

Issue #6

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CYBERPUNK

The Cyberpunk Technical Journal

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First Anniversary Issue!



those who choose it.

helping people control the lightning.

A people who mean to be their own governors must arm themselves with the power knowledge gives. -James Madison



Silence is the voice of complicity.



The pen is mightier than the sword.

Thoughts From The Interzone

Editorials and other information of note.

Welcome to Issue #6, Cybertek's First Anniversary Issue. We apologize for it being late, but we've been having problems with getting material for the 'zine. Researching and writing good quality articles takes time, and often I'm faced with a choice: put out a mediocre issue on schedule, or have a good issue come out a little bit late. Assuming you subscribers would like to get your money's worth I'd rather put out a good issue instead of a mediocre one. Add to this the fact that I'm also holding down a full time job which leaves me with little free time, and you can see how tight the situation is over here. Unfortunately, this is often the case with alternative press publications.

In order to keep coming out on our usual schedule I'm going to need your help in the form of articles, comments, information, artwork, and feedback. I'm sure there are those of you out there who are quite knowledgeable in some technological, survival or cyberpunk culture topic. Don't worry if you can't write, all you have to do is send us raw info and it'll be enough to make an article out of. And if you don't have any info, then please write us telling us what you'd like to see more of, or a topic that you'd like us to write about. Half the problem with doing article research over here is figuring out what you subscribers would like to read about. If you draw, find an interesting piece of artwork, or find a relevant article in a newspaper send it in. This issue is getting mailed out to over 100 people, and I know more people than that are reading it. If everyone sent in something, even if it's only once every few issues, then not only would Cybertek be out "on schedule", but it would also be a better publication as it would have something that it's lacking in, and that only it's subscribers can contribute, more diversity in style.

For those of you who are asking "What should I contribute?", just look at the magazine. We cover a wide range of technological, survival, cyberpunk culture, and political topics. There's an entire world of articles you can write on those three topics. In our back issues we went into some specifics. Look at those articles asking for material, and you'll get a whole bunch of ideas. And if you have something that wasn't listed, send it in anyway. We're not going to deride you if it doesn't fit our format, it might be something we're very interested in! We'll also accept operational equipment that we need to help us put out the magazine and expendable items like envelopes. Just please don't send us any stolen equipment or the like.

If I can just start getting some contributions and feedback from all you readers out there, everything will be great! Issues will come out on time, and will

be thick with all sorts of good interesting articles, comments, artwork, ideas, and information. If not then myself and the small circle of writers currently doing articles will continue doing what we are now. Cybertek will still come out, but because of our time limitations and the time it takes to put out a good issue, we will be unable to put out issues on a regular schedule. I hate to be so blunt, but the choice is in your hands.

-Thomas Icom, editor

On The New World Order

President Bush pulled a fast one on the American people during the Gulf Crisis. He used it to actively promote his concept of a "New World Order". Bush has yet to clearly define what he means, unless you accept his glib explanation- of-the-week as a definition. The truth is that a New World Order either requires or results in a One World Government.

Expect a Constitutional Convention to be called to sabotage the Bill of Rights. Bush has used school prayer, abortion, flag-burning, and a balanced budget goal as tricks to get one called so that he can amend the U.S. Constitution to fit his New World Order. And now Bush and Reagan are conspiring to shove us down the slippery slope of gun control and confiscation.

Expect whatever shreds of privacy you now have to vanish. Shreds that tenuously remain after privacy was savaged by Government and the credit bureaus during the 1980s.

Expect dissidents and individualists to be persecuted and rounded-up by Bush's Republican Guard. Under a New World Order, privacy, freedom, and independent thought can't be tolerated, only total obedience and slavery.

Neither Bush nor Reagan are conservatives. Both are internationalists with a thin veneer of conservatism added to get them elected.

- John J. Williams, president,
Consumertronics, Alamogordo, NM

DCL/Magnitude Adopts Logo

Some of you may have noticed the new logo on our front page. This logo was adopted March 1, 1991 on occasion of our first Anniversary. The logo is designed to be representative of the DCL/Magnitude mission. The Greek letter Omega, signifying "the end" and survival, acknowledges the past history of DCL/Magnitude when it was the special services

division of its now defunct parent organization, Omega Control Ltd. It also represents the survival education mission of **DCL/Magnitude**. The lightning bolt with sine waves symbolizes communications and technology. It is representative of our view that communication and getting the word out is a big part of improving things, our technological education mission and our motto "Helping people control the lightning." The arrow is a warriors symbol. It signifies readiness to fight and excellence in combat, yet it is point down, meaning that it is to be used as a last resort after peaceful means have failed.



Nosotros Somos Hermanos
by Benny Gillette

The San Diego area is great! (It's the gateway to T.J.!)...It draws me back more frequently with each visit. But this trip was destined to put me through more changes than a chameleon in heat - and allow me to learn more about Mexican "parameters"...

On this particular morning I was eating breakfast at a Chula Vista "Denny's", and this is a result of arising at 2pm... (a New Englander must have breakfast at all costs, well at any time)... but this time I had humble pie instead, and a big slice. The situation was such that I overheard a sales conversation between two gentlemen, one of which explained to me the facts of life, that I felt certain I already knew... - in Mexico.

This guy was selling Mexican realty, and my guess in large quantity... because he had to graduate from Harvard to do it, or so he sounded. But what I couldn't help listening to, was the part about his car being stolen. It turned out that it had happened months earlier, and he was personally conducting an ongoing investigation to get it back. This was unusual because he lived in a heavy security condo - the kind with a black belt doorman.

The American (North American) guy couldn't understand his obsession with this search; some of us might also see a measure of futility in this. But the bottom line was this he was obsessed with a principle issue against all odds, a cultural strength

that marks our Mexican brothers by more than just damned green card. The words he said at the bottom line were discreetly designed to help his American client discern the tale of two countries, and it went like this: "THE MEXICAN MAN WILL SCREW YOU RIGHT TO YOUR FACE, AND LAUGH WHILE HE'S DOING IT..."

