



SEPT. 1976 NO. 38

GIVE THE WATER COMPANY A BLOW JOB

Regarding Issue #29 on Water Meters, I found a simple way to beat the things. Shut off the water. Disconnect the meter. (Use wrenches with smooth jaws and cover them with tape to avoid tell-tale marks on the nuts. JP) Allow the water to drain out, then blow in the outlet fitting. The wheel inside will register about a cubic foot for each breath you put thru. It registers considerably more volume than is blown thru it, because it keeps spinning. If you haven't got good wind, reverse the hose on a vacuum cleaner so it blows instead of sucks. Tape the end of the hose to the meter's outlet and turn it on. Some of these meters have plastic parts so don't do this too long at one session. This is particularly useful with summer cottages where the meter is being fooled around with twice a year.

Don't be greedy. Like everything else, there is only so much usable water around. Also, the water company will wonder what the hell is going on if they find a home with six people in it registering an alleged consumption of fifty gallons a month.

Agent 038

Very clever! If the inlet and outlet fittings are identical, it would be possible to turn the meter around and let the water flow backwards thru it for a week or so per month. Eventually meter manufacturers may install a check valve to prevent this. In that event, one could remove the meter periodically and replace it with a length of pipe.

I'm glad to see you're concerned about the ecology. Our houses SHOULD have two sets of plumbing. One system would be for washing, cooking, etc. and could be drained on the lawn and garden. The phosphates in detergents are excellent fertilizer.

The other system for "sewage" would use negligible water. In his excellent book Design for the Real World, Victor Papanek tells how he designed a toilet with two flush levers - one for, ahem, #1, and one for #2. It would save a considerable amount of water, but a manufacturer told him that people were too mentally constipated to accept it.

The sewage can be anaerobically converted into methane (natural gas). If all the sewage were so processed, it would produce 1 1/2 times as much natural gas as we use in this country and that's no shit! Instead we dump it into our rivers and oceans, and argue against deregulation of natural gas prices. Clever!

There is an old Portuguese saying which translates: "If shit were ever to have any value, the poor would be born without assholes!" If so, I would not be surprised to see a strange mutation occur among welfare "clients" et al in the next few years...

Jim Phelps

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Dear Jim,

I was talking to an engineer who works at the electric company in Connecticut and he told me something about how the electric company tries to catch those who jump the meters. He said they have a computer program running that looks for a decrease in the amount of electricity used. It doesn't even have to be a large decrease - a gradual long-term change will be picked up. When this happens, they will send a serviceman to look at the meter and see if it's been jumped. Also, they know how much energy an electric water heater uses, and if you have one and are using less than it requires, you're fucked. He said the only way to prevent the computer program from picking up the ripoff is to jump it as soon as electricity is brought into a new house. And, in light of what he said about the water heater, you may still get caught.

So be careful, Connecticut power phreax.

Agent 067

Fascinating, as Mr. Spock would say. And discouraging, eh? Almost enough to make a person honest. As energy gets more and more expensive, (and it WILL continue to, as conventional cheap sources are used up) suppliers will get more and more uptite about people ripping it off.

Americans wasted more fuel in 1975 than was used by two-thirds of the world's population. It's quite easy to reduce one's consumption of it, especially for water heaters, as you can see by this.

SOLAR HEATING PLAN OFFERED BY UTILITY

BOSTON, Sept. 6 (Reuters)—For \$200, a limited number of customers of the Massachusetts Electric Company are to be invited to have a solar heating device installed in their homes to heat water.

The company said Thursday that it planned to advertise for potential solar energy users in about two weeks.

Each of the 100 customers selected will get the solar heating units at a fraction of their cost, estimated by the company at \$1,000 to \$1,600.

The utility estimated that the use of solar energy would cut

the cost of operating a hot water system by about half—up to 75 per cent in the sunny summer months and 25 to 30 per cent in the cloudy winter season, when an electric boiler system will supplement the sun when needed.

Under the plan, special solar panels will be installed atop pipes through which water will circulate. The heated water then goes to a storage tank until it is needed.

William Cardigan, president of the utility, said, "We want to know how efficient solar energy is as a water heater, how much money it will save customers, and if the savings will offset the cost of equipment."

That "regular" price does look excessive, however. Anyone with enough skill to build a blue box should be able to build a solar heater for a reasonable amount. The May Popular Science featured an article about several simple, low priced, easily made units.

The only problem is that tax parasites may consider it an "improvement" and try to raise your property taxes. Don't let them! Yell, and write angry letters, and have demonstrations. It'll be worth it. Remember, you'll be reducing your dependence on the System.

