CORRECTION!

The Red Box circuit of Issue 36 is incorrectly drawn. The two emitters of the transistors should be tied together and connected to pin 1 of the XR-2240 timer. They are incorrectly tied to ground in Issue 36. Please correct the schematic in your issue, even if you don't plan to make the Red Box immediately. It will save you time later on.

TAP

JULY·AUG 1976 NO.37

REPORT FROM END OF THE EARTH

Dear TAP and Freaks,

I am a lone freak living in a small town in northern Canada. I am familiar with electronics but not with phones. This town is a long way from anywhere and does not have a real telephone company. I get my phone from the Canadian National Railroad. This has possibilities but standard techniques don't work. CN's system is tied into AGT in Alberta and also into the military phone system.

Did you know that the military makes their own Blue Boxes? I often talk to the military guy in charge of their system. He tests their system every Tuesday. Some of the buttons on his Blue Box control priorities. One of these buttons will even take priority over the President of the U.S. Perhaps even a call for a pizza should take priority over Ford, but that's irrelevant.

Anyway, one of the phones where I work has a habit of automatically connecting you to the military system due to some small defect in the exchange (possibly deliberate?) What I have in mind is the development of a facility which would enable freaks to call into here (a Black Box could make that toll free) and then they could dial out of here into the military system. If they had a Blue Box with five additional buttons for the extra tones that the military uses, then they could use any priority they needed to interrupt any military or government call in any NATO country. What is needed here is some people who know about such things.

A few people here have experimented successfully with communicating direct to the Anik satellite. They used 4 foot dishes made of wire mesh and assorted old microwave gear, but they left town. I think they were liquidated.

The phone company here has changed their equipment around so that it is not possible to call a toll-free number from anywhere in the western half of the NorthWest Territories. So even though they have in-band signalling, Blue Boxes no longer work. However, I am trying to devise a new type box which I think might work anywhere. The logic is as follows:

1. Dial 0 for operator. This sets things up so that you are connected to a common wire which passes thru several operator's boards and causes all of them to ring. When one of the operators is not busy and has finished inspecting her fingernails, she answers. This usually happens after 180 rings. When she answers, her board puts an audible tone on the line which causes the other operators' stations to stop ringing since one of the operators has answered. She then asks who you are and what you want. You tell the organization to bill you. Then she dials your long distance call for you using a touch tone board.

2. So, before any operator gets thru, put this tone onto the line the same as if one of the operators answered and is telling all the other operators' boards to stop ringing.

3. Dial the number yourself using Blue Box without using the 2600 cycle "on hook" tone.

INFORMATION WANTED

If anybody there knows the frequency of the "operator has answered" or "receiving attention" (or whatever they call it) tone, I would like to know.

I have discovered that the phone company cum railroad company uses a very old signalling system on their order wire. If you dial some number and talk to the guy at the test board, you can ask him to dial for you to certain other test boards in other cities. He uses a system of beeps of a single tone. For example, 55 is just 5 beeps followed by a space and then 5 more beeps. I am going to try sending the beeps myself because, if I can hear them going out, the equipment can probably hear any beeps that I make.

Has anyone ever tried this? How do you find out the number of the test board so you can do it before the guy answers? I think if you reach the test board in a distant city you can dial 9 and get back into the regular phone system. Do southern, Bell style phone systems have test boards like that? Can the phone company find out whodunnit?

Another thing, kind of scary, the Mounties have two cables from their shop to the exchange with maybe 50 pairs each. Rumor has it that their latest toy is a big box with a dial on it, a handset with a snooper button and a speaker, a bunch of jacks for tape recorders, and a pen recorder for dial clicks. The story goes that they can dial any number with this thing and listen in. It looks like it is a standard gadget made by Western Electric (?) and it works only in towns with a type of exchange called an SP - 3. Part of this town has SP - 3 and the rest has something made by a guy named Watson. Does anybody know about this cop equipment? How do you fuck it up?

