doesn't make any reference to AT&T.

There are ways around it. You can always ask to be hooked up to an AT&T operator. If that doesn't work, you can try dialing

Technological Games

800-950-1022 (MCI) or 800-877-8000 (Sprint). Their rates are almost always lower than the AOS companies.

Once the ripoff artists get put out of business, you may actually see some good come out of all of this. International Telecharge is an AOS company that offers operators who are fluent in several languages. Micro Devices and Automatic Communications both have services where you can leave a message for an unanswered phone. They keep redialing every few minutes and when the phone is answered your message is played.

A new trade group has been formed for AOS companies called Operator Service Providers of America. About 25 of the 40 AOS companies have joined. Basically, the group calls on the companies to be more up front, to lower prices, and to not block calls to other services. Of course, all of this is voluntary.

New Call Forwarding Invention

Remote call forwarding may soon be a feature for us telephone users. Two companies in New Jersey seem to have come up with the same idea.

One of the hardest parts of remote call forwarding is communicating with the home telephone; remember, all calls are being forwarded.

The Planum Technology Corporation of Hillside, NJ has a device that waits for two separate calls within 30 seconds. (A short ring is generated before the call gets forwarded.) The second call is interpreted as a command to disable call forwarding. The machine then dials 73 or whatever the number is in that area to disable call forwarding. The user can then call back and communicate with the machine, giving it a new phone number to call forward to.

The machine does require an access code, however it seems incredibly easy to disable someone's call forwarding. Just call twice within 30 seconds and hang up each time. It would be a good idea to add a feature that resets the call forwarding if the third "confirmation" call isn't received. And hopefully the access code is longer than two digits.

The other invention comes from Herbert Waldman of Measurement Specialties Inc., in Wayne, NJ. (This guy patented the first remote access answering machine, back in 1956!)

With this system, the caller dials his number and hangs up right after the short ring. The machine then calls the number that the calls are being forwarded to. If it gets no answer, call forwarding is disabled. The

THE 516 AREA CODE

	200	NONWORKING	TE	260	RINGBACK		320	NONWORKING
	201	AREA CODE	RE	261	E NORTHPORT DMS-100	RE	321	BABYLON DMS-100
	202	AREA CODE	NU	262	E NORTHPORT DMS-100		322	NONWORKING
	203	AREA CODE		263	NONWORKING	RE	323	GREENPORT CROSSBAR
	204	AREA CODE	RE	264	MASSAPEQUA DMS-100	RE	324	E HAMPTON CROSSBAR
	205	AREA CODE	RE	265	SMITHTOWN DMS-100	RE	325	WESTHAMPTON DMS-100
	206	AREA CODE	RE	266	E NORTHPORT DMS-100	NR	326	FLORAL PARK E.S.S.
	207	AREA CODE	RE	267	E HAMPTON CROSSBAR		327	NONWORKING
	208	AREA CODE		268	NONWORKING	RE	328	FLORAL PARK CROSSBAR
	209	AREA CODE	RE	269	E NORTHPORT DMS-100	NR	329	E HAMPTON CROSSBAR
	210	NONWORKING	NU	270	FLORAL PARK E.S.S.		330	NONWORKING
TS	211	CREDIT	RE	271	HUNTINGTON CROSSBAR	RE	331	PORT JEFFERSON DMS-100
	212	AREA CODE		272	NONWORKING		332	NONWORKING
	213	AREA CODE	RE	273	BRENTWOOD #5 E.S.S.		333	WESTBURY
	214	AREA CODE		274	NONWORKING	RE	334	WESTBURY DMS-100
	215	AREA CODE		275	NONWORKING		335	NONWORKING
	216	AREA CODE		276	NONWORKING	VD	336	HICKSVILLE E.S.S.
	217	AREA CODE	RE	277	BAY SHORE DMS-100		337	NONWORKING
	218	AREA CODE		278	NONWORKING	RE	338	WESTBURY DMS-100
	219	AREA CODE		279	NONWORKING		339	NONWORKING
	220	NONWORKING		280	NONWORKING		340	NONWORKING
RE	221	WANTAGH CROSSBAR	RE	281	MASTIC #5 E.S.S.		341	NONWORKING
BO	222	GARDEN CITY E.S.S.	DB	282	YAPHANK #5 E.S.S.		342	NONWORKING
RE	223	FREEPORT DMS-100	RE	283	SOUTHAMPTON CROSSBAR		343	NONWORKING
BO	224	BAY SHORE DMS-100	DI	284	RIVERHEAD #5 E.S.S.		344	NONWORKING
RE	225	LINDENHURST #5 E.S.S.	RE	285	LAURELTON CROSSBAR	BO	345	YAPHANK #5 E.S.S.
RE	226	LINDENHURST #5 E.S.S.	RE	286	PATCHOGUE #1A E.S.S.	RE	346	PLAINVIEW #5 E.S.S.
VU	227	GARDEN CITY E.S.S.	RE	287	SOUTHAMPTON CROSSBAR		347	NONWORKING
BO	228	GARDEN CITY E.S.S.	RE	288	WESTHAMPTON DMS-100	RE	348	BRENTWOOD #5 E.S.S.
??	229	GARDEN CITY E.S.S.	RE	289	PATCHOGUE CROSSBAR	RE	349	PLAINVIEW #5 E.S.S.
	230	RINGBACK	TE	290	SPECIAL EXCHANGE		350	NONWORKING
RE	231	BRENTWOOD #5 E.S.S.		291	NONWORKING	RE	351	HUNTINGTON E.S.S.
ND	232	BRENTWOOD #5 E.S.S.	RE	292	HEMPSTEAD CROSSBAR	RE	352	FLORAL PARK E.S.S.
	233	NONWORKING	RE	293	FARMINGDALE E.S.S.		353	NONWORKING
RE	234	BRENTWOOD #5 E.S.S.	RE	294	MINEOLA DMS-100	RE	354	FLORAL PARK #1A E.S.S.
NU	235	GARDEN CITY E.S.S.	RE	295	WOODMERE CROSSBAR		355	NONWORKING
ME	236	MINEOLA DMS-100	DI	296	GARDEN CITY E.S.S.		356	NONWORKING
VU	237	GARDEN CITY E.S.S.		297	NONWORKING	VU	357	GARDEN CITY E.S.S.
	238	NONWORKING	RE	298	CUTCHOGUE CROSSBAR	VU	358	FLORAL PARK E.S.S.
RE	239	FIVE TOWNS CROSSBAR	DI	299	HEMPSTEAD DMS-100		359	NONWORKING
	240	NONWORKING		300	NONWORKING	RE	360	SMITHTOWN DMS-100
	241	NONWORKING		301	AREA CODE	RE	361	SMITHTOWN DMS-100
RE	242	DEER PARK E.S.S.		302	AREA CODE	7D	362	NOWHERE
RE	243	DEER PARK E.S.S.		303	AREA CODE	RE	363	PATCHOGUE #1A E.S.S.
RE	244	SAYVILLE DMS-100		304	AREA CODE	RE	364	SYOSSET DMS-100
	245	NONWORKING		305	AREA CODE	RE	365	MANHASSET #5 E.S.S.
IX	246	SETAUKET CROSSBAR		306	AREA CODE	NR	366	SMITHTOWN DMS-100
	247	NONWORKING		307	AREA CODE	RE	367	HUNTINGTON E.S.S.
RE	248	MINEOLA DMS-100		308	AREA CODE	RE	368	E NORTHPORT DMS-100
RE	249	FARMINGDALE #5 E.S.S.		309	AREA CODE	RE	369	RIVERHEAD #5 E.S.S.
TE	250	RINGBACK		310	NONWORKING		370	NONWORKING
	251	NONWORKING	TW	311	NOWHERE	RE	371	FIVE TOWNS CROSSBAR
DI	252	HEMPSTEAD DMS-100		312	AREA CODE		372	NONWORKING
VU	253	DEER PARK E.S.S.		313	AREA CODE		373	NONWORKING
VU	254	DEER PARK E.S.S.		314	AREA CODE	RE	374	WOODMERE CROSSBAR
RE	255	LYNBROOK E.S.S.		315	AREA CODE		375	NONWORKING
	256	NONWORKING		316	AREA CODE		376	NONWORKING
	257	NONWORKING		317	AREA CODE		377	NONWORKING
	258	NONWORKING		318	AREA CODE	RE	378	FREEPORT DMS-100
VU	259	SOUTHAMPTON		319	AREA CODE	RE	379	FREEPORT DMS-100