...I pause here because he didn't need to complete by saying "don't turn your back on an American"... or anything else - I got the point, and knew it all too well. Actually, on that trip, I was to learn more about what he said than what he meant; it was my turn.

It has been my privilege to spend my trips to Mexico with the lesser fortunates: the majority Mexican. I haven't the faintest idea what Acapulco is like, or Cancun either. But Point Reyes, and Muir Woods P.town Cape Cod I have, and they're beautiful, and just as expensive. So be it. But I also know the inside of the Ensenada "Policia". I've had the Mexican blues, and best of all, the freedom of walking Revolution and Calle 3 at Zam (Tijuana of course) without a worry... try that in Bedford Sty. Anyway, this trip I had come to conclude the making the bit transition.. FER GOOD. (... and it is true, ya know - "there are some hills in Mexico where you can reach out and touch the stars" ...)

...I shall diverge here to tell what might just be the only thing I'm supposed to, some personalized do's and don'ts south of the border, and I shall gladly accept correction, question, reproof, subjugation, extenuation, mitigation, and abbreviation from any, and all sources. (Besides... divergence is the only appealing facet of my personality...) Therefore: by virtue and privilege of the very MAGNITUDE itself...The Do's.

*Do: reread your "People's Guide to Mexico" ...unless you don't want to go as a person; some seem to have that calling, not I. Besides, one thing you're bound to do, and that's meet real people. The book seems to offer realistic cautions. They've been there. They know.

*Do: bring a sack of quarters - of a dollar. I mean - the copper slug that pre-empted the adjustable tone dialer...(?) You need them. Cuz there are very few beggars in Mexico... most everybody that can, will be doing something for something. So you bring a bunch of them cuz quarters are still easily had if yer born in The USA; not so for many in Ensenada. You can get anything from your car washed at every corner, to gettin it found if you can't seem to find it yourself...(I hate it when I do that...) Perhaps this qualifies as a don't...But that time I was too wasted to find my way out of town: in any direction I so.

*Don't: do that; (wasn't a bit slick...

*But those kids interpreted my central Connecticut Espanol and led me to my car.... On other occasions (not quite so long ago either), quarters bought me a virtual guard of a virile young guy who genuinely "watched" my rented Gringo-Geo I know; I went back to check. There was 5K worth of computer equipment in the back seat, along with the rest of my worldly provisions everywhere else.

*Do: Learn sum-moe about that country. I think the MAGNITUDE would agree.... I attended a lecture at a local college near here: the speaker was the assistant to the Mexican Rep. to the U.N... Fantastic mind: what an education! I learned as much about the political structure of that country in two hours as I have ever heard. Our Connecticut delegation thought nothing of peppering him with heavy duty stufh either; example: "Do you wish to comment on the recent lateral appointment of a well-known drug-czar to the internal affairs of the president's personal advisors?" He slid by that one with a teflon tongue. Though notedly embarrassed by the question, that too worked in his favor... He adeptly disarmed his indictor with the words: "You are being kind by referring to him as a drug czer" ... with a brief nolle contenderat, he finished by making reference to the influence of other powerful national groups as being partly to blame... I'm not totally sure what the bottom line was there, but I am sure that there are certain areas of the south-east highlands that you just stay clear of. There is more than one protectorate guarding that area... I only have rumors on that one; but I don't go there. So my advice would be-

*Don't...go there!

*Do: Investigate any and all across the counter medications, whether prescription in U.S. or not. Many are made and distributed in Europe, and have been effective and legal for decades! Some of the following are fascinating.. Example: Pharmaton.

The pharmaton ingred is written on label in full, with abundant documentation.. It's one of the many "anti-aging" drugs marketed in Europe for years. AMA/FDA will typically never give it the DK. DMAE, dimethyl-aminoethanol... marketed in many countries as entrophenoquine... interesting effects: energy plus... is pharmaton's secret ingredient. (Swiss made)

Another neat one marketed in 86 countries under a variety of names, piracetam, the "smart" drug... it says that it enhances cognition and mental performance... most important, they listed two mail order houses in Europe that have published catalogs - INTERNATIONAL

PRODUCTS, BECSTRASSE 27 D-3000 HANDOVER 1, WEST GERMANY ... the other is interlab-sercoex, sa, via contronale 42, ch6948, porza-lugano, Switzerland... These are available in Mexico, but the name swapping is difficult. I.E., the latest wonder drug is called GLM... not at all cheap. Initials stand for (get this) Green Mussel Lips. For real. A clam dweller off coast of New Zealand. Couldn't afford it this trip, but haven't given up. Am awaiting response from pharmacist in TJ for a better price...

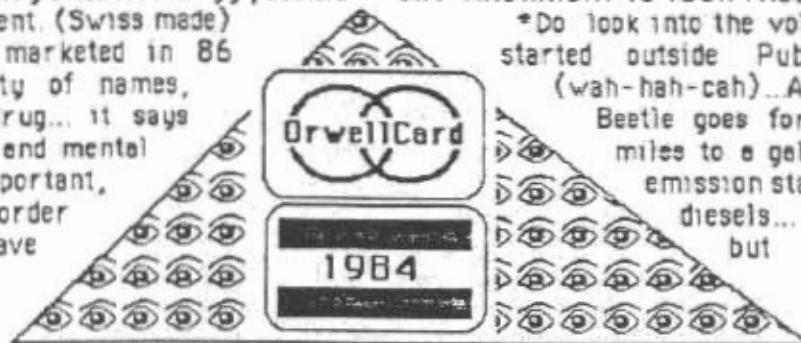
Plenty other worthwhile stufh: like Herbal sleep assist - Apies Valeriana... quite effective. The boticas have a supply of a remarkable variety of such, as in a well full... tabs of leafy variety.. For every imaginable ailment; all over the counter stufh. And many swear by it. Many are mfg. in Europe and imported - others like Rheumophan are made in ole Meheekoh... and I haven't the foggiest idea of the contents. My friendly pharmacist of DLux Botice could tell me only that it was typically and herbal anti-inflammatory... But California visitors buy it by the case..