The CN exchange includes a computer which dials everybody's number once a day and does a whole series of checks on it automatically. If you have an illegal extension and were dumb enough to leave the bell connected, the computer dials your number and does a "condenser check" by putting a pulse of DC down the line. The extra condenser will lengthen out the time for the pulse to decay and the computer prints out your name and number and what your crime is. The phone men and the RCMP then come in like the Marines and arrest you. I would like to know what else the computer is sensitive to. So far I have discovered "condenser trouble" (illegal extension) and "foreign battery on line" (this means that you called somebody who has "called party priority" and they left it off the hook so you couldn't get disconnected and they tried to get the phone company to trace the call. When this happens, you apply a shot of DC to your phone line (experiment to get the right polarity and use about 40v) and you get the dial tone back. However, the exchange prints out "foreign battery on line" with your phone #. You don't want to be the only fool that day, so you zap 40v DC onto all the phone terminations in 3 or 4 apartment buildings. That way nobody knows whodunnit.

We used to talk over the Telex until CN got wise and changed the teletype machine for a modern one. The old one had a switch marked VOICE and TYPE and a jack to plug a handset into. Very economical! I think the voice facility is for their own staff when testing the equipment. They go home at 5 pm and if you dial 9 on the Telex after dialing the number for the city you want, then you get connected to the regular phone system in that city and just dial the number. No bill!

Continued→

WARNING! PAY PHONES HAVE AUTOMATIC SILENT BURGLAR ALARMS! I read Tom Edison's Open Sesame and he didn't mention the fact that, at least in Canada (I'm not talking about here in the far north) pay phones have an extra pair going to them, for an alarm. They seem to sometimes carry a dial tone if you hook a regular phone across it but as soon as you take it off hook and hear the dial tone, the alarm rings at the exchange. To find out which wires are the talking wires and which are the alarm wires, take a pair of 600 ohm earphones with a capacitor in series with one cup; earphones are 600 ohm but please don't rip them off out of small dick covered 30 mile per gallon surplusoid and listen across each pair as you take the pay phone off hook. Once you have identified the talking pair, the other pair is the alarm pair. Some pay phones have 3 wires in the talking circuit. Two are for actual talking and the other is for collecting money so I think this is rare.

The alarm will be tripped if you do anything violent on the body of the phone: drilling, hammering, even opening with a key. So...connect a capacitor and an old ringer in series across the alarm pair and then cut the wires carefully without shorting them together as you would if you cut them both at the same time with metal cutters. Cut them between your extra ringer and the pay phone. THEN SPLIT! The alarm may have gone off anyway. These phone company people are not to be trusted. Wait a long time, and if you do not see the phone truck with the nets, 50 cal. Browning pops on it, then you can proceed as in Open Sesame (April 1976)

As for a better way of opening pay phones, I recommend a key. A simple inserting and turning action is all that is required. Apparently Canadian phones use pin tumbler locks, unlike Western Electric which uses lever tumbler locks. TAP #30? When somebody opens the first phone in your area, make sure they note which hole they put each pin in the lock set of. It is easy to make a key. Some use tubular keys and these can be difficult to make. Find an old key to a Coke machine and reshape the end to fit your lock. Add metal to the key by putting on blobs of brazing rod and then file it down to size. You will then have a key that fits all the phones in your neighborhood. I have heard that in high crime areas the phones are individually keyed. (They are in the U.S. The entire country is a "high crime area") You can tell whether or not they are keyed to fit your key by looking at the little number on the lock which tells the telephone man, and you, which key to use.

I would like to get in touch with some people interested in these things. However, this is a straight sort of town. To reach me, call The News of the North: 1-403-873-4088 and ask out one of their free classified ads. Have the ad say something like "Kilgore Trout or anyone knowing his whereabouts, call home" and include your number.

Yours truly,
Kilgore Trout

HO - HUM, WHO'S APATHETIC? (yawn)

Asking TAP readers to send money to anyone is probably even more futile than asking them to make inquiries which cost just a postcard. Only about 1% (ONE PERCENT) of our readers have bothered to inquire about various offers and activities mentioned in TAP. Pat chance you'll send money to NORML! So it serves you right if you get busted for grass, you lazy, cheap bastards! Remember, a lawyer costs a LOT more than the $5 NORML is requesting.

Join NORML. Money is needed to finish the job once and for all.

NORML NATIONAL ORGANIZATION FOR THE REFORM OF MARIJUANA LAWS 1237 22nd STREET N.W. WASHINGTON D.C.