IN DETAIL

```
        380 NONWORKING              NW 440 SMITHTOWN                  500 NONWORKING
        381 NONWORKING                 441 NONWORKING                501 AREA CODE
VU      382 SMITHTOWN DMS-100          442 NONWORKING                502 AREA CODE
        383 NONWORKING                 443 NONWORKING                503 AREA CODE
        384 NONWORKING              DS 444 SMITHTOWN DMS-100          504 AREA CODE
RE      385 HUNTINGTON E.S.S.          445 NONWORKING                505 AREA CODE
        386 NONWORKING                 446 NONWORKING                506 AREA CODE
        387 NONWORKING              VS 447 PATCHOGUE #1A E.S.S.       507 AREA CODE
VD      388 SMITHTOWN DMS-100       NW 448 SYOSSET                   508 AREA CODE
        389 NONWORKING                 449 NONWORKING                509 AREA CODE
        390 NONWORKING              TE 450 TOPS RECORDING/OPERATOR   510 NONWORKING
BO      391 FARMINGDALE E.S.S.      BO 451 SELDEN DMS-100        TW  511 NOWHERE
        392 NONWORKING                 452 NONWORKING                512 AREA CODE
        393 NONWORKING                 453 NONWORKING                513 AREA CODE
        394 NONWORKING              RE 454 FARMINGDALE E.S.S.        514 AREA CODE
RE      395 MASTIC #5 E.S.S.           455 NONWORKING                515 AREA CODE
        396 NONWORKING                 456 NONWORKING                516 NONWORKING
        397 NONWORKING                 457 NONWORKING                517 AREA CODE
        398 NONWORKING                 458 NONWORKING                518 AREA CODE
RE      399 MASTIC #5 E.S.S.           459 NONWORKING                519 AREA CODE
        400 NONWORKING                 460 NONWORKING            DI  520 LEVITTOWN E.S.S.
        401 AREA CODE                  461 NONWORKING            NY  521 GARDEN CITY E.S.S.
        402 AREA CODE              RE 462 COMMACK #5 E.S.S.          522 NONWORKING
        403 AREA CODE                  463 NONWORKING                523 NONWORKING
        404 AREA CODE                  464 NONWORKING                524 NONWORKING
        405 AREA CODE                  465 NONWORKING                525 NONWORKING
        406 AREA CODE              RE 466 GREAT NECK E.S.S.          526 NONWORKING
        407 AREA CODE              RE 467 RONKONKOMA #5 E.S.S.       527 NONWORKING
        408 AREA CODE              NU 468 RONKONKOMA #5 E.S.S.       528 NONWORKING
        409 AREA CODE                  469 NONWORKING                529 NONWORKING
        410 NONWORKING                 470 NONWORKING                530 NONWORKING
TS      411 INFORMATION           VS 471 RONKONKOMA #5 E.S.S.   RE  531 FARMINGDALE E.S.S.
        412 AREA CODE              RE 472 SAYVILLE DMS-100           532 NONWORKING
        413 AREA CODE              RE 473 PORT JEFFERSON DMS-100     533 NONWORKING
        414 AREA CODE              MR 474 PORT JEFFERSON DMS-100     534 NONWORKING
        415 AREA CODE              RE 475 PATCHOGUE CROSSBAR     DI  535 MINEOLA DMS-100
        416 AREA CODE              NU 476 PORT JEFFERSON DMS-100 RE  536 LYNBROOK DMS-100
        417 AREA CODE              RE 477 GREENPORT CROSSBAR     RE  537 SAG HARBOR CROSSBAR
        418 AREA CODE                  478 NONWORKING            RE  538 HEMPSTEAD CROSSBAR
        419 AREA CODE                  479 NONWORKING                539 NONWORKING
RE      420 FARMINGDALE E.S.S.     TE 480 OFF BATTERY TEST       MA  540 ENHANCED DIAL-IT SERVICES E.S.S.
RE      421 HUNTINGTON CROSSBAR    RE 481 HEMPSTEAD DMS-100      RE  541 MASSAPEQUA E.S.S.
RE      422 BABYLON DMS-100        RE 482 GREAT NECK E.S.S.      DO  542 GARDEN CITY E.S.S.
RE      423 HUNTINGTON CROSSBAR    RE 483 HEMPSTEAD E.S.S.       RE  543 COMMACK #5 E.S.S.
MR      424 HUNTINGTON E.S.S.      RE 484 ROSLYN DMS-100         RE  544 E NORTHPORT DMS-100
        425 NONWORKING             RE 485 HEMPSTEAD CROSSBAR         545 NONWORKING
        426 NONWORKING             RE 486 HEMPSTEAD E.S.S.       RE  546 FREEPORT DMS-100
RE      427 HUNTINGTON CROSSBAR    RE 487 GREAT NECK E.S.S.      VU  547 HUNTINGTON E.S.S.
        428 NONWORKING             RE 488 FLORAL PARK CROSSBAR   RE  548 RIVERHEAD #5 E.S.S.
        429 NONWORKING             RE 489 HEMPSTEAD DMS-100      RE  549 HUNTINGTON E.S.S.
        430 NONWORKING                490 NONWORKING             MA  550 CONFERENCE LINES E.S.S.
RE      431 LONG BEACH CROSSBAR    RE 491 DEER PARK E.S.S.           551 NONWORKING
RE      432 LONG BEACH CROSSBAR    V? 492 DEER PARK E.S.S.           552 NONWORKING
RE      433 HICKSVILLE CROSSBAR    DI 493 COMMACK #5 E.S.S.          553 NONWORKING
RE      434 BRENTWOOD #5 E.S.S.       494 NONWORKING                554 NONWORKING
RE      435 BRENTWOOD #5 E.S.S.       495 NONWORKING             TS  555 INFORMATION (+4D)
ND      436 BRENTWOOD #5 E.S.S.    RE 496 SYOSSET DMS-100            556 NONWORKING
RE      437 FLORAL PARK CROSSBAR      497 NONWORKING                557 NONWORKING
        438 NONWORKING                498 NONWORKING                558 NONWORKING
        439 NONWORKING             RE 499 COMMACK #5 E.S.S.      VU  559 HEMPSTEAD DMS-100
```

A LOOK AT EVERY EXCHANGE

DI 560 HEMPSTEAD DMS-100	620 NONWORKING	680 NONWORKING
RE 561 LYNBROOK DMS-100	RE 621 ROSLYN DMS-100	RE 681 HICKSVILLE CROSSBAR
UN 562 MANHASSET #5 E.S.S.	622 NONWORKING	VU 682 SYOSSET DMS-100
RE 563 SAYVILLE DMS-100	RE 623 FREEPORT DMS-100	BO 683 GARDEN CITY E.S.S.
NR 564 HEMPSTEAD DMS-100	RE 624 OYSTER BAY E.S.S.	DI 684 MANHASSET #5 E.S.S.
RE 565 HEMPSTEAD DMS-100	NU 625 ROSLYN DMS-100	685 NONWORKING
VU 566 HEMPSTEAD E.S.S.	RE 626 ROSLYN DMS-100	UN 686 ROSLYN DMS-100
RE 567 SAYVILLE DMS-100	RE 627 MANHASSET #5 E.S.S.	687 NONWORKING
RE 568 LYNBROOK E.S.S.	RE 628 OYSTER BAY CROSSBAR	688 NONWORKING
RE 569 WOODMERE CROSSBAR	NU 629 ROSLYN DMS-100	RE 689 SETAUKET CROSSBAR
570 NONWORKING	630 NONWORKING	690 NONWORKING
571 NONWORKING	631 NONWORKING	RE 691 MASSAPEQUA DMS-100
572 NONWORKING	NS 632 PORT JEFFERSON DMS-100	RE 692 HUNTINGTON E.S.S.
573 NONWORKING	633 NONWORKING	693 NONWORKING
DI 574 FLORAL PARK E.S.S.	634 NONWORKING	RE 694 FARMINGDALE #5 E.S.S.
RE 575 PLAINVIEW #5 E.S.S.	635 NONWORKING	695 NONWORKING
RE 576 PLAINVIEW #5 E.S.S.	636 NONWORKING	NR 696 SELDEN DMS-100
NU 577 FARMINGDALE #5 E.S.S.	7D 637 NOWHERE	697 NONWORKING
578 NONWORKING	638 NONWORKING	RE 698 SELDEN DMS-100
RE 579 LEVITTOWN CROSSBAR	NY 639 DEER PARK E.S.S.	699 NONWORKING
580 NONWORKING	640 NONWORKING	700 AREA CODE
RE 581 BAY SHORE DMS-100	641 NONWORKING	701 AREA CODE
RE 582 BRENTWOOD #5 E.S.S.	642 NONWORKING	702 AREA CODE
RE 583 FIRE ISLAND E.S.S.	RE 643 DEER PARK CROSSBAR	703 AREA CODE
RE 584 SMITHTOWN DMS-100	NU 644 GARDEN CITY E.S.S.	704 AREA CODE
RE 585 RONKONKOMA #5 E.S.S.	645 NONWORKING	705 AREA CODE
RE 586 DEER PARK CROSSBAR	646 NONWORKING	706 AREA CODE
RE 587 BABYLON DMS-100	VC 647 GARDEN CITY E.S.S.	707 AREA CODE
RE 588 RONKONKOMA #5 E.S.S.	648 NONWORKING	708 NONWORKING
RE 589 SAYVILLE DMS-100	649 NONWORKING	709 AREA CODE
590 NONWORKING	650 NONWORKING	710 NONWORKING
591 NONWORKING	651 NONWORKING	TN 711 NOWHERE
592 NONWORKING	652 NONWORKING	712 AREA CODE
RE 593 LYNBROOK DMS-100	RE 653 WESTHAMPTON DMS-100	713 AREA CODE
594 NONWORKING	RE 654 PATCHOGUE #1A E.S.S.	714 AREA CODE
RE 595 DEER PARK E.S.S.	655 NONWORKING	715 AREA CODE
RE 596 LYNBROOK E.S.S.	VU 656 GLEN COVE E.S.S.	716 AREA CODE
RE 597 FIRE ISLAND E.S.S.	657 NONWORKING	717 AREA CODE
RE 598 MASSAPEQUA DMS-100	658 NONWORKING	718 AREA CODE
RE 599 LYNBROOK E.S.S.	659 NONWORKING	719 AREA CODE
600 NONWORKING	TE 660 RINGBACK	720 NONWORKING
601 AREA CODE	RE 661 BABYLON DMS-100	721 NONWORKING
602 AREA CODE	662 NONWORKING	RE 722 RIVERHEAD #5 E.S.S.
603 AREA CODE	DI 663 GARDEN CITY E.S.S.	723 NONWORKING
604 AREA CODE	664 NONWORKING	RE 724 SMITHTOWN DMS-100
605 AREA CODE	RE 665 BAY SHORE DMS-100	RE 725 SAG HARBOR CROSSBAR
606 AREA CODE	RE 666 BAY SHORE DMS-100	RE 726 SOUTHHAMPTON CROSSBAR
607 AREA CODE	RE 667 DEER PARK CROSSBAR	RE 727 RIVERHEAD #5 E.S.S.
608 AREA CODE	RE 668 MONTAUK #5 E.S.S.	RE 728 HAMPTON BAYS CROSSBAR
609 AREA CODE	RE 669 BABYLON DMS-100	729 NONWORKING
610 NONWORKING	670 NONWORKING	730 NONWORKING
TS 611 REPAIR	RE 671 GLEN COVE E.S.S.	RE 731 LEVITTOWN CROSSBAR
612 AREA CODE	672 NONWORKING	RE 732 SELDEN DMS-100
613 AREA CODE	RE 673 HUNTINGTON E.S.S.	UN 733 HICKSVILLE CROSSBAR
614 AREA CODE	RE 674 GLEN COVE E.S.S.	RE 734 CUTCHOGUE CROSSBAR
615 AREA CODE	675 NONWORKING	RE 735 LEVITTOWN CROSSBAR
616 AREA CODE	RE 676 GLEN COVE E.S.S.	RE 736 SELDEN DMS-100
617 AREA CODE	NU 677 SYOSSET DMS-100	RE 737 RONKONKOMA #5 E.S.S.
618 AREA CODE	RE 678 LYNBROOK DMS-100	738 NONWORKING
619 AREA CODE	RE 679 WANTAGH E.S.S.	VU 739 MINEOLA DMS-100