Other stufh avail in USA only by script like lithium carbonate(...?). True, who needs it, but at nine bucks per hundred, how can I go wrong?... Triyclic-antidepressants, all the bunch more - all over counter.

***** But His Excellency, Mr. Salinas has done well in crackdown on amphet., downers, most opiates, etc. It's become quite dangerous to carry such things.

It can mean doing some real hard time. Very few Federales take payoffs.. They are tough, arrogant, but all things considered - quite fair. They may tear your car apart looking for coke, but if they don't find it, they'll put it back together and spit shine everything they touched.. Most cops I've run into are tolerant and helpful, but careful... The ones that are bad will "screw you to your face, and laugh while they're doing it"... Example: don't sleep on the beach south of rosarito... some bad hombres in uniform.. they'll play a game with you all night long to wear you down; then take as much cash (cash only) and leave you enough to get back across the border.. Slick, eh? AND..RIGHT TO YOUR FACE!

*Do look into the volkswagen business that started outside Puebla and in Oxalaca (wah-hah-cah)... A vintage early 80's Beetle goes for 5K...even. Gets 50 miles to a gallon. Doesn't pass U.S. emission standards, but neither do diesels... The VW bus is same but 6K...mint, off the



Big brother is watching you

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line. With very little ingenuity one can cross the TJ border. Only problem is they are all cream white. Rather obvious to customs. But in Ensenada you can get a nice lusty red, with air brush touch ups for 100. PS. offer him no less than 150...They do fantastic work. Just slap in some matching curtains and pull a Han Solo on a Sunday night. (leather seats, eh?)

*Do: be careful; scope it out. Things change...

...Which reminds me: here beginneth a brief rant and some accompanying rave...I did some heavy duty visiting of the manquila belt (sp?) whilst I was there on last visit (to wit a gigantic span of industrialized North Mexico - from Mexicali / Tecate to Tijuana - massive international corps. - building every manner of hi-tech stufh for the big boys, ie. IBM, Mitsubishi, Hewlett Packard, Seimens, Texas Instruments (which was never really Texas Instruments once every chip says made in Mexico on its little belly...) all of that was alleged to have been a serious hope to Mexican people as regards some decent income.

The result...bulloney...(1) I knocked on doors of super jep - giants that I couldn't even pronounce and it was same ole crapp. The Mexican people do all the work, and they never get to market the products. There was on Japanese corp south of TJ where they produce massive amounts of l.c.d. monitors, for who knows?... (high resolution stufh too, like hercules and newer mac (is) but the only way I could get a look at it was by knowing somebody on the inside. Needless to say - you can't buy those items in Mexico. They're shipped straight back to their wealthy owners... It stinques! ..I love Mexicans. I hate to see them get ripped of en masse.

*Do check this out. Try to get an in. Many TJ small business owners have a mailing address in San Ysidro... Some are willing to look around..

Like I said, I love Mexico. I love Mexicans. Hope you will too.. It's a nice place to visit and a hell of a place to live.. Besides; I never reached out and touched the stars anywhere else!

Don't forget to say NOSDSTROS SOMOS HERMANDS!

Benny Gillette can be reached for comment @:
Cybertek Magazine
P.O. Box 64
Brewster, NY 10509
ATTN! Benny Gillette

Benny Gillette is the handle of one of Cybertek's newest writers. Besides extensive travel experience South of the border, he is also an expert in alternative medicine and medical practice.



The Radio Shack Reality, Revisited by Thomas Icom

Some time ago **Captain Zap**, a well known hacker/security consultant, wrote an excellent paper which appeared in a couple data security periodicals. It was entitled "**Electronic Deception Interception & Terrorism, the Radio Shack Reality**". (It's also reprinted in **By an Order of the Magnitude**, and available on many BBSes, including **Manta's lair**.) The paper was about how certain common pieces of electronic equipment from **Radio Shack** can go a long way in getting together a covert operations equipment set-up.

Not long after this paper was put out on the hacker boards a lot of people were asking questions about just what was available from **Radio Shack**. In response I wrote a text-file entitled "**The Radio Shack Reality, a Consumer's Guide**"; which discussed operational uses of specific **Radio Shack** merchandise. This was a couple of years ago, and although **Radio Shack** is still a good source for operational equipment, there have been some changes in the product line up. Some rather useful pieces of equipment have been discontinued; among them their FM receiver & touch-tone decoder ICs, Automatic Call Forwarder, and Phone Accounting Device/DNR. **Radio Shack**, however, still sells some interesting stuff.

CAUTION!

Conducting surveillance without the target's consent or a court order, and the mere possession of surveillance devices is considered illegal under the Omnibus Crime Act. Listening in to certain wireless telecom transmissions is illegal under the Electronic Communications Privacy Act. Unlicensed radio transmitting on certain frequencies is often illegal too. Preparing to keep this country from turning into a dictatorship isn't illegal yet, but they're working on it. As always, this info is for educational purposes only under the still-existent-the-last-time-I-checked First Amendment of The United States Constitution. Don't break the law, Big Brother hates competition.

Classic Surveillance

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This country, with its institutions, belongs to the people who inhabit it. Whenever they shall grow weary of the existing government, they can exercise their constitutional right of amending it, or their revolutionary right to dismember, or overthrow it. -Abraham Lincoln

R.S. still sells some pieces of classic surveillance equipment. They are the **43-228 Telephone Recording Control**, and the **33-1076 FM Wireless Microphone**. At \$20 apiece, they're the least expensive buys in the surveillance business. The stuff works, and does a good job for \$20...

The Telephone Recording Control works on a voltage drop system in which the recorder is turned on when the line goes off hook and the resulting voltage drop occurs. This system is very easy to detect and defeat, but if the person under surveillance has no technical telecom knowledge then it's conceivable that it would go undetected.