ODDS & ENDS by Tom Edison

The economic circumst has got us all by the balls and it hurts! In the past we were just managing to stay in the black (Box?) but with the recent increases in the cost of printing, office rent, postage, and the very recent outlay of cash for the TAP T-shirts we're slowly moving towards the red (Box!). And since it's very unlikely that the Big Brother Establishment is going to offer us a subsidy, there are just 2 alternatives left. We could raise the price of a subscription which sucks as far as you're concerned, I know! Or we could get more people to sub to TAP. That's where you come in. We need you to help spread the word and get us some new subs to TAP. Since I joined the TAP staff on July 5, 1975, I've watched as 90% of our readers sat on their fat asses and profited from the ideas of the other contributing 10%! Now is the time for all you silent do nothings to make some noise! Get out there and get all your hip friends to sub to TAP! Tell them you're not going to let them read your copy anymore! If they want to be "Hip To Trip" they'll have to sub for themselves! And if your friends are all cheap bastards just remind them that if they only use 1/16 of the ideas presented in TAP, that alone will save them more than the cost of a subscription!

If a sufficient number of new subscriptions are not forthcoming, we will be forced to increase our sub rates! Help us fight the wolf at our door! As an added incentive, any TAP reader who brings us 5 new subscribers will be offered the choice of either a free TAP T-shirt or a one year extension of his own subscription.

When ordering your TAP T-shirt PLEASE specify size: S-34-36, M-38-40, L-42-44, XL-46-48. Cost: $4.

I've had a request from a San Clemente reader who wishes to remain anonymous (I wonder why?) to show the various techniques for tape recording phone conversations. There are 4 basic methods: capacitor, transformer, inductor, and direct. In the capacitor method two 1 MFD 100 wvdc capacitors are connected to the Ring & Tip phone lines. (See Fig. 1) Non-polarized capacitors are best to use but if you are forced to use polarized capacitors be sure to observe polarity. These capacitors will block out the DC line voltage but will pass the audio signals. The capacitors should be connected with a shielded cable to the mike input of your tape recorder. Capacitors larger than 1 MFD will give slightly larger volume while capacitors smaller than 1 MFD will give slightly less volume.

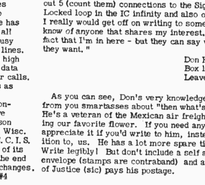

Fig. 1

The transformer method uses either an audio output transformer or a 6-12 volt filament transformer. The low voltage or secondary winding of the transformer is connected directly into one side of your phone line. (See Fig. 2) Because this winding consists of only a few turns of wire, it has practically no DC resistance and will not either load down your phone line, which is real important to us home experimenters who have too many "problems" on their line, or be detected by Ma Bell. You also get the advantage of not only electrical isolation from the phone line but because of the way the transformer is connected you get a step up in audio signal voltage.

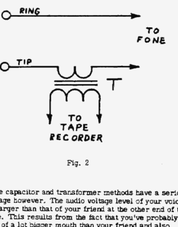

Fig. 2

Both the capacitor and transformer methods have a serious disadvantage however. The audio voltage level of your voice is much larger than that of your friend at the other end of the phone line. This results from the fact that you've probably got a bell of a lot bigger mouth than your friend and also from the fact that your voice current generated locally is much larger than that of your friend's generated down the other end of the phone line!

The inductor method solves this problem by picking up the audio signal voltage from your phone's earpiece. Because of the sidetone network and varistor circuits which help to reduce the large locally generated audio signal, the phone earpiece is fairly balanced for both ends of the conversation. The inductive pick up is slipped on over the earpiece. It is nothing more than a coil of wire that picks up audio voltage. The output wire is plugged into the mike input of your tape recorder. The disadvantage of this method is two fold: good inductive pick ups are expensive and because the pick up coil is located a distance from the electromagnet in the earpiece, the available audio output voltage is low.

The direct method solves all of these problems and is by far the best method to use. It gives a balanced audio level and maximum voltage output due to the direct connection. The 3 terminals on the phone earpiece are excellent places to tape record from using a shielded cable. If you do not want to have wires attached to your phone earpiece, you may use terminals R & S on the network box. These two terminals are the ones that go to the phone earpiece. Since Pa Bell will not let you tape record directly from your phone, let me warn you not to use this method which produces excellent tape recordings of conversations!