	740	NONWORKING		800	AREA CODE		860	NONWORKING
RE	741	MINEOLA DMS-100		801	AREA CODE		861	NONWORKING
RE	742	MINEOLA DMS-100		802	AREA CODE	RE	862	SMITHTOWN DMS-100
	743	NONWORKING		803	AREA CODE		863	NONWORKING
RE	744	SHOREHAM CROSSBAR		804	AREA CODE	RE	864	COMMACK #5 E.S.S.
NR	745	GARDEN CITY E.S.S.		805	AREA CODE		865	NONWORKING
RE	746	MINEOLA DMS-100		806	AREA CODE		866	NONWORKING
RE	747	MINEOLA DMS-100		807	AREA CODE	NR	867	FREEPORT DMS-100
	748	NONWORKING		808	AREA CODE	RE	868	FREEPORT DMS-100
RE	749	GREENPORT CROSSBAR		809	AREA CODE	RE	869	MANHASSET #5 E.S.S.
	750	NONWORKING		810	NONWORKING		870	NONWORKING
RE	751	SETAUKET CROSSBAR		811	NONWORKING		871	NONWORKING
RE	752	FARMINGDALE E.S.S.		812	AREA CODE	RE	872	LYNBROOK DMS-100
NR	753	FARMINGDALE E.S.S.		813	AREA CODE	RE	873	MINEOLA DMS-100
RE	754	E NORTHPORT DMS-100		814	AREA CODE	NR	874	MASTIC #5 E.S.S.
NU	755	FARMINGDALE #5 E.S.S.		815	AREA CODE		875	NONWORKING
RE	756	FARMINGDALE E.S.S.		816	AREA CODE	RE	876	WESTBURY DMS-100
RE	757	E NORTHPORT DMS-100		817	AREA CODE	RE	877	MINEOLA DMS-100
RE	758	PATCHOGUE #1A E.S.S.		818	AREA CODE	RE	878	MASTIC #5 E.S.S.
RE	759	GLEN COVE E.S.S.		819	AREA CODE	70	879	NOWHERE
	760	NONWORKING	TE	820	SPECIAL EXCHANGE		880	NONWORKING
	761	NONWORKING	RE	821	SHOREHAM CROSSBAR		881	NONWORKING
	762	NONWORKING	RE	822	HICKSVILLE CROSSBAR		882	NONWORKING
RE	763	LYNBROOK E.S.S.	UN	823	HEMPSTEAD DMS-100	RE	883	PORT WASHINGTON CROSSBAR
RE	764	LYNBROOK E.S.S.	DI	824	HEMPSTEAD DMS-100	RE	884	BABYLON DMS-100
RE	765	CUTCHOGUE CROSSBAR		825	WANTAGH		885	NONWORKING
RE	766	LYNBROOK E.S.S.	RE	826	WANTAGH CROSSBAR	NW	886	LONG BEACH
RE	767	PORT WASHINGTON #5 E.S.S.		827	NONWORKING	RE	887	LYNBROOK DMS-100
	768	NONWORKING		828	NONWORKING	RE	888	BABYLON DMS-100
	769	NONWORKING	RE	829	GREAT NECK E.S.S.	RE	889	LONG BEACH CROSSBAR
	770	NONWORKING		830	NONWORKING	TE	890	TEST EXCHANGE
	771	NONWORKING		831	NONWORKING		891	NONWORKING
	772	NONWORKING		832	WESTBURY		892	NONWORKING
NR	773	GREAT NECK E.S.S.		833	NONWORKING	SP	893	BABYLON DMS-100
	774	NONWORKING		834	NONWORKING		894	NONWORKING
RE	775	FLORAL PARK #1A E.S.S.		835	NONWORKING		895	NONWORKING
	776	NONWORKING		836	NONWORKING		896	NONWORKING
	777	NONWORKING		837	NONWORKING		897	NONWORKING
	778	NONWORKING		838	NONWORKING		898	NONWORKING
	779	NONWORKING		839	NONWORKING		899	NONWORKING
	780	NONWORKING		840	NONWORKING		900	AREA CODE
RE	781	WANTAGH E.S.S.		841	NONWORKING		901	AREA CODE
	782	NONWORKING	RE	842	LINDENHURST #5 E.S.S.		902	AREA CODE
RE	783	WANTAGH E.S.S.		843	NONWORKING		903	NONWORKING
	784	NONWORKING	UN	844	FARMINGDALE E.S.S.		904	AREA CODE
RE	785	WANTAGH E.S.S.	NR	845	FARMINGDALE E.S.S.		905	AREA CODE
	786	NONWORKING		846	NONWORKING		906	AREA CODE
	787	NONWORKING	VU	847	FARMINGDALE E.S.S.		907	AREA CODE
RE	788	FISHERS ISLAND STEP BY STEP		848	NONWORKING		908	NONWORKING
RE	789	LINDENHURST #5 E.S.S.		849	NONWORKING		909	NONWORKING
	790	NONWORKING		850	NONWORKING		910	NONWORKING
RE	791	WOODMERE CROSSBAR		851	NONWORKING	TS	911	POLICE EMERGENCY
	792	NONWORKING		852	NONWORKING		912	AREA CODE
	793	NONWORKING		853	NONWORKING		913	AREA CODE
RE	794	GARDEN CITY E.S.S.		854	NONWORKING		914	AREA CODE
RE	795	MASSAPEQUA DMS-100		855	NONWORKING		915	AREA CODE
RE	796	LEVITTOWN CROSSBAR		856	NONWORKING		916	AREA CODE
NR	797	MASSAPEQUA DMS-100		857	NONWORKING		917	NONWORKING
RE	798	MASSAPEQUA DMS-100		858	NONWORKING		918	AREA CODE
RE	799	MASSAPEQUA E.S.S.	UN	859	BAY SHORE DMS-100		919	AREA CODE

516 AREA CODE

	920	NONWORKING
RE	921	SYOSSET DMS-100
RE	922	OYSTER BAY CROSSBAR
	923	NONWORKING
RE	924	YAPHANK #5 E.S.S.
	925	NONWORKING
	926	NONWORKING
	927	NONWORKING
RE	928	PORT JEFFERSON DMS-100
RE	929	SHOREHAM CROSSBAR
	930	NONWORKING
RE	931	HICKSVILLE E.S.S.
VU	932	HICKSVILLE E.S.S.
NR	933	HICKSVILLE E.S.S.
NB	934	HICKSVILLE E.S.S.
RE	935	HICKSVILLE E.S.S.
	936	NONWORKING
RE	937	HICKSVILLE E.S.S.
RE	938	HICKSVILLE CROSSBAR
BU	939	HICKSVILLE E.S.S.
	940	NONWORKING
RX	941	SETAUKET CROSSBAR
NU	942	HICKSVILLE E.S.S.
VD	943	HICKSVILLE E.S.S.
RE	944	PORT WASHINGTON CROSSBAR
	945	NONWORKING
	946	NONWORKING
	947	NONWORKING
	948	NONWORKING
	949	NONWORKING
TS	950	LONG DISTANCE DIALUPS
	951	NONWORKING
	952	NONWORKING
VG	953	RIVERHEAD E.S.S.
7D	954	NOWHERE
CH	955	DEER PARK & SELDEN E.S.S.
	956	NONWORKING
RE	957	LINDENHURST #5 E.S.S.
TE	958	NUMBER IDENTIFICATION
TE	959	TEST EXCHANGE
	960	NONWORKING
	961	NONWORKING
	962	NONWORKING
	963	NONWORKING
	964	NONWORKING
	965	NONWORKING
	966	NONWORKING
	967	NONWORKING
RE	968	BAY SHORE DMS-100
	969	NONWORKING
	970	DIAL-IT SERVICES E.S.S.
	971	NONWORKING
	972	NONWORKING
	973	NONWORKING
	974	NONWORKING
	975	NONWORKING
MA	976	DIAL-IT SERVICES CROSSBAR
	977	NONWORKING
	978	NONWORKING
RE	979	SMITHTOWN DMS-100

	980	NONWORKING
RE	981	RONKONKOMA #5 E.S.S.
	982	NONWORKING
	983	NONWORKING
	984	NONWORKING
	985	NONWORKING
	986	NONWORKING
NW	987	SETAUKET
	988	NONWORKING
	989	NONWORKING
	990	NONWORKING
	991	NONWORKING
	992	NONWORKING
	993	NONWORKING
	994	NONWORKING
	995	NONWORKING
	996	NONWORKING
RE	997	WESTBURY DMS-100
	998	NONWORKING
	999	NONWORKING

936 and 999 were former dial-it mass announcement services. 903 was a former area code for Mexico. 233 was an unconfirmed former exchange for Selden. 440 plus any four digits used to connect to police emergency (911).

In the 516 area, it's currently not necessary to dial a one before any calls. This makes scanning it easier. In other area codes, 1 plus a number may do something entirely different than the same number without a 1 in front of it. Because 516 doesn't require a 1, it's impossible for any number that is an area code to also be used as an exchange.

This scan was done from our office in the 751 exchange. We believe it to be at least 90 percent accurate. If you know of any corrections, please forward them to us. In cases where we were not absolutely certain if an office was a #5 E.S.S., a #1A E.S.S., or a DMS-100, the generic term "E.S.S." is printed.

If you wish to do a similar scan from your area code, we would be happy to print the results. But you must be thorough. First, go through your phone book and mark down where each exchange is listed as being from. If your phone book doesn't list every exchange in your area code, you'll have to find the other books. This list of locations is NOT the location of the central offices. Getting that will take some engineering and ingenuity on your part.

Sometimes test numbers exist that identify the location and type of a central office (around here it's xxx-9901). You must also be able to tell the difference between generic E.S.S. and crossbar. 516-751-9970 is a crossbar busy. 516-360-9970 is an E.S.S. busy. But 516-423-9970 is a crossbar busy, even though it sounds very much like an E.S.S. busy. You can tell because the relays click on both sides of the busy. An electronic or digital switch has no relays and therefore doesn't click.

Once you have a list of valid exchanges and where they come from, you must see what all of the OTHER exchanges that don't exist do when you dial them. If your area code requires a 1 before some calls, you must try each and every exchange with and without a 1. This is how you find interesting features.

The final step is to see if the exchanges you have logged actually show up in the phone book. If not, odds are they are being used only by businesses or as a Direct Inward Dial (DID) for a large corporation or institution. DID's contain many beepers, fax machines, computers, etc.

Two copies of this list, one sorted by exchange and the other sorted by central office name, can be found on 2600 bulletin boards.

NOW THEY'RE SENDING US POSTCARDS!

We especially enjoyed the New York Telephone "logo" they came up with. They won't get sued for that!