Accessible hot water pipes should be insulated, or they'll act as radiators, even in the summer. And, of course, there's the old "Shower With a Friend" idea to save hot water.

If you're not already familiar with it, The Mother Earth News (\$10 per year from Box 70, Hendersonville, NC 28739) is a good source for info and ads about alternate sources of power.



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CLASSIFIED INFORMATION

One of our readers wrote in requesting info which may be classified. It's not available under the Freedom of Information Act, anyway. That didn't stop us, tho! We got it and sent it to him. If anyone else needs this info, it's available to anyone with a "need to know". We're not going to publish it, or even tell what the info is, because we think it's just as well that Big Brother doesn't know that we know. The point is, if you need info, one of our readers, or a member of the Advisable Missions Force, may be able to help. As I said a while ago, if you send money to my bank account in Zurich, I'll make a maximum, all-out effort.

You've been coming thru with most of the info we've been requesting. Sometimes we get only one reply, but that's enough. Sooner or later, we'll get those articles published. In the meantime, here are some more requests. IEM Selectric type balls - One of us has a new toy and is looking for a source of low priced new or used type balls, or "elements", as they're called.

Driver's license type styles - NY and many other states use unique type styles on their drivers licenses. We'd like to know more about them.

Tele-astad houses numbers - such as Ringo's, Verity, Pure Frequencies, etc. These are usually ---9999. We have some of them, we'd like them for all areas.

The Paper Trip - has already been described on "60 Minutes" and in the Reader's Digest (God! he's Reader's Digest!). When it gets to RD, you know it's common knowledge and the end may be near. Already there are rumors about increased difficulty in getting SS numbers. There is talk about National Identity Cards. "For our own good", of course. One of our Paper Trippers would like Xeroxes of birth certificates - from anywhere and everywhere in the U.S. You can blank out the name and address if you like before Xeroxing. If every TAP reader sent in one certificate, we'd have a pretty good assortment. Maybe a good way to get them would be to insist on a bc with each request.

GTE pay phone locks - these are simple pin tumbler locks. How many pins, mushroom pins, etc. Do not send locks to us!

Etched circuit board design for Red and Blue Boxes. Radio controlled traffic lights - some cities have them. (Eric, Pa. is one of them) We'd like to know more about them.

FEEDBACK ON BODY ARMOR

Sarco, 323 Union St., Sterling, NJ 07980 offers two vests. The larger one, with groin protector, weighs 2.5 lbs. and goes for \$10. The smaller one with no groin protector is \$24.50. These are Nylon vests and are presented as being able to stop a .45 bullet at 5 feet.

Keypad material is available from your friendly neighborhood sailmaker in a variety of colors. It's easy stuff to work with and must be either sewn by hand or with a HEAVY duty machine. Your Singer Zig-Zag will not handle it.

INFORMATION WANTED

I would like to obtain a dimensioned drawing or accurate sketch with dimensions for a Mark II Shen gun receiver. This is a nice little weapon and is designed to be made with a minimum of machinery. All the parts are available, except the receiver, from a number of surplus dealers, no special tools or license required. It's a real shame to see all that expensive hardware go to waste.

Agent XYZ

Ah, the Stern! Also known as the Sternch. I remember back in '57 or so, they were available for \$12.99 or so, with plugged barrels. Then some bastard wrote an article in the Saturday Evening Post about how easy it was to replace the barrel.

BLACK BOX BLUES by Tom Edison

I've been informed by some Connecticut and Tennessee readers that the Automatic Black Boxes (See Issue #39) are not working in their areas. The Black Box circuit has been taken down the world over and has had the Good Housekeeping Seal of Approval in it for years! There are three basic reasons why a Black Box will not work. First, the circuit may be either wired incorrectly due to carelessness or damaged due to plus poor soldering. Second, single every phone line is different and has its own idiosyncracies, special compensating circuits may have to be added to equalize the Black Box to your phone line. Third, if your phone exchange has answered and since a Black Box simulates a phone in the on-hook position when it's working, the audio circuits will not connect.

The easiest of these three problems to cure is the third. Just move out of the ESS exchange to one that's operated by Crossbar. If moving is out of the question, then I'm afraid that the Black Box will be nothing more than an academic study for you. Of course you could always complain to Bell but this ESS is killing your Black Box and ask to be serviced by Crossbar but you have about as much chance for that as you have for getting your phone rates reduced or your phone "service" improved!