I've received several recent requests for any information on the Silver Box. All available info is very limited but we do know from our usually unreliable sources that it's a device that costs $1,200 and is in anyone with a knowledge of a dialing code to listen in on calls. The code consists of a 7 digit number that activates the box and a 2 digit number that allows the listener to select the line that he wants to monitor. Pa Bell claims that they use it only to monitor calls made to its own business offices to maintain high quality service. (It always intrigues me that Bell feels that they must spy on their own employees to maintain "service"!) And if you believe that Bell is only snooping on its own employees, then I've got some choice swamp land in New Jersey for you! Bell also claims that the Silver Box system is secure because only a few snoops.....or Bell supervisors have access to the codes and they are changed periodically (the codes or the supervisors?) In any event, we have learned that these codes ARE available to non-Bell personnel if the price is right! If any of our readers have additional information on the Silver Box and its codes, I would appreciate hearing from you, for purely scientific reasons, of course.

In response to my request for information on the ways that operators are checking on Red Box users I received the following letter from Chicago, Ill.:

Dear Tom Edison

Regarding red box users having difficulty with operators placing their calls (TAP 35), I personally ran into that problem myself 2 years ago here by putting in .10¢ first and then "beeping" the extra. However, a recent experience should be passed on to your red box readers who have fallen into complacency about personal security.

Recently I had boxed a friend in a distant state. The operator put the call through alright, but after I hung up, the chief operator immediately called my friend wanting to know who had just called him. In other words, an operator (knowing your using a red box) will put your call through, and then call the party with whom you just talked, trying to get them to identify you. Instant entrapment, here!! Ask only with instant amnesia.

A different experience in southern Indiana was even more frightening. After I boxed in some money, the operator said that, "... it didn't register.", so she requested that I redeposit the money again but to do it very slowly, at her command. In other words, she wanted me to deposit a quarter, so the circuit is closed, then she would immediately deposit the quarter into the hopper, circuit is open again, request another quarter, circuit is closed again, deposit the quarter into the hopper, etc. Of course I split. Collecting money this way is very time consuming for the phone co., but of course it prevents red boxing. Any solutions to this?

You forgot to mention in your article that if one talks over the initial 3 minute period and the operator comes on for your overtime charges, be sure to put in a slug or dime that registers first, otherwise the relay is open again and you might have to answer some embarrassing questions.

S.C.

My reading recommendation for this month is EDEN UNDERGROUND NEWS SERVICE, P.O. Box 841D, 16651 EVERGREEN CIRCLE, FOUNTAIN VALLEY, CA. 92708. Eden Press Service is published bi-weekly and they feel that "all the news that's fit to print" makes for a very dull newspaper so all items that they print will never be found in the New York Times! If you need a new set of ID they have the new 1976 Revised Edition of "The Paper Trip" plus another book on getting new credit. All articles are very thought provoking and interesting. All I can say is that if you dig what we say in TAP, you'll dig what they say in Eden Underground Newspaper Service. Subscriptions are $15 for 1 year, $18 for 2 years, $25 for 3 years, and $10 for a charter one year subscription. Enjoy!

This month's column is dedicated to the Litchfield Larceniats, Sam and Charles, with a special thanks to Sam who helped us lay out this issue.

Dear TAP,

The phone company wants to make us happy! They say they will give credit if you get a bad connection or wrong number. I called ----- for 15 minutes, then hung up, called the operator, and said that we had tried for a few minutes to have a conversation but that the phone kept getting fuzzy, and that finally we couldn't hear each other. I sounded very irritated and asked her not to have me charged for the call. She refused to pay for such service, and would she put the call thru herself. She said yes, took my number, and put the call thru. We had finished our conversation, so we just talked again for less than one minute and hung up. I don't think they will credit the first call unless you have it reconnected.

A friend called Alaska legitimately, then when he talked longer than he expected, said good bye, left the phone off the hook, and left it like that for three days. He refused to pay for a three day call, said it was a 2 minute call and some failure on their part.

NJ

It would be necessary for both parties to leave their phones off the hook. Otherwise, there is a 90% probability of an automatic disconnect 30 seconds after the called party hangs up.