Serial: 163-86

DATE: 10 November 1986

REPLY TO
ATTN OF:

SUBJECT: Unauthorized Access of DOCKMASTER - INFORMATION MEMORANDUM

Received in
on 17 NOV 1986

TO: DISTRIBUTION
THRU:

1. On 25 and 31 October 1986, there were successful unauthorized accesses to DOCKMASTER. The following information has been gathered to date:

    a. The connection to DOCKMASTER was made from a location in France via the Telenet network. Telenet has determined the network address of the connection point and has requested Transpac, Telenet's European counterpart, to determine the identity of the foreign host.

    b. The chronological order of events is as follows:

        10/25/86 09:56
        Successful access was made to DOCKMASTER from France.
        The user was disconnected at 10:01 due to
        Telenet/Transpac communication problems.

        10/31/86 09:50
        Successful access was made to DOCKMASTER from France.

        10/31/86 10:20
        The owner of the account was denied access to DOCKMASTER
        when he attempted to login because the account was
        already active. The user promptly notified his project
        administrator, who notified the
        DOCKMASTER system administration personnel.

        10/31/86 10:27
        User was bumped from the system and the userid locked.

        10/31/86 13:35
        Two attempts from France were denied due to the locked
        userid.

    c. The user's password was last changed on 28 August 1986. There were no bad password attempts against this user since April, indicating that the user's password was not guessed, but compromised.

    2. The user of the account which was compromised works for Prime and is registered on the Prime project. It was determined that the unauthorized user had looked at the user's mailbox and attended the Prime evaluation team forum which contains Prime Proprietary information. Since the unauthorized user was logged

onto DOCKMASTER for 30 minutes on 31 October 1986, it is possible
that a substantial amount of proprietary information was
compromised. Based on the 30 minute login time and a maximum data
transfer rate of 240 characters per second, the user could have
transferred up to 422 KB of data (30min * (60 sec/min) * (240
char/sec)).

    3. This compromise could not have been prevented by the use of
AIM (DOCKMASTER's implementation of Mandatory Access Control) since
the userid which was compromised had valid AIM access to the data.
The use of a separate authentication/identification device, such as
the Sytek Passport, could have prevented this access. We are
currently working on purchasing the Sytek.

Chief,

DISTRIBUTION

/SCSC
Chief,
D/Chief,
C Chief Scientist
Chief,
D/Chief,

reprinted from w.o.r.m. 1.5

NOTES

DOCKMASTER is the NSA's computer system hooked up to ARPANET. Its Telenet address
is 30122 (NUI required). On INTERNET it is "DOCKMASTER.ARPA". I am still waiting for
additional FOIA documents but the NSA has asked for $3,400 to continue looking.

```
                    RED BOX TONES
                 FOR A COMMODORE-64
                  WRITTEN IN BASIC
                     BY TOMMY

10  s=54272:pokes+6,240:pokes+4,32:
    pokes+24,15:pokes+13,240:pokes+11,32
20  pokes,229:pokes+1,140:pokes+7,229:pokes+8,108
30  goto500
40  rem *** quarter tone code
50  fori=1to5:pokes+4,33:pokes+4+7,33
55  pokes+4,32:pokes+4+7,32
60  forj=1to25:next:nexti:return
63  for j=1to25
99  rem *** dime tone code
100 fori=1to2
110 pokes+4,33:pokes+4+7,33
120 forj=1to30:next
130 pokes+4,32:pokes+4+7,32
140 forj=1to35:next
150 nexti
160 return
199 rem *** nickel tone code
200 pokes+4,33:pokes+11,33
210 fori=1to30:next
220 pokes+4,32:pokes+11,32
230 return
499 rem *** menu code
500 print"red box tones: q for quarter"
501 print"                d for dime"
502 print"                n for nickel"
510 getx$:ifx$=""then510
520 ifx$="q"thengosub50
530 ifx$="d"thengosub100
540 ifx$="n"thengosub200
550 goto510
```

```
800-227-8933 KOLM
800-227-4004 KOLM
800-328-9632 PBX/Voice Mail System
800-663-5000 PBX/Voice Mail System
             Hold Music= CFMI-FM
             Vancouver, B.C.
800-268-4500 Voice Mail System dialup
800-268-4501 KOLM
800-268-4505 Voice Mail System
800-268-7800 Voice Mail???
800-268-7808 Voice Mail
800-387-2097 Voice Mail/PBX
800-387-2098 Voice Mail/PBX
800-663-5996 Voice Mail (let ring 5)
800-387-8803 KOLM
800-387-8861
        8862
        8863
        8864 All the same KOLM
800-387-8870
        8871 KOLM
800-426-2638 Carrier
800-847-6181 Voice Mail
800-524-2133 ASPEN
800-268-6364 National Data Credit Check
800-387-9115
        9116 both same ASPEN
800-387-9173 Hold Music = CHUM-FM
             Barrie, Ontario
800-387-9218 "Voice Messenger"
800-387-9644 Carrier
```

The Schematic

Dear 2600:

I really enjoyed the article in your Summer 88 issue, "Building a Red Box". I wish and hope in future issues you publish more circuits on boxes and the sort. I'm really glad you printed the parts list because I can't read half of the components on the layout on page 23. I understand how in the condensing and trying to make it fit on an 8 1/2" x 5 3/4" page along with text, etc. What I'm getting at is could you send me an enlarged and *clear* copy of the red box plans? I would greatly appreciate it. I hope you aren't like most other dumb-ass mags and don't reply. I realize you get a lot of mail, so do the best you can. To make it easier, I've enclosed a SASE. I just want to add that your magazine is great!

The Bug Brother #1

We're sorry about the mess-up regarding the schematic. Anyone who still needs an enlarged copy of that page should either write to us or call us at (516) 751-2600. In either case, give us your subscriber number.

The Virus

Dear 2600:

Just a note to say thanks for keeping a level head in a warped world. Your publication is well worth waiting three months for. Unfortunately, I am a rather impatient sort and also a recent subscriber so I am enclosing a request for the back issues from the past three years. That should keep this inquiring mind busy for some time to come. Also I want to offer my applause regarding the article "The Dark Side of Viruses". Having read too many articles concerning how awful viruses are, yours was such a breath of fresh air. It was a repugnant, putrid blast of air to be sure but it came from an angle that was so different from the masses that it was indeed refreshing. I suspect that T. Plague was rather brutally mistreated as a child. I cannot imagine complete amorality such as his without some form of trauma. I do agree on certain aspects of his dissertation such as the need for frequent backups and his lack of respect for program pirates. He is a bit of a hypocrite though (to go along with the rest of his conditions); after all, his program does its best to circumvent even the safety of frequent backups. I also don't think it is quite his

AND A FEW NUMBERS

place to judge program pirates. Quite frankly, he is not balanced enough to weigh properly anybody's guilt or innocence. It's too bad since he is obviously not an idiot or a fool. Nor do I feel that he should be pitied. He does not deserve my or anybody's pity. Nonetheless, though I obviously do not agree with Mr. Plague's article, I did learn a lot from it. It showed a rare insight into the mind of the virus generator, the serial killer, the child molester, or the arsonist. Take your pick. The lack of remorse or simple morals and the feelings of validity of their actions seem to be prevalent in all these people. I would like to feel that Mr. Plague would resent being equated to a child molester, but he probably doesn't. Most of his prey is just as innocent and helpless as a child. He is just as guilty of taking advantage of these same attributes existent in a novice computer user.

In any case, I am looking forward to reading three years worth of wonderful, controversial, and informative articles. Keep up the good work.

Jonathan Porath

Dear 2600:

I very much appreciated the issue on viruses. I think it is a bad thing to do if someone really destroys data other than in his own computer, but the phenomenon of spreading a virus automatically fascinates me and I think it does for a lot of people. It would be better if those who write viruses would program them not to destruct, but to play a tune, print silly messages, or to do similar things once they are activated. Furthermore, these viruses should be tested thoroughly before spreading, to avoid erasure of data. Of course, a virus should delete itself after a while from the infected program, as in real life a flu gets cured, even when you do nothing to cure it.

Greetings from the Netherlands
Paul van Hattum

Dear 2600:

My God, man, *fifteen pages* were given to an article which does essentially nothing but rag on virus writers and promote a piece of software. That's almost twice as many pages as there once was in the whole mag! If I write a shareware virus protection program, can I have fifteen pages to hype it in too? As for the actual message in that article, why on earth should I trust Ross M. Greenberg after he has basical-

ly scared me into trusting no one? Let alone send him ten clams? I'll protect my *own* goddam data, thank you very much.

Aside from too few articles that ramble on too much, *2600* is still a fine publication. I especially found the red box article helpful, as well as Thunder Seven's number list.

Tommy
Sysop, THC-][BBS,
6045950085

P.S. ANI in the 604 NPA varies from CO to CO, but is usually 211 or 116. In some step or x-bar exchanges, it's necessary to put a 1 in front of that.

P.P.S. Anyone else work with 4Tel? 604-381-3717 has one of these versatile line test boxes on it....

The Chip

Dear 2600:

I wish I knew where these rumours start, but the ICL8038 is still being produced by GE Solid State (formerly called GE/RCA/Intersil). GE Solid State has many regular dealers in both the U.S.A. and Canada. Never mind that the 8038 is also handled by most electronic surplus component dealers. In addition, the 8038 is also manufactured by a company called EXAR, who makes it under their part numbers

XR8038CP,   XR8038P, XR8038ACP, and XR8038AP. EXAR also has many dealers throughout the U.S.A. and Canada. By the way, EXAR is also the manufacturer of the other two most popular blue box chips; the XR2207 and XR2209.

I don't understand why people will pay 8 or up to 15 dollars apiece for these chips through private ads when they are available everywhere for around 4 dollars each.

Rubber Soul
Toronto, Canada

Apparently, you've never heard of designer chips, have you?

Another ANI

Dear 2600:

The ANI for the 213 area code (Los Angeles) is 61056.

The Soldier

Congratulations. We've also heard that parts of 213 respond to 1223 for a read-back of your phone number. In sections of 213 served by GTE, 114 seems to work. Others we've gotten word of are 290 for parts of Illinois, 200-xxx-xxxx for other parts of Illinois, 760 for the 408 area code, 300-xxx-xxxx in some areas, 711 in parts of 919, 970-xxxx in parts of Texas served by GTE, 997-555-1212 in area code 502, 200-222-2222 in

LETTERS

area codes 313, 616, 906, and 517,191# in DMS-100 switches, 990 in the 914 area, and 958 in the New York metro area. If you find an ANI, send it in to us!