The Wireless Microphone operates in the 88-108 Mhz. FM Broadcast Band. It's advertised range is 250 feet outdoors. It can be modified to work off of a phone line. Replace the microphone with the circuit in **Cybertek #3**; Page 2, and attach the circuit's output to where the microphone was. The main problem with this unit is that the battery life is short. I'm sure that anyone knowledgeable in electronics could fix that though. It's operation in the FM Broadcast Band does make it easier to detect than some other frequencies, but by operating it next to a commercial frequency, security can be increased, as it will tend to get lost during some of the simpler counter-surveillance sweeps.

For those of you looking for something a little "better". R.S. has some other wireless microphone systems. Their higher priced systems, used for camcorders and PA systems, operate in the 49Mhz. band. The sound quality and range is great, and they can be picked up by all the people in your area of operations with kiddie walkie-talkies, hands-free VOX communicators, and cordless phones. They are also crystal controlled which means great stability for the transmitter and receiver, but hell on earth if its frequency is being occupied by another user of the VHF-Low Garbage Band. If you want some decent quality stuff in the \$70 price range, get the parts and build a unit from one of the schematics in the **Markus Electronic Circuit Reference Book**, or **Big Brother Game** by Scott French (highly recommended reading by the way).

Topping off your collection of classic surveillance equipment is a tape recorder. R.S. has several VOX (Voice Operated) cassette recorders. While they won't stand up to a Neagra, they don't cost \$1000's either. Their standard sized cassette recorders seem to have better quality sound than their mini-cassette recorders, but aren't as concealable. The choice is yours.

While your at it, plunk down an extra \$20-\$30 and get one of their ultra-mini microphones, like their **33-1052** or **33-1063**. Their **33-1090 PZM (TM) Microphone** also seems to have some potential. I've heard rumors of it being great for "contact" (picking up sound from solid objects as in through walls, attached to an outside window, etc.) applications. If you're into build-it-yourself, and are really strapped for cash, you can pick up an electret mic element for \$3 (**270-092**).

Scanners

For those of you unfamiliar with what a "scanner" is, a scanner is a VHF/UHF radio receiver with a 10 to in some cases 1000 frequency memory. It's main feature is that it constantly steps through the frequencies you program into its memories looking for activity on them. Certain higher-quality scanners also have a "search" feature in which it will scan a frequency range as opposed to the frequencies in memory. This is used for counter-surveillance and signals intelligence (SIGINT) operations (finding new frequencies which aren't published or commonly known). As you can see from the activity a scanner can pick up; it's a powerful surveillance, counter-surveillance, and intelligence/news gathering tool. The frequencies a scanner can receive cover such activity as:

- Police, disaster relief and other emergency services
- Press relays from reporters to newspapers and radio/TV stations
- Government communications
- Surveillance devices and operations
- "Tactical" communications
- Weather reports
- Mobile, cellular, and cordless phone communications

R.S. sells several good scanners. Their top of the line model is their **PRO-2006**. It has 400 channel memory, search feature, and covers 25-520 Mhz. & 760-1300 Mhz. This is one of the widest frequency coverages available in a scanner. The cellular phone bands of 823-851 Mhz. & 868-896 Mhz. have been cut out, but a simple modification to the scanner

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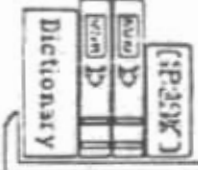
restores them. There is also a way to increase its memory to 6400 channels. It can also run on 12V DC for portable operations. If you want a top of the line handheld get their **PRO-34**. This unit has 200 channels, search feature, and covers 30-54 Mhz., 108-174 Mhz., 380-512 Mhz., & 806-960 Mhz. While its frequency coverage isn't as great as the PRO-2006, it still covers all the critical ranges, and fits in your hand.

R.S. also sells some accessories for your scanner. It's a good idea to pick up a copy of **Police Call**, their public safety frequency directory. Besides containing all the police, fire, ambulance, emergency service, highway department, aircraft, and government frequencies for your area; it also has a frequency allocation guide to help you in identifying unknown frequencies. They also have external and higher gain antennas for better coverage. Their best antennas are their **20-013 25-1300 Mhz. Disc Antenna**, **20-012 Magnet Mount Mobile Antenna**, and their **20-006 & 20-008 Telescoping Whip Antennas** for their handheld scanners. For even better performance, use one of their directional TV antennas.

Pirate Television

Pirate TV is the ultimate way of getting the word out. As they say, "A picture is worth a thousand words". Psychological warfare is an important aspect of any type of guerilla operation.

R.S. has some excellent pieces of equipment that will serve as expedient pirate TV transmitters. The first is their **15-1273 Video/Computer RF Modulator**. Just attach your video input and antenna, and you're ready to go on channels 3 or 4. The second is their **15-1290 Video Distribution System** which transmits on the UHF TV band. With both of these units you can expect a 1 to 5 mile range.



For Your Information

Any citizen who doesn't wish to have his or her rights violated should become a predatory mix of lawyer and journalist. Everyone should have at least a working knowledge of the laws, and carry means to document evidence in the event an attempted rights violation is committed against them. When you start doing these things, you'll be surprised how quickly they leave you alone, and start respecting your rights or a change. -The Omega Man

Communications

For your basic comms needs R.S. sells CB.s which despite being on crowded channels and offering little to no security, do work. With a good base station antenna you can get a 20+ mile range. Also, since everyone has a C.B. you won't have any problems with comms compatibility should you have to talk with an outside group. You can always use a code system if you don't want anyone to know what you're talking about. Your best bet is to get ahold of CBs that use Single Side Band (SSB) transmission in addition to the standard AM. SSB units put out more power. For a little more privacy, use crystal controlled handhelds, and switch the positions of the receive and transmit crystals. This will make the units slightly off frequency so you won't be picked up by a regular CB.

R.S. also sells 49 Mhz. Walkie Talkies. These units use FM transmission for greater clarity than CBs, and have a range of 1/4 to 1/2 mile. They are great for short-range tactical communications. Some units have VDX headsets for hands-free operations.