BELL'S BOXIN' US IN!

by Tom Edison

Enjoy your Black & Blue Boxes while you can because in the next few years (and even sooner if you live in certain areas!) they're all going to be obsolete! On May 15, 1976 Pa Bell put its new C. C. I. S. system into operation between Chicago, Ill. and Madison, Wisc. This Common Channel Interoffice Signaling system uses high speed data pulses instead of the usual audio MF tones and since the audio talking circuits are not connected until the called phone has answered, you cannot Black Box the call! Previously, all information such as MF tones, 2,600 Hz, ring back, busy signal, etc. was done over the audio Ring & Tip phone lines. With C. C. I. S. all of this information is converted into high speed data pulses and is multiplexed onto one common data channel leaving the audio lines free to be used for other calls. Long distance calls will now be processed in 2 seconds as compared to the 10 to 40 seconds it now takes.

This new system will take 10 years to complete nationwide and will cost US $250 million. Cities that will have C. C. I. S. systems this year besides Chicago and Madison are Kansas City, Dallas, Jacksonville, and Wauwatosa, Wisc. By the end of 1977, there will be 37 other cities with C. C. I. S. Pa Bell is using its new ESS #4 and a modified version of its #4-A Crossbar in their C. C. I. S. Central Offices. By the end of 1977, about 30 of the nation's 181 #4-A Crossbar exchanges will be C. C. I. S. and by the end of 1978, about 21 ESS #4 exchanges will be in operation.

But before you all reach for the crying towel, just remember that a phone is simply an electronic device and like any other electronic device IT CAN BE DEFEATED!!! The needed technology may get very sophisticated but it's a challenge that the united fone freaks will meet and eventually beat! The Box of the future will no doubt be a cross between a small computer and a data switching center. Remember, old Boxers never die, they just build another color Box! And the Red Box will still be around too!

STEAL THIS BOOK IS SOLD OUT

We don't know when we'll get more copies so please don't order it!

PEN PALS WANTED

It should come as no surprise that some of our readers are in the pen. Here's part of one letter:

"Finished reading Big Brother Game and am disturbed by the diagrams. He left out connections and parts. I would be glad to help anyone trying to construct these - for instance, I have a page of instructions for the construction of a drop-in transmitter. Many of his circuits came from Sams publications and Popular Electronics. The infinity transmitter will not work as shown. He left out 5 (count them) connections to the Signetics Phase Locked loop in the IC infinity and also on the AF Amp IC. I really would get off on writing to some pineaks - if you know of anyone that shares my interest. Hip them to the fact that I'm in here - but they can say virtually anything they want."

Don Harbolt
Box 1000 (30682)
Leavenworth, KS 66048

As you can see, Don's very knowledgeable (No cracks from you smartasses about "then what's he doing there?") He's a veteran of the Mexican air freight industry, importing our favorite flower. If you need any tech info, we'd appreciate it if you'd write to him, instead of, or in addition to, us. He has a lot more spare time than we do. Write legibly! But don't include a self addressed stamped envelope (stamps are contraband) and anyway, the Dept. of Justice (sic) pays his postage.

J P

MA BELL GETS JOLLIES

(ZNS) A telephone operator has testified that many phone company employees are commonly entertained by having the intimate sex conversations of telephone customers broadcast by loudspeakers throughout the offices.

Christina Huggins, a phone operator in Mill Valley, California, told the Public Utilities Commission in California that "plant men would go through the circuitry" looking for private phone conversations dealing with sex. Huggins said that the more interesting personal calls were then played aloud, purely for amusement.

The phone company, in response, says that such practices "are against company policy."

Eden Underground News Service

Published for informational purposes only by Youth Hot Line Reports, Inc.

Address all mail and checks to

TAP, 152 W. 42 ST, ROOM 418, NY 10036

BULK RATE U.S. POSTAGE PAID Permit No. 209 Great Neck, N.Y.

Back Issues are 50¢ each, 40¢ each if you order 30 or more. See previous issues for list of feature articles.
Subscriptions - 10 issues - US bulk rate $4.
US First Class in plain sealed envelope $6.
Canada & Mexico stapled $8 Foreign $7.
IMPORTANT! Include mailing label or Xerox copy when writing to TAP about your subscription.
Book - Monopoly $1.20
Courses - 50¢ each A - Basic Electricity B - A.C. C - Basic Phone Operation D - Amplifiers
Send only check or money order (NO CASH) to TAP, 152 W 42 Street, Room 418, New York 10036
This is a mail drop only.
Office: 1201 Broadway, Room 608, New York 1001
Hours: Wednesday, 4 - 7pm.