BLV Tidbits

Dear 2600:

I've been doing some research on Busy Line Verification (BLV). If you remember, BLV is the technical name for an emergency interrupt. The information I have pertains to an AT&T TSPS or inward operator.

An operator cannot make an emergency interrupt without having a customer on hold, with one exception. There is a procedure known as a service test call used to check if the BLV circuits within a TSPS switch are functioning properly. This test is done *without anyone* on hold, but every time it is done a message prints on the security printer.

There is a feature which prints call detail for any emergency interrupt which exceeds a preset period of time on the security printer. The threshold can be anything from 0 to 255 seconds. Multiple interrupts on the same call are accumulated, but time when the interrupted party is on hold is not.

The tone generator, which beeps when an operator breaks in on the line, makes a tone of 440 Hz at a -13 dBm 0 level. The first tone is 2 seconds and every 10 seconds there is a half second burst.

A TSPS's verification network is limited to 8 NPA's. A maximum of 800 local offices in each NPA can be served by a TSPS for verification (that seems like a lot to me).

BOC's have the capability to exclude telephone numbers and even whole offices from verification.

The BLV trunk group is always trunk group number 35 in every TSPS office (I thought that was neat).

Unfortunately, AT&T has stopped doing emergency interrupts in many areas, recently, due to local operators.

The Zeppelin

What's the Point?

Dear 2600:

This letter won't do any good, but I will write it anyway.

I called several of the BBS's you have listed. After a while, I hung up. I don't have time to screw with them. What is the point? Are the users frustrated hackers?

I call a lot of BBS's and they are easy to use. My time is too valuable to waste, and even more so when it is long distance to learn some stupid system just to use a silly BBS.

the Serving Area. The size and style of the cabinet is usually stenciled or marked on the cement pedestal at the base of the cabinet (i.e., S-40-E = 40 type, E size, SAI cabinet). These cabinets can handle anything from 400 (A size -- 200 feeder in, 200 distribution out - 43"H x 15"W x 12"D) to 1800 (E size - 900 in, 900 out - 54"H x 40"W x 12"D), with some newer size F, H, and some 3M series -- 4200 cabinets handling up to 3600 pairs at one site! Also note that 40-type (or look-alike) cabinets are not exclusively for use as an SAI, especially in areas using a buried F2 distribution plant. Note that all Bell System (Western Electric) cabinets, cross-boxes, etc. which are pedestal mounted are painted a standard grey-green. (Technically, they are painted per Munsell Color Code Standard, EIA RS-359. This color is supposed to be the least obtrusive and most pleasing to the eye.) This also helps to distinguish telco boxes from sprinkler and signal control boxes. Also note that there are still a large number of older loop plants in the Bell System, and the terminal boxes may differ (i.e., nut-bolt type binding posts, panel-removal type cabinets, etc.) in appearance, but they are all functionally similar.

To open a 40-type or other common cabinet, one must use a 7/16" hex wrench (also called a "can-" or "216-" tool). Place the wrench on the bolt and turn it 1/8 of a turn clockwise (you should hear a spring release inside). Holding the bolt, turn the handle all the way to the right and pull the door outward. If you happen to see a locked cabinet pried open by a crowbar placed in the slot above the right door, you should report it to the telco *at once!* On the inside of the door, there should be a circular attachment with a "D"-type test cord on it which makes accessing pairs with a test set easier (if you don't have a test set, I will describe how to make a basic one later in this article). You should hook the alligator clips on your test set to the two bolts on the attachment, and then use the specialized cord to hook up to binding posts on the panel (it is specially designed to do so, whereas alligator clips aren't). There are usually also spare decals and 2 reels of #22 solid "F" cross-connect wire stored somewhere in the cabinet, either on the doors in a box (along with a "788N1" tool for seating and trimming jumper wires) or mounted in the splice chamber (described in the next section).

Locating Pairs and Cross-Connects

Basically, the SAI cabinet contains several terminal block panels (size A=1 panel, size C+D (800+1200 pairs, respectively) =2 panels, size E=3 panels) of either 76-type screw binding posts (the most common) or more modern 108-type "quick-connect" connectors. These panels are divided up into six blocks of 100 cable pairs (2 screws = 1 binding post, per cable pair) each, with block 1-100 on the top and 501-600 on the bottom. In a 2-panel cabinet, the left panel typically contains the pairs from the F1 (feeder) cable, and the right panel contains the F2 distribution cable pairs. This is accomplished by either a harness or cable stub whose pairs are internally connected to the binding posts on a panel. The harness or stub is then spliced, usually with "710" splicing connector modules, to the respective F1 or F2 cable. In the case of the harness, this splice is located in the back of the cabinet,

DISTRIBUTION PLANT

in the splicing chamber, which can be accessed by rotating the notched circular latch on the top of the terminal block assembly and letting the panel fall forward. Often the splices are covered with plastic bags. Note the color code of the pairs; if you can locate the pair you want, this is an excellent location to covertly access it, because this area is rarely seen during normal use of the cabinet (it is usually only opened during a cable cutover or "throw", in which a whole section of feeder or distribution cable is replaced at one time). In the case of cable stub, the splicing is usually done underground at a closure, because the raw-ended cable extends 20 to 100 feet from the cabinet; in this case, there won't be a splicing chamber. This type is often used for aerial pole-mounted SAI's. Also note that in an F-size cabinet, you have to remove the whole back panel in order to access the splice chamber. Anyway, the pairs from the feeder panel are cross-connected with wire jumpers over to the binding posts on the distribution panel; in this way, the two cables are connected.

There are several ways to locate a pair in an SAI. First, and best, if you have assignment data from LMOS or equivalent, there should be an F1 Binding Post (BP) number listed alongside the cable numbers. This number is usually a 3 digit number, 001-999, and it will correspond to a binding post pair in one of the hundred-blocks on the feeder panel side. The first digit of the BP is the block, and the other digits represent the pair in that block.

The color of the pair label is important, also -- feeder pairs are always marked with *green* labels. Secondly, if you don't have a binding post number, there may be a log or other chart posted on one of the doors of the cabinet showing the cable pairs and their corresponding binding posts (or the posts may in some cases be arranged or labelled in a way such that the cable pair number could be derived). Thirdly, as a last resort, you could connect a test set to each pair in the terminal, and dial your area's ANI number (This "ANI" number is usually a multi-digit test code which, when dialed, responds with a voice announcement of the Directory Number (DN) for the line you are dialing from). This would have to be repeated until you happen to hook up to the line you are looking for (it's time consuming, but it works).

```
                                                           Terminal Panel
            (Green)                (Blue)            F1 pairs --F1----F2---
        -- F1 Feeder --------- F2 Dist.----       ==>001-100 ! *** XXX !
F1 BINDING POST ! XXXXXXXXXX        XXXXXXXXXX !   ! 101-200 ! XXX  XXX !
  * 025         ! XXXXXXXXXX SAI    XXXXXXXXXX !   ! 201-300 ! XXX  XXX !
     !          ! XXXXXXXXXX        XXXXXXXXXX !   ! 301-400 ! XXX  XXX !
     --------------------^                         ! 401-500 ! XXX  XXX !
                                                  ! 501-600 ! XXX  XXX !
(^^ close up view of first 3 of 10 binding post   !------------------!
   rows of the first hundred block (marked ***)----!      !-----------!
    F1 BP * 025 :  0 = first 100-block, 2 = pass over 2 full rows (go
              to 3rd row down), 5 = 5 pairs from left.
```

OUTSIDE LOOP

Some sample ANI numbers are:

   213 NPA - Dial 1223

   213 NPA (GTE) - Dial 114

   408 NPA - Dial 760

   914 NPA - Dial 990

These numbers will vary from area to area, and some areas may not have such a service (in this case, you may have to dial a TSPS operator and have her read off the number on her ANI panel -- in some areas, you may have to say a code word or phrase in order for her to give you the number). In any case, it would be a good idea to ask a lineman or testboard employee for the procedure to use in your area to get ANI, because it's very useful and you'll need it sooner or later.

Anyway, once an F1 BP is found, the cross-connect wire can be traced over to the distribution panel, and in this way, the F2 pair can be found. These F2 distribution pairs are always marked with *blue* labels. Note also that the binding post number of the cross-connected F2 pair is not recorded in LMOS (the F2 BP is *not* in the SAI, so don't confuse an F2 BP number with a BP in the SAI); however, when the cables are first installed, the feeder pairs and distribution pairs are in sequence -- this makes it easy to visually assume where the F2 pair is. This order can be upset when cable pairs are added or changed, however, so it can't always be relied upon to produce valid F2 cable pair numbers (also, there may be two distribution cables, with the low-numbered pairs on the bottom and the high-numbered pairs on the top! It all depends on how the local telco sets things up).

Floaters / Multiples

All of the pairs in a feeder cable are rarely used simultaneously; this would be impractical, because if one of the pairs was discovered to be faulty, or if a subscriber wanted another line, a whole new feeder cable would have to be added. To solve this, extra facilities are left in the loop plant as a provision for expansion. For example: on the feeder panel, all of the binding posts may be connected to F1 cable pairs, but not all of them may be crossed over to distribution pairs. These spare pairs are not connected to the switch, so they won't "have dial tone", but they are numbered. Since these lines aren't assigned, they won't be found in LMOS, but they will definitely be listed in LAC records. These records are the Dedicated Plant Assignment Cards (DPAC) / Line Cards and the Exchange Cable Conductor Records (ECCR), or even computerized databases (i.e., MODE). If the numbers can be found (or even noted, if the numbers on the binding posts at the SAI correspond with feeder cable pair numbers), then the lines can be activated via a COSMOS service order. This is aided even further by the fact that since F1's usually last longer than F2 facilities, there are often more spare provisional F2 facilities in the loop plant (i.e., 100 feeders in, 300 F2 out (200 aren't cross-connected to F1's)). So there is a good chance that you will find one that is distributed to your area. Other spare facilities include "floaters", which are like spare feeder pairs, except they are *active* lines. Often, a telco will extend whole feeder groups to more than one SAI in provision for future expansion, including active cable pairs. If you find a working pair on a feeder panel which is not cross-connected to a

DISTRIBUTION PLANT

distribution pair, that pair is a floater. This is by far the best way to covertly access a certain pair, because most linemen will probably not be aware of the pair's presence (it looks unused on the surface). Beware! If you think you can hook up to someone's floater and get free service, you're probably wrong (so many other people have been wrong, in fact, that Pacific Bell has a special "Form K-33" to report this type of fraud), because the telco is more aware of this than you may think. Obviously, any toll call you make will show up on the bill for that line. A do-it-yourself spare pair activation can avoid this problem, if done correctly.