For those of you wanting greater comms capability, R.S. sells a 10 meter SSB Ham Radio, and VHF Marine Band FM Radios. The 10 meter rig will go around the world, and the Marine Band rigs are comparable to VHF high band public safety & business radios. The mobile/base unit puts out 25 watts and will go 20-50 miles with total reliability.

The drawback is that you need the proper licenses to operate this equipment, and the Marine Band stuff is for boating use only. I would also stay away from using the marine band equipment for any type of non-marine related comms unless you were at least 100 miles away from the coast or any large body of water. Provided you have the license, the ham rig would be ok for tactical comms provided you followed the applicable FCC regulations, i.e. no profanity, no business comms, no coded transmissions, and idling properly, however you will get noticed by curious hams who will know who you are by your call sign.

There are also two pieces of home electronics which work well as short-range expedient comms gear, they are cordless phones and "wireless baby monitors". Cordless phones are also good for remote control as they have a touch-tone encoder built into the remote unit. Two wireless baby monitors on different frequencies make a great hands-free, full-duplex, comms system with no need for an equipment operator as they have sensitive enough mics to pick up any sound in the room, or room next to it.

Security

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R.S. is still the leader in security electronics and accessories, selling everything from sensors to control panels, to some rather useful stand alone units. Their security stuff is also pretty useful for applications that while not readily useful or needed now, would be invaluable when "The New World Order" comes around and those in control decide to implement their version of the final solution on those that don't agree with their views. (Kinda like what's going on now, but worse.) One should keep a large stock of alarm system components of all types. Particularly now because some financial institution's C.E.O. is going to read this, and have his frat brother down in DC ben burglar alarms and electronic components for some asinine reason; just like everything else.

For the do it yourselfer the **Engineers' Mini Notebooks** have a wealth of info for homebrew security systems. There are certain security components you should always keep in your tech kit: the mercury switch (275-027), concealed magnetic switch (49-496), vibration detector (49-521), and glass breakage detector (49-516). In addition you should also have some 741 and 555 chips, CdS Photocells (light sensor), relays, switching transistors, and some thin wire or fishing line for making homebrewed alarm systems. There are two stand-alone security devices which are very useful for a number of applications. One is the Motion-Sensing Alarm (49-419). It emits a nice loud tone when it is moved, and has a velcro strip for easy attachment to the object you wish to protect. The other is the Drawer/Cabinet Alarm (49-615) which features a visible light detector. As with a lot of R.S. products their design is readily adaptable to modifications. If you're looking for something quick, easy, and inexpensive to secure an area, one of these two should do the trick.

Timers

For those of you into do-it-yourself keep some 555, 556, and LS7210 chips in your kit. (All available from R.S. of course.) The 555 (single timer) and 556 (dual timer) are standard multi function ICs which all electronic buffs are familiar with. They are very versatile; having many other applications besides being used for timers. The LS7210 is an IC designed specifically as long-delay timer with a range from 6 milliseconds to infinity. It's very easy to work with, requiring a minimum of support components.

R.S. also has several assembled timers which can be wired with a transistor switch to activate external applications/devices. Their top of the line model is their 63-883 (\$14.95) with a maximum time of 24

hours. They also have less expensive models with 100 and 15 delays. Personally, I would rather spend \$4.99 and build one from scratch with the LS7210.

For short-term applications one can also wire a transistor switch to any digital watch with an alarm function. There is some difficulty involved with this due to the small size of the watch's circuitry, but if all you need is a less than 24 hour delay, and don't have anything else available...

If you have access to constant 120VAC and need a short term delay, don't discount the mechanical light timers that are available at any department store (as well as R.S. (63-862)). They work. If the device doesn't run on 120 then get a 120V coil relay (275-217 is o.k.) and an AC line cord. Attach the line cord to the relay's coil and put the relay's switch between the device and it's power source.

Remote Control

The discontinuing of R.S.'s R/C module & Touch Tone encoder & decoder ICs, left a lot to be desired in the realm of remote control devices. However, one can still dismantle their R/C toy cars for usable circuitry, and they still sell infra red LEDs and photodetectors which can be used for short range work. As stated before a cordless phone handset with touch-tone can be used for R/C. All that would be required is a receiver with a touch-tone decoder on the audio output. If the area has a phone line, you can take their Phone Flasher module and activate a device by calling in. Remember though that any incoming call would do it, not necessarily yours. What would be even better is to hook that up to a relay which would throw a tone decoder onto the phone line to activate a device.

One neat discontinued thing that still appears in most R.S. stores is the VCP200 Voice Recognition IC. This has good R/C potential both by itself and with radio, phone, an lightwave voice systems. It also



If you value your freedom and rights, you won't like the "New World Order" either.

Choose freedom
No "New World Order"!

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doesn't require any type of encoder besides your voice. It offers several commands, each of which could be used for a different device/function. If your local R.S. still has any left, get them.

Only The Beginning

That was just an overview of a few types of operational equipment available at one specific retail establishment. There are other things available at Radio Shack to satisfy other operational needs. (Such as the C.I.A. wonder chemical that's used to make envelopes transparent and then evaporates without a trace. Radio Shack calls it cleaner/degreaser. The Cat# is 64-2322) There are also other places besides Radio Shack that you should check out; hardware stores, hobby shops, and garage sales/flea markets to name a few. Make it a habit to try and figure out alternate and field expedient uses for interesting stuff you run into. If anyone is interested in more info please write us or leave a message on the BBS.