Solid state devices such as zener diodes are very heat sensitive so you must be careful when soldering them. Use a heat sink when soldering the two diodes together and when soldering them to the two switches. Simply wrap a rubber band around the closed handle of a pair of long nose pliers. This will hold the large surface area of the pliers will help dissipate the heat of your soldering iron or gun. Use a good grade of solder such as 60-40 and a low wattage gun or iron about 25-40 watts. Be sure you know which ends of the diodes are the cathode and anode. Remember that in the Auto Black x the anodes of both diodes are soldered together and the cathode of the zener is connected to the + Ring line while the cathode of the other diode is connected to the - Tip line. Make sure of your phone line polarity before you solder the diodes into the circuit. If either diode is reversed or you connect the diodes to the wrong sides of your phone line the Black Box will not work!

The differences of every phone line can cause problems that can be solved by a little detective work. A multimeter is useful for obtaining clues needed to solve your Black Box problems. Although Pa Bell uses standard 48 volt batteries and 105 volt phone system are different due to the fact that the phones are located at various distances from the CO and due to the fact that the many varieties of phones available all have different characteristics themselves. Usually the further you are from the CO the lower the line voltage due to the larger DC resistance of the phone lines. By measuring the on-hook voltage you can determine if your phone line has a large or small resistance from the CO. You cannot use this method to determine if you are close to the CO and still have a low line voltage due to other factors such as poor terminal contacts but since the only thing that you really want to know is whether your line resistance is large or small, this method will do nicely.

Once you've determined if your phone line resistance is large or small, you're ready to perform the static testing of your Black Box. The standard value of resistance for a Black Box is 10 Kohms. If your line resistance is low and line voltage high, you might try a larger value of resistor such as 12 or 15 Kohms while if your line resistance is high and line voltage low, you might try a smaller value of resistor such as 8 or 9 Kohms. To make the static test switch off your Black Box and lift the receiver to your ear. You should hear normal dial tone. Now switch your Box on. You should hear 1-2 seconds of dial tone and then the line should clear and you should only hear the "white" or background noise. If it takes 3-5 seconds to clear the line it could mean that the CO relays aren't sure what to do and finally decide to lock in the "off" position. This could mean that your Box resistor is

too small and is allowing too much current to flow through the CO relays. Replace it with a larger one. The one problem with using a larger resistor is that it reduces the available current needed to operate the carbon microphone. This can be solved by using your own battery as shown in Issue #32.

The next circuit to check out is the ring stopper. Either the manual or zener diode method can be used but I prefer to have both methods available as a backup system. The manual ring stopper functions by momentarily shorting Ring current lasting long enough to stop the ringing but not long enough to start the billing. To run a static test of the ring stopper shut off your Box. Lift the receiver to your ear and then ear hit the ring stopper button for a few seconds and then release it. You should hear a short burst of dial tone and then the line should clear again. If this does not happen you have wired the circuit wrong. Recheck your wiring for any errors, correct them, and retest your ring stopper so that it does work.

To run a dynamic test have a friend call you locally from a pay phone. When your phone rings, switch your Box on and hit your ring stopper. After the ringing has stopped pick up your phone, talk to your friend for a few minutes, and then let Bill ring but you keep the receiver to your ear. If you hear a tone (or ring) it is returned and you do NOT get a new dial tone on the line, your Box is working correctly. If your friend on the line is KCFI returned and you get a new dial tone about 15-30 seconds after he's hung up, it means that one of two things has happened. Either you held down the ring stopper button too long and billing started or Pa Bell has got a using of a new Black Box folder! The reason you're testing with a pay phone is because if you use a home phone or your own ringer number, you'd stop the ringing but you wouldn't be able to tell if the billing was stopped or not. With the pay phone the returned dial tone you immediately that your Box is in good working condition.

To test the zener ring stopper have a friend repeat the above procedure. The zener ring stopper works very fast on the order of a few milliseconds, so there shouldn't be any worry about the CO billing relays being activated. The only problem aside from connecting them backwards and burning them up during soldering is that they can work too fast!

When your phone starts to ring, 105 volts 20 Hz is superimposed on the 48 volt DC line. During the first ringing cycle as the ringing voltage climbs to 56 volts, the zener quickly starts to conduct. As the ringing voltage gets larger, the zener conducts more and more until a sufficient amount flows through the ringing relay and disconnects the ringing generator at which time the line voltage goes back to its normal 48 volt level which then causes the zener to stop conducting. Remember, all of this takes place in a few milliseconds during the first ringing cycle. It is possible to have the zener fire so early during the first ringing cycle that it effectively shorts out the phone ringer so that it won't ring but doesn't conduct enough current to stop the ringing generator at the CO! To correct this problem use a zener diode that fires at a higher voltage level, say about 70 volts. This will cause the zener to fire later in the first ringing cycle and give a larger spike of current.