Cable Facility F2 - Distribution

The F2 distribution cable is the cable which originates from the F1 feeder in the SAI and distributes individual cable pairs to each subscriber. This cable can be one of two types: aerial or buried. The most common is the aerial distribution cable, although buried cable is the modern trend. In the case of aerial F2, the cable or cables leave the SAI underground, and at the first telephone pole on the distribution span, the cable is routed up the pole. It then is suspended on the span, such as down a street, and at each group of houses there is a terminal on the span. This terminal is the aerial drop splitter, and its purpose is to break off several pairs from the distribution cable in order to distribute them (in the form of aerial drop wires) to each house or premise. The location or address of the premise nearest this aerial drop splitter is the TErminal Address of the F2 serving a certain pair (each group of pairs in the F2 will have its own terminal address, unlike the one address for the F1

terminal (SAI)). The F2 cable is always the lowest cable on the telephone pole, and it is usually a great deal larger than the electric power distribution cables above it. Often more than one F2 can be seen on a single pole span. In this case, the top F2 will usually be the one which is being distributed to the subscribers on that street, and the lower (and most often larger) cables are other F2's coming from an SAI and going to the streets which they service. These cables consist of multiple spliced spans, and they will not have any drop wires coming off them (they are marked every few poles or so at a splicing point called a "bullet closure" which is fully enclosed and can be quite large (i.e., 6" dia, 20" long) as compared to the normal drop splitters (i.e., or similar 4"w x 5"h x 12"l) -- these closures are clamp pressurized and are not meant to be opened unless the cable is being replaced or splicing work is being done. They are not standard cable/pair access points).

Buried F2 plant is similar to aerial, except that the cable is not visible because it is underground. Instead of going to a pole from the SAI, the cable continues underground. The drop wires are also underground, and the method of breaking them from the distribution cable is similar to that of the aerial drop splitter, except it is a small pedestal or box located on the ground near the houses it serves. This address closest to this pedestal is the TEA for the F2.

F2 Cable Numbering

The F2 distribution cable is usually given a 4 or 5 digit number, depending on the office. The first 2 or 3 digits should be the number of the F1 that the F2 was

OF PAIRS AND BOXES AND POLES

branched off of, and the last 2 or 3 digits identify the distribution cable. Example:

```
F1  Cable          F2  Cable
    25                 2531
This F2 cable came from feeder #25.
```

The cable *pair* numbers may be set in a similar way, with the last 3 or 4 digits identifying the pair, and the first digit (usually a one identifying the pair as a feeder or a distribution pair. Example:

```
F1 Cable  Pair      F2 Cable  Pair
   25   1748           2531   748
        ^--signifies F1 (feeder) cable pair
```

Generally, the F1 cable pairs are numbered higher than the F2 cable pairs, due to the fact that a feeder cable may contain several distribution cables' worth of cable pairs. Note once again that all of this numbering plan is the *standard*, and it may be far from real life! As soon as one distribution pair is replaced, crossed over to another feeder pair, or taken from service, the set order is interrupted. In real life, it is most always necessary to get both F1 and F2 cable assignment data.

Facilities F3-F5, Rural Area Interface (RAI)

Although cable facilities F3, F4, and F5 may be specified in any loop plant, they are rarely seen anywhere except in rural areas under the RAND plan (Rural Area Network Design). Basically, plants using these extra facilities are similar to F1/F2 plants, except there are extra cable spans and/or terminals in the path. When locating cables, the highest numbered facility will be at the end of the path, terminating near the subscriber's end (like a "normal"

F2), and the lowest numbered facility will be the feeder from the CO (like a "normal" F1). The extra spans will be somewhere in between, like an intermediate feeder or extra distribution cable with separate cable access terminals. One such facility is the Rural Area Interface (RAI), which can be used in a "feeder-in, feeder-out" arrangement. This is usually seen on cable routes of 50 pairs or greater, with a length of longer than 30 kft (about 6 miles). In this case, there will be two terminal cabinets in the feeder path, labelled RAI-A and RAI-B. The RAI-A is special because it has a two-part terminal block: the top has switching panels with 108-type connectors which cross-connect feeder-in and feeder-out pairs using jumper plugs, and the bottom has standard 76-type binding posts which cross-connect feeders to distribution cables for subscribers in the local area of the RAI-A. The jumper plugs can only be connected in one way to the switching panels, so random cross-connection of feeder-in/feeder-out pairs is prevented. In this way, the cable and pair numbers stay the same as if the feeder cable was uninterrupted. This is used a lot in rural areas; it allows part of a feeder group to be split off at the RAI-A like a distribution cable near a town along the route, and the rest of the feeder group continues on to a town further away, to the RAI-B where it is terminated as in a "normal" SAI. In order to access a pair, just use the last RAI in the span (whichever it is) and treat it just like an SAI. If the pair terminates at RAI-B, you can also access it at RAI-A! (If you can locate the pair using color code, BP number, or (ughh) ANI, there should be test terminals on top of the jumper plugs con-

DEAR 2600,

You will Send coPies Of ALL Back ISSUeS fROM 84 85 86 And 87 PLUS SPRing 88 PLUS A YEAR Subscription ReNEWal THE

ADDRESS SHOwN ON THE envelope check

OR You WILL NEVER FINd IT LER'S BRAIN !!!

Thank you,

Ed Meese

THIS IS WHAT WE HAVE TO PUT UP WITH.

necting the 108's on the switching panel where you can hook your test set -- you can't hook onto a raw 108 connector very easily.) Anyway, the RAI terminal is usually a ground pedestal with a cabinet such as a 40-type, but it can be aerial mounted on a pole (hard to access).

Pair-Gain, Carried Derived Feeder

Another common facility in rural areas (and in cities or suburbs, especially near large housing complexes, etc.) is the pair-gain system. It is basically a system which consists of a digital link which is distributed, almost like a normal cable pair, out to a terminal cabinet called a Remote Terminal (RT) which contains equipment which demultiplexes the digital line into many "normal" metallic analog telephone lines which go to each subscriber in the area. Because the digital line can transmit the audio from several separate lines and multiplex them onto one cable, only one special cable pair is needed to come from the CO as a feeder, instead of several separate ones; this is why it is called a "pair gain" system. The remote terminal (RT) contains both the demultiplexing electronics as well as a small "SAI" type terminal block for connecting the pairs to distribution cables on the side of the path toward the subscriber. Because the "feeder" is not a multipair cable but a digital link (i.e., T-carrier), this arrangement is known as a "carrier-derived feeder". The SAI part of the RT is used just like a normal SAI on the distribution side (*blue*), but the feeder side will be slightly different. Carrier-derived feeders are always marked with *yellow* labels, and their pairs will be crossed over to distribution cables just like

in an SAI. So, in order to access a pair in a system like this, you must do so on the *distribution* side, because you can't hook an analog test set to a 1.544 Mbps digital T-carrier line! (or worse yet, a fiber optic cable). This may be difficult, because these cabinets are always locked (with few exceptions), so you'll have to find a terminal closer to the subscriber -- also be aware that many RT's are equipped with silent intrusion alarms. Anyway, some common pair-gain systems are the Western Electric SLC-8, 40, 96, and GTE's MXU, ranging in size from 8 to over 96 lines. RT cabinets can often be identified by the ventilation grilles (with or without a fan inside) which are not present on SAI's or other non-RT cabinets.

Aerial Distribution Splice Closure, Drop Wire Splitter

This terminal is the point where the individual cable pair for a certain subscriber is split from the F2 distribution cable and spliced onto an aerial drop or "messenger" wire which goes to the subscriber's premises. In an aerial distribution plant, two types of this terminal are common:

1) Western Electric 49-type Ready Access Closure / Cable Terminal

2) Western Electric 53A4, N-type Pole Mount Cable Terminals

Type 1: The 49-type, 1A1, 1B1, and 1C1 closures are all functionally similar. This terminal is a semi-rectangular closure, about 15"L x 3"W x 5"H, usually black, which is connected directly to the aerial cable itself; it is coaxial with the cable, so the cable passes straight through it. It splits up to 12 pairs from the distribution cable to a small binding post

DISTRIBUTION PLANT

terminal block inside the closure. Aerial drop wires are then connected to these binding posts, and the wires exit the terminal through holes on the bottom. These wires are strung via strain relief clamps on the pole down to the subscriber's site. The terminal closure is opened by pulling out and lifting either the whole cover or the front panel after removing the cover fasteners on the bottom and/or the sides (the closure is a thick neoprene cover over an aluminum frame). Inside the case, there is a terminal block and there may be some sort of loading coil as well. The cable and this coil are not openable, but the terminal block is. Since the F2 pair terminates in this closure, the F2 BP number (cable/assignment data) corresponds to a binding post on this terminal block. As mentioned earlier, this terminal will also contain spare pairs, in case a subscriber wants another line. In order to use one of these pairs, you must either get an F2 (and then F1) CP number from LAC using the BP, or you can put a trace tone on the pair at the aerial closure and then locate the pair at the SAI. Then a cross-connect would have to be made to an active F1 pair, and a drop wire (ughh) would have to be added back at the aerial closure. Anyway, both the binding posts as well as the holes (inside and out) are numbered left to right, so you may not even have to open the closure if you are just looking for an F2 BP number -- just trace the drop wire from the house into the numbered hole on the closure. The TErminal Address for the F2 is the address of the house or premise closest to the pole near this closure. These terminals (especially 1A1, etc.) are also used for straight and branch splices for aerial cables, so you may see one cable in and two out; also, the closure can be used for splicing only, so there may not be drop wires (in this case, it won't be listed in LMOS because it is not a terminal point). There is generally one of these every pole near a quad of houses or so, mounted on the cable about an arm's length from the pole.

Type 2: Both the 53A4 and the N-type terminals serve the same function as the 49-type just described, except they are used in situations where there are more than 4 houses (8 lines, including provisional pairs). This terminal is mounted directly on the pole, about a foot down from the aerial cable. It is not connected in line with the cable, so there is no F2 splicing area in the cabinet (rather, a cable stub comes from the terminal block and is spliced onto the span close to where it touches the pole). It is about 22"H x 9"W x 4"D, rectangular, and silver (unpainted). The door is similar to that of a 40-type cabinet, but it's much smaller; it is opened using a 7/16" tool in the same manner as before, except that the door must be lifted before it can be opened or closed. In this way, the door slides down on its hinges when opened, so it locks in the open position and you won't have to worry about it (especially nice because hanging onto a pole is enough of a problem). The terminal block can handle from 25 to 50 pairs, with 32 holes in the back for aerial drop wires. Just as in the Ready Access Closure, this is the F2 terminal, and the numbered binding posts and holes correspond to F2 BP numbers. The TEA will be the address nearest the terminal (just as before). This terminal is common at the first pole on a

street, on cul-de-sacs, apartments, marinas, and harbors, or anywhere there are many drop wires.