List of Applications for Herbal Medicines

ACNE - Chaparral, Sassafras, Dandelion and Valerian
AFTER PAIN (Childbirth) - St Johnswort, Rosemary and Black Cohosh
AGING - Ginseng, Gotu Kola, Sarsaparilla, Dandelion
ANEMIA - Cayenne, Dandelion, Comfrey, Barberry Bark
ARTHRITIS - Chaparral, Yucca, Aloe Vera, Alfalfa, Black Cohosh, Valerian
ASTHMA - Capsicum, Dandelion, Mistletoe, Chamomile, Hyssop, Lungwort
BLADDER - Chamomile, Golden Seal, Sassafras, Dandelion
BLOOD PURIFIER - Cayenne, Chaparral, Dandelion, Comfrey
BOILS - Chaparral, Sassafras, Ginger, Chickweed
BOWELS - Comfrey Root, Golden Seal, Dandelion, Chickweed
CANKER SORES - Golden Seal, Myrrh, Burdock, Aloe Vera
CIRCULATION - Capsicum, Mistletoe, Chickweed, Golden Seal
CLEANSING - Sarsaparilla, Chickweed, Golden Seal
COLDS - Comfrey, Golden Seal, Licorice, Valerian Root
COLIC - Catnip, Sassafras, Ginger, Valerian Root, Wood Betony
CONSTIPATION - Ginseng, Golden Seal, Chickweed, Flaxseed
COUGHS - Licorice, Comfrey Root, Ginseng, Lobelia, Black Cohosh

CRAMPS (Leg) - Chaparral, Alfalfa, Dandelion, Chamomile
CRAMPS (Stomach) - Sassafras, Thyme, Ginger, Wood Betony, Capsicum
DIABETES - Golden Seal, Uva Ursi, Dandelion, Chickweed, Capsicum, Kelp
DIARRHEA - Barberry Bark, Slippery Elm, Thyme, St. Johnswort
DIGESTIVE AID - Foenugreek, Ginger, Lobelia, Peppermint
DIURETIC - Uva Ursa, Dandelion, Juniper Berries
EAR INFECTION - Yellow Dock, Lobelia, Hops, Aloe Vera
ENDURANCE - Ginseng, Dandelion, Yellow Dock, Bee Pollen
ENERGY - Ginseng, Capsicum, Bee Pollen
FATIGUE (Mental) - Gotu Kola, Comfrey, Ginseng, Dandelion, Fo-Ti-Teng
FEMALE COMPLAINTS - Black Cohosh, Rosemary, St. Johnswort, Uva Ursi, Damiana
FEVER - Foenugreek, Garlic, Golden Seal, Catnip, Thyme
FLU - Golden Seal, Ginger, Slippery Elm
GALL BLADDER - Golden Seal, Dandelion, Mistletoe, Yellow Dock
GAS PAINS - Catnip, Sassafras, Valerian Root, Ginger, Thyme
HANGOVER - Capsicum, Wood Betony, Scullcap, Valerian Root
HEADACHE - Wood Betony, Ginger, Catnip, Chamomile, Thyme
HEART - Mistletoe, Wood Betony, Capsicum, Golden Seal
HEARTBURN - Wood Betony, Catnip, Sarsaparilla, Thyme, Valerian
HIGH BLOOD PRESSURE - Cayenne, Garlic, Gotu Kola, Kelp, Black Cohosh
HYPOGLYCEMIA - Licorice Root, Kelp, Buchu
INDIGESTION - Catnip, Ginger Root, Wood Betony, Capsicum, Golden Seal
INFECTION - Cayenne, Golden Seal
IMPOTENCE - Damiana, Ginseng, Licorice, Chickweed
INSOMNIA - Chamomile, Hops, Passion Flower
JAUNDICE - Barberry Bark or Root, Dandelion, St. Johnswort, Chamomile
KIDNEYS - Capsicum, Golden Seal, Chaparral, Comfrey Root
LIVER - Uva Ursi, Dandelion, Yellow Dock, Blue Cohosh, Hops, Celery Seed
LOW BLOOD PRESSURE - Dandelion
LUNGS - Foenugreek and Thyme, Chickweed, Comfrey with Foenugreek, Ginseng
MENOPAUSE - Black Cohosh, Rosemary, Mistletoe
NASAL PASSAGES - Comfrey with Foenugreek, Golden Seal

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NAUSEA (Morning Sickness) - Golden Seal, Ginger, Catnip
NERVOUS TENSION - Hops, Mistletoe, Passion Flower, Chamomile
OBESITY - Chickweed, Golden Seal, Uva Ursi, Sassafras
PAIN - Scullcap, Hops, Comfrey, Valerian, Catnip
PANCREAS - Golden Seal, Uva Ursi, Dandelion
POLTICE - Slipery Elm, Comfrey, Chickweed
PROSTATE - Ginseng, Kelp, Cayenne, Golden Seal
PSORIASIS - Sarsaparilla, Dandelion, Chickweed
RESPIRATORY - Comfrey, Foenugreek, Saw Palmetto
RHEUMATISM - Ginseng, Capsicum, Black Cohosh, Scullcap, Sarsaparilla
SEX STIMULANT - Damiana, Slippery Elm, Licorice, Ginseng
SINUS - Golden Seal, Cayenne
SORE THROAT - Ginger, Golden Seal, Licorice, Comfrey with Foenugreek, Capsicum
SPLEEN - Chamomile, Uva Ursi, Dandelion, Yellow Dock, Golden Seal
THYROID - Scullcap, Black Cohosh, Kelp
TONIC - Chamomile, Licorice, Mistletoe, Dandelion
ULCERS - Aloe Vera, Valerian Root, Capsicum, Juice from Red Potatoes
VITALITY - Ginseng, Gotu Kola, Licorice
VOICE - Licorice Root
WORMS - Blessed Thistle Herb, Chamomile, Slippery Elm, Wood Betony, Garlic

NOTE: Judging from what I and a few others know about herbal medicine, this list looks o.k., but be careful anyway. While these herbs are beneficial in effect, some may be toxic in certain quantities just like commercial medications. As with everything else you put into your body, exercise caution.