If you have difficulty locating the zener voltages and wattages that you need remember that zener voltages and wattages are additive. For example, two 28 volt 2 watt zener diodes are equivalent to one 56 volt 4 watt zener diode if they're soldered anode to cathode. In this way you can get any value of ring voltage and wattage that you need to experiment around until you find the correct values for your Black Box. Whatever value of voltage you finally decide on, be sure that the total wattage that they dissipate is at least 5 watts. This will prevent any burnout.

I've tried in this article to list the problems and give some useful solutions for the correct operation of a Black Box, which I personally feel is the greatest invention since pizza. With Bell's new C. I. S. system just around the corner, the time left for Black Boxing is getting smaller! Get the most out of your phone for free right now! I've done all that I can do. The rest is up to you. Good luck, have fun, and don't get caught!

LAST ODDS & ENDS!

by
TOM EDISON

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This is my last "Odds & Ends" column! I have been advised by my infamous colleagues, Al Bell and Mr. Phelps, that my column title is too dull. While I never claimed that my title was earth shattering, it did serve its purpose. My column is a potpourri of interesting and informative (I hope!) shit. I will, however, yield to the majority and rename my column next issue. If any of you readers would like to offer some suggestions for a new name for my column, please write to me c/o TAP. No smartasses need apply!

I was going to have an article on interconnecting CB radio after I had experimented with the CB rig that I was going to get this summer but because of the recent asinine ruling by the FCC that the 17 new CB channels would NOT be allowed to be added to all present 23 channel CB radios, I decided to wait until January 1977 when the new 40 channel CB rigs will be available. Not that it's going to do any good but you CB supporters might write the FCC and bitch about this stupid ruling. It certainly couldn't hurt!

The following new list of off-hook currents together with the two previous lists support my observation in "Black Box Blues" that even with standardized line voltage and switching equipment each individual phone line has its own operating characteristics. My personal thanks to the 23 readers who were kind enough to send in their off-hook currents. It's nice to know that there are some people who give a damn and want to help their fellow readers. Shame on the rest of you!

OFF-HOOK CURRENTS

Aldergrove, British Columbia 55 ma
Dolton, Ill. 28 ma
Hacienda Heights, Ca. 23 ma
Lafayette, Ind. 43 ma
New Haven, Conn. 50 ma
Pittsfield, Mass. 30 ma
Springfield, Mass. 58 ma

Sam and Charles, those notorious Litchfield Larcenists, sent me not only the N. Y. Times newsclip reprinted on the back page but also the name of an electronics company that's selling 56 volt zener diodes for \$ 1.25 each or 5/\$ 5. As they so correctly pointed out it's our duty to take care of those who take care of us and since this company was so considerate to offer a quantity discount for all us Black Box manufacturers I am only too glad to give them a plug:

I've had an inquiry from a reader asking me if there's any effective way to stall Pa Bell at your front door while you run around your house removing all your "goodies" from the phone line after the Security Dept. Goon Squad has made an unfriendly unannounced visit to catch you using your homemade equipment which has been detected by Bell's 3:00 AM snoop testing program, which is being paid for by us through higher phone rates! Yes, dear reader, there is a solution to this problem. All you need is a kid under 18 years old, preferably your own, but if you're single, separated, divorced, widowed, or gay you can always borrow your neighbor's kid. Have the little bastard go to the front door and tell the Bell Security Pigs that Mommy & Daddy aren't home. It is Bell policy not to allow their Security Agents to enter a home occupied only by a kid. This is due to the widespread rumor that all Bell Security Agents are perverted child molesters.

And speaking of perverted child molesters, welcome back to Canada, Scott!

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CORRECTION!

Don Harbolt, who we mentioned in #37, has been transferred. If you need help with those experimental electronic circuits, write him at Box PMB 30682, Atlanta, GA 30315.

8-2t

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HURRICANE BELL ?

From an Atlantic City phone booth, amid Monday's preparations for Hurricane Belle, Mayor Joseph Lazarow was broadcasting a public announcement over a local radio station when an operator said, "Deposit 10 cents for another three minutes." Mayor Lazarow tried to explain that he was giving urgent instructions concerning the storm. "Deposit another 10 cents, please," the operator persisted. Searching his pockets for a dime, the Mayor was cut off before he could find one.

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