Buried Distribution Cross Box and Other Pedestals

This terminal serves the same function as the aerial closures, except it is used in areas with a buried distribution plant. This cable assignment for this terminal will be the F2 terminal, and the BP numbers and TEA will be the same as for the aerial terminals. Probably the most common cross boxes are the PC4, 6, and 12; these are around 50" tall by 4, 6, or 12" square respectively, and they are painted gray-green like SAI cabinets. These are the smallest pedestals in the distribution plant, and they don't have doors (they look like waist-high square poles). In order to open one of these pedestals, the two bolts on either side halfway down the pedestal must be loosened with a 7/16 hex wrench; then the front cover can be lifted up, out, and off the rest of the closure. These terminals are located generally near small groups of houses (up to about 12 lines usually) on the ground, often near other utility cabinets (such as electric power transformers, etc.). These are becoming more common as the new housing tracts use buried distribution plant. The F2 cable will enter as a cable stub, and it is split into service wires which go back underground to the subscribers.

All small pedestals are not necessarily the above type of terminal; these pedestal closures are often used for other purposes, such as splicing points in underground distribution, loading coil mounting, and even temporary wire storage containers. If the terminal contains a terminal block or it

is a significant point on the line, however, it will be listed in LMOS. An example of this is a distribution path found by Mark Tabas in a Mountain Bell area -- there was a small PC12-type closure on the ground near a street in a remote suburb, and it was serving as a terminal point for a whole F1 cable. It was listed as the F1 terminal, and it was at the right TEA; however, there was no terminal block because it was a splicing point (just a bunch of pairs connected with Scotchlok plastic connectors which are hung on a bar in the pedestal closure), so LMOS had no BP number. Instead, a color code was listed for the pair in the splice. Anyway, the *whole* F1 went up to an N-type closure on a pole and was split into drop wires.

Multi-Line Building Entrance Terminals

This terminal takes the aerial drop or service wires and cross-connects them over to the Inside Wire (IW) in the subscriber's building (hotels, businesses, etc.). There are many different types of terminal blocks for this terminal, although by far the most common is the Western Electric 66 block. The 66-type terminal uses a block of metal clips; the wire is pushed onto the clip with a punch-down tool which also strips the wire. The block is divided into horizontal rows which can have from two to over six clips each. Since each row group terminates one pair, two rows are needed for x-connect, one on top of the other. The service or drop wire usually enters on the left, and the inside wire is connected to the far right. In order to locate a pair, usually you can visually trace either the service wire or the inside wire to the block, and often the inside wire side will be numbered or labelled with an

BEING SNEAKY

address, phone number, etc. It is also possible for this terminal to serve as an F2 terminal point, if there are a lot of lines. In this case, LMOS will list the TEA usually with some physical direction as to where to find it. The left side will then be numbered as F2 BP's. This terminal is also the demarcation point which separates the customer's equipment from the telco's. The new terminals often have an RJ-21 connector on the service wire side, such as a 25-pair for PABX or a Bell 1A2 Key, etc. There are also "maintenance terminating units" (MTU) which are electronic units connected to the line(s) at the entrance protector; these are sometimes seen in some telcos. Basically, they provide functions such as party ANI on multiparty lines, remote disconnect (for testing or (click!) non-payment), or half ringers (the most common -- they prevent ringing continuity failures on switches like ESS when there are no phones hooked to the line when it rings). MTU terminals are often locked.

Single Pair Station Protector

There's really not much to say about this terminal. Basically, it takes the service or drop wire and connects it to the inside wire in a single line residence (houses with two lines will have two of these). These are at every house on an outside wall or basement, and there are two main types: the Western Electric 123 (with a "150-type" rubber cover), and the old WE 305 and new AT&T 200 Network interface (metal and plastic, respectively). These terminals have one binding post pair and they will have either gas discharge tubes or carbon blocks to protect the line from lightning or excess current. Obviously, there is no BP number (you just have to visually trace the drop wire to find the protector). This is also the demarcation point marking the end of the telco's responsibility, as well as the end of our tour.

Usually if a color code is needed (such as in a splice case) you can get it from LAC or the testboard; if it's really essential, it will be in LMOS as well. This color code is also used a lot on cable ties (usually with white stripes and ring colors only), although these are often used randomly.

Test Sets

This is the "right hand" of both the pro-

Bell System Standard Color Code			Use:
Pair #	Tip	Ring	Take the #, and find its closest multiple of 5. Use that number to find the Tip color, and the remainder to find the Ring color (remainder 0 = Slate). (e.g. Pair #1 = White/Brown, Pair #14 = Black/Brown, Pair #24 = Violet/Brown).
01-05	White	Blue	
06-10	Red	Orange	
11-15	Black	Green	
16-20	Yellow	Brown	
21-25	Violet	Slate	

OUTSIDE LOOP DISTRIBUTION PLANT

OFFICIAL Agent 04 Generic Test Set Modification (tm)

```
Ring >--------------------------------> to "test set" phone
   Tip >------! SPST Switch    !-------->
            !-----/ ----------!
   >from            !-------/!/!//!/!--!    C = 0.22 uF  200 WVDC Mylar
cable pair      !  C    R    !    R = 10 kOhm 1/2 W
(alligators) !--! (-----------! SPST = Talk / Monitor
```

fessional and the amateur lineman. Basically, it is a customized portable telephone which is designed to be hooked onto raw cable terminals in the field and used to monitor the line, talk, or dial out. The monitor function is usually the main difference between the "butt-in" test set and the normal phone. If you don't have a real test set already, the following circuit can convert a normal $4 made-in- Taiwan phone into a working test set. The "all-in-one" handset units without bases are the best (I tend to like QUIK's and GTE Flip Phone II's).

When SPST is closed, you are in talk mode; when you lift the switchhook on the "test set" phone, you will get a dial tone as if you were a standard extension of the line you are on. You will be able to dial out and receive calls. When the SPST is opened, the resistor and capacitor are no longer shunted, and they become part of the telephone circuit. When you lift the switchhook on the test set, you will not receive dial tone, due to the fact that the cap blocks DC, and the resistor passes less than 4 mA nominally (far below the amount necessary to saturate the supervisory ferrod on ESS or close the line relay on any other switch). However, you will be able to silently monitor all audio on the line. The cap reactance plus the phone's impedance ensure that you won't cut the signal too much on the phone line, which might cause a noticeable change (expedite the shock force, *someone's on my line!!*). It's also good to have a VOM handy when working outside to rapidly check for active lines or supervision states. Also, you can buy test equipment from these companies:

Techni Tool, 5 Apollo Road, Box 368, Plymouth Meeting, PA 19462.

Specialized Products Company, 2117 W. Walnut Hill Lane, Irving, TX 75229.

I am not going to include a disclaimer, because a true communications hobbyist does not abuse nor does he tamper with something he doesn't under- stand. This article is intended as a reference guide for responsible people.

Also, this article was written mainly from first-hand experience and information gained from maintenance technicians, test boards, as well as technical literature, so it is as accurate as possible. Keep in mind that it is mainly centered upon the area served by Pacific Telephone, so there may be some differences in the loop plant of your area.

ARTWORK BY J.R. "BOB" DOBBS

Dear Employee

We are in the process of launching a major market thrust to stimulate usage revenue in the 4th Quarter 1987. As part of this undertaking we are pleased to announce a first time marketing promotion.

Through special arrangements with Graybar Electric Co. Inc., we are able to offer a select group of customers the opportunity to purchase state-of-the-art telephone answering machines at steep discounts. We have chosen to promote answering machines because they increase call completions which result in usage revenue.

This offer is being made to a select target market in order to maximize sales success. The success of this experimental offer will determine our future efforts with promotions of this type.

Because this first-time arrangement includes a savings of 40% to 46% on telephone answering machines, we want to offer this opportunity to all our employees. You too have the option of selecting from three deluxe models at great prices and to enjoy the ease and convenience of owning a telephone answering machine.

See the enclosed brochure for details. This offer is good until December 31, 1987, so be sure to act soon.

Sincerely,

Rita Zaccardelli
Product Management

P.S.........remember, answering machines also make very nice gifts.

HERE WE SEE what the phone companies are really interested in: call completions. Does this surprise you?

2600 Marketplace

FOR SALE: Various UNIX manuals/books. For more information, write to Seth K., PO Box 245070, Brooklyn, NY 11224.

I WANT TO START a newsletter devoted to petty crimes, tentatively titled "For Informational Purposes Only". Please send me info, clippings, on how to rip-off vending machines, free postage, free photocopies, sneaking into movie theaters, etc. Tim Cridland, PO Box 85874, Seattle, WA 98145.

WANTED: Someone with electronic ability to build a red box similar to the plans in Summer 2600 or a blue box at a reasonable cost for test purposes. Write to: Nelson, 302 North 15th, Richmond, IN 47374.

WILL TRADE: My Texas Instrument Silent 700 Series Portable Intelligent Data Terminal (like new) w/full documentation for any hacker software for IBM compatible computers. Ted K., PO Box 533, Auburn, NY 13021-0533.

COMPLETE RANGE of Commodore 64 hack/phreak software. All tested and debugged. Many advanced applications. Call THC-][BBS at 604-595-0085 and leave feedback to the sysop for more information.

WANTED copied (dead) or alive! TAP'S "C" & "D" elec. courses. Cassette tape (TAP exclusive), & fact sheets #1-4. Have any or all? Contact me--willing to pay good money for orig's. B. Barton, 84 Daphne Cres., Barrie, Ontario L4M 2Y9. (705-726-6617)

WANTED: All newer hardware you find a must to quickly get rid of. Product evaluations are welcomed. Also looking for Technics SL1200 and any information related to pirate radio (including stories written by ex-pirates, groups, equipment information, FCC) for a write-up. David Jon Hyams, E 9116 Sprague Av., Apt. 111, Spokane, WA 99206

SELLING COPIES of Abbie Hoffman's "Steal This Book". $7.95 + $2 shipping & handling. Marco, P.O. Box 1211, Westerly, RI 02891.