The Truth About Caller ID

by Thomas Icom

I just received something in the mail today from a company called **Private Lines, Inc.** These are the people who run **1-900-STOPPER**, the service that allegedly allows you to make phone calls without your number showing up on Caller ID systems for a rip-off price of \$2 a minute! Looking at their literature, I find out that this little "service", if it could be called that, was founded by a California lawyer. All I can say is "it figures". Meanwhile, those assholes at the ACLU keep screaming about how bad and evil Caller ID is, and how it either shouldn't be implemented, or implemented with restrictions to "protect everybody". To make things even worse, a great deal of what you're hearing about this new Telco feature from the media is blatantly false! Well folks,

I've had all I can stand with this bullshit about Caller ID! Time for an article! And unlike those rip-off artists in California, the means I'm going to give you to defeat it won't cost you \$2 a minute!

For those of you who aren't familiar with it, Caller ID is one of the many names for a service, which upon receiving an incoming call at your phone number, displays the phone number of the person calling you on an electronic device you must purchase. The Caller ID box costs about \$80-\$100, and the service is about \$5 a month. Before it was available to the common person, it was known as CLID (Calling Line ID), and ANI (Automatic Number ID). In fact, Caller ID has been around since the 1960s. Besides telco, it was also available to the government, and large businesses/corporations. All one had to do was request a trunk line. Since this entailed getting a lot of phone lines and a tremendous expense, it was only available to people who had lots of money to spend on phone systems. It was only very recently the BOCs (Bell Operating Companies/local phone service providers) decided to make it available to everybody.

To simply explain how CallerID works, when you make a phone call, the phone company sends not only the phone number you're calling over the trunk, but also the number you're calling from. Unless you were calling someone who had an entire trunk installed, this data was discarded when it reached the exchange you dialed. Now, under CallerID, it is forwarded to the customer, who then knows who's calling him before he picks up his phone.

Caller ID, in my opinion, is probably one of the best services offered by a BOC. All the talk about it being a "violation of privacy" is utter crap because the people who really violate your privacy, that is, big business and the government, have had their own version of CallerID for years, and will be able to know your number whether or not it's unlisted or not.

Even those "anonymous tip", and "suicide hotline" numbers have the capability to know where you're calling from since they are run by the government and getting CLID installed is a standard procedure. And if you think some judge's ruling (Who is a GOVERNMENT EMPLOYEE!) is going to stop the government and big business from having a capability they've had for the past 25 years; you need to reexamine your reality picture. In short, the only people who would benefit from CallerID not being implemented are crank/obscene phone callers, and big businesses who make obnoxious solicitation calls at odd hours. CallerID will finally give regular citizens the same capability that the government and big businesses have had for the past 25 years. Think of the saved hassles from solicitation and crank calls (often one in the same in my opinion). If some

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WANTED:

The Cyberpunk Technical Journal is looking for articles on CallerID projects. We're very interested in how to build your own CallerID box, and interfacing a CallerID box to a personal computer. Send in a unique CallerID project, and you'll receive a free 1 year subscription, or 1 year extension to your subscription.

esshole calls you at 9PM because they want to sell you something, or because your check is a day late, you can finally start to have the means to deal with it!

Now that I've vented my spleen about CallerID, I'm going to give out the means to defeat it. This way, should you have to make a phone call and not want it traced to you, you can do so and not have to pay some California lawyer \$2 a minute to do it. And the big secret is.....use a phone that isn't traceable to you.

Really earth shattering, isn't it? There are several ways you can do this. The first is to use a payphone. Spontaneous payphone usage is as untraceable as you can get. You can also go canning, take your handy butt-set or one piece phone with alligator clips down to the local neighborhood distribution box and make your call. Another really neat thing to do is to wire in a cordless phone to your local distribution box. Just attach alligator clips to the red and green wires, put a proper voltage, high-amperage (for long usage) battery in place of your power supply, and attach it to a convenient cable pair. Just be careful as cordless phones are anything but secure. You could also run your own feeder line off of a convenient nearby cable pair, or in the same vein "spare pair scam" your way from the local distribution feeder over to your residence. Remember though that the wires will lead them to you should they decide to physically inspect the outside cable plant in your area. You can also install an out-dial cheesebox in an area away from you. (Although make sure that the number you're calling into doesn't have CallerID!)

As you see, CallerID isn't all too hard to beat. Although I think that CallerID is a good thing, there exists an obvious imbalance when big businesses & the government have it with no restrictions, and us regular citizens do not.

I also think it's a falacy of justice when the entities who've had it for the past 25 years have constantly used it against the people, and now the ACLU (American Corporate Liberties Union) and asshole judges decide we can't have it when telco's finally decided to make it available to everybody. The threat here isn't from people having CallerID, it's from the establishment having CallerID and us not.

A wise man (Jesus Christ actually) once said,

"You shall know the truth, and the truth shall set you free." Well, the truth is now out.

Some Interesting Things

(reviews of books, businesses, and other such)
by **Cybertek Staff**

DOT P 5800.5 Emergency Response Guidebook, is published by the U.S. Department of Transportation and is intended as an aid for emergency response personnel in identifying hazardous materials and responding to hazmat incidents. It contains some very useful info, and is a must for any library. For more info call **1-800-PLANFOR**.

Rescue Systems Inc., Rt. 2 Box RS1, Little Hocking, OH 45742 sells all sorts of tactical rappelling gear. Their #'s are **800-552-1133** (orders) and **614-989-2860**.

*** EDITOR'S CHOICE ***: Those of you living in the New York Metro Area who like to read must absolutely check out the **Grace Community Church "Bookstore"** on Main St in White Plains, NY; across the street and down the road a little from the Galleria Mall. These people have a very good selection of used books, and what's even better is that it's all free. (Although they do ask for a donation and I recommend giving them one if you take some books.) I made an incredible haul the last time I was there; about 40 pounds of texts on medicine, psychology, gov't reports, science fiction, etc. All it "cost" me was a \$2 donation. The people are also very nice, and the donations go to a charity which has done quite a bit of good in their community.

NAUGA HYDE - Not an Amigo User's Group: A pretty good newsletter which contains useful stuff for Amigo Owners. To get a copy send an S.A.S.E. to: **James Barnett, 28 North Avenue, New Rochelle, NY 10805**.