FOR SALE: Ultimate blue box, Berry Electronics Model 312A trunk test set, has rotary dial/MF keypad, monitor speaker. Uses L-C oscillators. VERY stable. Can be used as Std phone when head/handset added. $250. Write: Testset, 6715 Eberlein Ave., Klamath Falls, OR 97603.

TAP BACK ISSUES, complete set Vol. 1-90 of QUALITY copies from originals. Includes schematics and indexes. $100 postpaid via UPS or First Class Mail. Cash/MO sent same day, checks to Pete G., P.O. Box 463, Mt. Laurel, NJ 08054. We are the original; all others are copies!

2600 MEETINGS. First Friday of the month at the Citicorp Center--from 6 to 8 pm in the Market (also known as the lobby with the tables where all of the weirdos hang out). Located at 153 East 53rd Street, New York City. Come by, drop off articles, ask questions. Call 516-751-2600 for still more info.

Deadline for Winter Marketplace: 11/30/88.

Do you have something to sell? Are you looking for something to buy? Or trade? This is the place! The 2600 Marketplace is free to subscribers! Send your ad to: 2600 Marketplace, P.O. Box 99, Middle Island, NY 11953. Include your address label. Only people please, no businesses.

Happenings in Our World

owner can then call the machine and give it commands.

Again, there's a big problem here. All someone has to do is call and hang up, this time only once. If nobody picks up the phone at the other number, call forwarding is cancelled, which may not be desired.

Both of these inventions are good ideas. But without decent security, they could be real disasters for the consumer. Imagine having all of your calls forwarded to some remote place where a tape recording could give out false information about you or your business. And the real clincher is the fact that you'd have to *pay* for those calls!

Sysop Sued Over Email

An Indiana BBS operator is being sued by a user who claims that he intentionally disclosed her private electronic mail to others without her permission.

The lawsuit makes reference to the Electronic Communications Privacy Act of 1986, which makes disclosure of private electronic mail without consent of the sender or the recipient a federal crime.

Sysops are not by law required to offer private electronic mail to its users. But in cases where they do, the ECPA can be used against them if they don't keep private mail private.

This is what we've been wait- ing for. Finally, ordinary BBS users are getting something out of the ECPA, which never really seemed designed to protect the individual.

This is a first step towards assuring privacy from the snooping eyes of authority. It won't be so easy to expect a system operator to know every message on his/her system, much less assume responsibility for them.

Our own bulletin boards, as always, will provide private mail features for users. We don't read or disclose private messages; in fact, our software won't even permit it. We hope this lawsuit will encourage other sysops to adopt this practice and discourage law enforcement from violating our right to privacy.

Dial-It Info Numbers

At long last, New York Telephone has come out with a guide to all of those new mass announcement numbers.

Dialing 540-INFO (toll-free) will get you a list of all 540 interactive services, as well as all of the 976 passive announcement numbers. Dialing 970-INFO gets you a list of all of the adult services (really funny to hear) and 550-INFO will generate a list of the conference numbers. To get a physical list, dial 800-942-1818, operator 976.

If anyone gets this to work outside of New York, let us know.

LETTERS

Too bad, you lose. I am a telecom tech at a large centrex customer of Pac Bell (actually, a management position). We are such a good customer that I can call the CO and get them to do anything. They do it because we are such a good customer. Not because I lie and tell stories like some do.

I had hoped to share some of this information and my 40+ years of experience with others, but I am not going to waste my time to learn your BBS.

I was a writer for TAP and know the whole story of what happened. Would like to share this also -- but your damn BBS pisses me off!

I also have a patent in telephony and a manufacturing company that makes telephone stuff under the patent.

Whenever you get a normal BBS, let me know and maybe I will change my mind.

Boy, it sure feels good to write this letter.

Am in San Francisco today to tour Pacific Bell's San Ramon complex. I am their guest. They pick me up at my hotel and give me lunch and a tour. This is because I am a good customer of theirs and I am designing the telecommunications facilities for a $44 million building going up in the next two years.

See what you missed!

Boy, it even feels better now. Change those BBS's!

Sorry I can't leave you my name. I am somewhat well known in the field and information I provide must not have my name on it.

We enjoyed your letter very much. We can certainly see how you managed to become so well known. And, no doubt, using your name would not be a good idea, in this or any circumstance. But we do want to thank you for finding time in your busy schedule to convey your concerns.

Unfortunately, no one here has any idea on what you could be talking about. We operate four BBS's, each running on completely different software. You seem to have had a run-in with one of them. Why don't you tell us exactly what happened so we can do something about it?

Questions

Dear 2600:

For starters I would like to say that this is the best magazine I ever laid hands on. I like the professional way you look at everything. In your November 87 issue the ad that Consumertronics put in was great for me because I found a file on getting me some fake

ID's. It says that having them is not illegal. Can you tell me where this came from? Everyone I spoke to says it is a lie and just there to get you to buy the product. Can you tell me if there are any voice systems to play around with? There was one in Philly called The Philly Connection. Are there any more out there? If so, can you list the numbers?

J.D.

The people who advertise in 2600 speak for themselves and not us. Therefore, you'll have to ask them what they mean. Our policy is to accept advertising from anyone unless it makes us violently ill or we know that the people are crooks.

We will be printing phone lists of all kinds of systems as we get them in.

Another Scam

Dear 2600:

I am writing you to pass along some information, and to ask the readers of 2600 about any experiences they may have had with a company called "Mutual Telecommunications Network, Inc.". My first experience with them was in November 1987. They put an ad in my local paper for "computer syop". The basic idea was as follows: They send you "$1,200.00" worth of circuit boards, modems, software, etc.

You install it, and let them use your phone from 9 am to 9 pm, 7 days a week. After 9 pm, you prepare the data obtained that day for transmission to the company's computer(s). The company in turn pays you an hourly rate of $3.57 per hour, per day that your system (IBM PC compatible only) is up and running, up to a maximum of $300.00 per week.

I filled out the application and the agreement, including, stupidly enough, the personal financial information. I also indicated on the application that I did not want to pay the $660.00 security deposit. I sent the letter back to the Florida address on the envelope, and got back a response from a Los Angeles address. They rejected me, "having found others more qualified". I am a system administrator for UNIX and MS-DOS systems, and have been involved with computers for over five years. The only thing I could think of that would disqualify me was my unwillingness to shell out $660.00 in a hurry just to sign up for this "hot deal".

In January 1988, the company mailed me another letter, offering me an opportunity to join again, but based on the dates in the letter, I had less than 7 days to send in my

LETTERS

$660.00 security deposit. All my efforts to contact the company were for naught. I kept getting into some kind of digitized voice control system that threatened to have my phone number traced and reported to the authorities. I also tried the Better Business Bureau, the Chamber of Commerce, and all the phone numbers each one referred me to, but I was not able to contact anyone or anything, much less find out about the company. Even directory assistance gave me a phone number that fed into this control system. Unless you have the proper codes, you cannot contact any human employees in this company. I am concerned that this company is either attempting to collect personal information for the wrong reasons, i.e., credit card fraud, or they are a scam operation that makes its money by selling telephone networking equipment to home computer owners interested in extra income.

The phone numbers I have for this company are: (800) 553-8003 and (813) 932-1023. Their address is 7933 North Armenia Avenue, Tampa, Florida 33604. I don't have the address or phone number any longer for the Los Angeles office. I also wrote to the Los Angeles Better Business Bureau about these people, as well as a complaint letter to the company itself, all to no avail. The letter from the company ignored my questions and concerns, and I've never heard from the LA BBB. Please publish this letter in your magazine, so other people can either help find out if it's a legitimate operation or not. Needless to say, I never sent in any money, nor will I be doing business with them in the future. You may publish my name and address in your magazine, if you wish.

**Doug Porter
(FDP Enterprises)
3661 N. Campbell Ave.
#342
Tucson, AZ 85719**

Your letter was sent to us in January and we regret having waited so long to print it. The numbers you gave us have been disconnected. So, for one reason or another, this company is not thriving, at least not publicly. We call on our readers to watch out for this kind of thing and to let us know if they hear of anything similar. Thanks for passing this along.

Anti-Gay Offensive

Dear 2600:

Your nodding attention to the gay conference line com-

LETTERS

ment "(kill 'em!!)" in *2600,*
Volume 5, Number 2 is hardly
appropriate. Most publications
reserve the right to edit or to
refuse to print material as
objectionable as that. So I can't
take your vaguely moral, "face-
the-fact" disclaimer very seri-
ously. Do you really think
you've done anybody a service
by reprinting that item, with or
without a disclaimer?

I think you owe apologies not
only to the gay community, but
also to users of computers,
telephones, and 800 numbers
everywhere.

CH
Ohio

*We do not believe in cover-
ups. By not printing that bit of
ugliness, we would have been*
doing just that. The fact of the
matter is, that comment was
already on BBS's all over the
country. Perhaps you misun-
derstood. We did not comprise
that list ourselves -- it was
taken off of a board.

If a public figure made a
racist remark, would you
blame the local newspaper for
printing it? Would you expect
them to pretend it didn't hap-
pen? Racism and its assorted
relatives thrive when people try
to deny their existence.
Computer hackers are not
immune from any of this. We
can only hope that they, along
with most of the others in the
world, will look for injustice
and scream about it when they
find it.

„Hacker" frei

Das Vorstandsmitglied des Hamburger
Chaos-Computer-Clubs, Steffen Wernery,
ist aus der Untersuchungshaft in Paris
entlassen worden. Gestern traf der 26jähri-
ge auf dem Flughafen Hamburg-Fuhlsbüt-
tel ein. Das Verfahren gegen ihn wurde
jedoch nicht eingestellt, sagte Wernery.
Nach einem Haftprüfungstermin sei ledig-
lich die Inhaftierung aufgehoben worden.
Für weitere Vernehmungen müsse er wie-
der nach Paris zurück.

2600
T-SHIRTS

No, we're not kidding. On the front, you'll find an impressive masthead, with the 2600 title visible for very long distances. And on the back, you'll be displaying a collection of news clippings about phreaking and hacking from newspapers all over the world! A great conversation starter on supermarket check-out lines!
Let the world know how enlightened you really are.

$10 per shirt.
Sizes available: S, M, L, XL.
No returns regardless of what you say or do.
Allow 4 to 6 weeks for delivery.

- (Clip here and send in -- your address is on back.)

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

Subscription renewals: $15 ind./$40 corp.
Back issues: $25 per year starting in 1984.

TELL US WHAT YOU WANT:

CONTENTS

**DANGER:
MISSING LABEL**