Renegade Graphix - These folks put out some of the coolest looking T-Shirts and Hats in the Underground. According to their advertising "A portion of all proceeds goes towards short-circuiting the control process." That alone would have me recommend you buy several of their products, so the fact that they make good quality stuff at reasonable prices definitely means you should check these folks out. They can be reached at **928 Lovell St., Kalamazoo, MI 49007**. Phone # **616-344-7447**.

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Letters

Dear Cybertek:

I received issue #5, and think it is your best issue so far. Your garage-door opener circuit is a dyn-o-mite application. And so is your cheesebox circuit. Your proximity switch on P. 10 appears to be a nice circuit for a field strength meter also. The use of a relay is questionable because its sound might alert the trespasser that he has been detected. Your Touch Switch on P. 9 has two major errors in it. First, there should be a zener diode across the HEP51 from collector to the Vcc to prevent inductance kick from zapping the transistor (you've got the same flaw in the proximity switch esign). At a minimum, a rectifier should be placed across the relay coil (anode connected to ground). Second, the 10 uf cap. should be on the other side of the 470 ohm resistor. Where it is will jeopardize the HEP50 every time it switches on as the charged cap. will dump thru it to ground.

Thank you for your time and attention. Take care.
-John J. Williams, Consumertronics

Thanks for the complements and corrections info. The thought about the relay making noise is very applicable to security situations, and something that system designers should keep in mind. -ICM

If you have something you'd like to ask us, or a comment/correction on our articles; we'd like to hear from you, and would greatly appreciate the feedback. You can write us @:

Cybertek
P.O. Box 64
Brewster, NY 10509
ATTN! Feedback

Digital Voice and Multiplexing

The integration of voice into data networks brings together two technologies that have in the past been treated separately: data communications and telephony. To better understand the technical terms and how the two work together, it is best to start with the older of the two, telephony, to see how both data and voice communications are really based on the same facilities.

In the beginning, Mr. Bell's invention was strictly an analog device based on continuously variable signal strength. It operated on a direct current that flowed in a single continuous loops through the instruments on both ends of the conversation. The local loop at each end, then, was indeed a loop, formed from the two wires in the famous twisted pair

Originally the entire phone system, which was limited to local calls, was based on continuous copper wire - one pair for each customer. As phones became more common, the number of wires increased dramatically. Pictures of the 1880s in practically any US city show the result: poles draped in hundreds of wires on every street. Early in this century the practical limit was reached: there was no more room for wires.

Frequency Division Multiplexing (FDM) provided an initial solution. The phone company found that a twisted pair could carry far more than the limited range of frequencies of a single voice channel. With periodic amplification, a common circuit could transmit more than 100 kHz.

In a series of tradeoffs, mainly bandwidth versus distance between repeaters, the standards were set to work with then-current vacuum tube technology: one voice channel would take a maximum of 4 kHz bandwidth; and a multiplexing factor of 24 to 1 was established to carry 24 conversations over a single 96 kHz analog signal. The signal was carried on copper wires and had to be amplified periodically.

It is the nature of electrical circuits to pick up noise. Signals fade between amplifiers but, unfortunately, the noise is fairly constant throughout the circuit. Thus, each amplification of the signal also amplifies the noise and increases the noise in proportion to the voice signal. Eventually, enough amplifications will make the noise greater than the original voice signal, making conversations hard to understand.

With analog signals, each conversation has to be switched individually. That is, if multiplexed, a conversation must be demultiplexed to be switched, and then possibly multiplexed again from transmission to the next central office.

The development of digital signal processing promised distinct advantages. Channels could be switched in the multiplexed form, without demultiplexing the entire group of channels. And control and billing information could be handled much more easily by digital computers than by their analog counterparts. Most important to the caller, the quality of digital signals holds up through repeated amplification.

The nature of the digital signal is that it has discrete levels: 0, +1, -1, or some small number of fixed values. The difference between these levels is set to be much greater than the anticipated common noise on the circuit. The advantage of digital in regard to noise arises because digital signals are not, strictly speaking amplified: they are regenerated. The digital repeater looks at the incoming signal which is the original signal, diminished by distance, plus noise. This signal most probably won't be at one

of the discrete levels (+1, 0, etc), but by comparing the signal to preset thresholds the repeater will decide which level it should be. That is the level which is sent from the output side of the repeater.

The digital transmission process therefore eliminated the effect of moderate amounts of noise. Only if the noise is so great that the repeater guesses the wrong level will an error be propagated.

The advantages of digital circuits prompted the phone companies to make them new standard for most applications starting about two decades ago.

Again based on the then-current technology, the standard set was the same as for FDM. 4 kHz maximum per voice channel; and a 24 to 1 multiplexing factor. The 4 kHz input bandwidth is converted to a 64 kilobit per second data stream. "How" is buried in silicon, "why" is of more interest because it clarifies other concepts.

The basic step in digital voice is analog to digital conversion, done by A/D Converters(ADCs). They sample the voltage on the analog side, compare it to a series of fixed voltage steps established as international standards, decide which step is closest to the input value then put out a digital "word" to identify the height of that step.

The number of steps is a converter (expressed as the number of bits in the digital word, e.g., 4 bits, 10 bits) is important because it determines the "quality" of the A/D conversion. More steps mean less distortion, and better sound. To get acceptable voice quality, there should be 12 bits from the ADC. 12 bits worth of steps are divided among Quiet, Normal, and Loud signals. Sampling frequency is another consideration. A man named Nyquist discovered that in order to convert digital words back to analog signals, the ADC must sample at least twice as fast as the top frequency of the analog signal.

Sampling less often introduces "aliasing", a condition where the digital words could collectively represent more than one analog frequency. Aliasing is avoided by filtering the analog input to eliminate high frequencies. For voice the cutoff is 4 kHz. Thus for basic digital voice we have a voice frequency of 4 kHz, which with the Nyquist multiplier gives a sampling frequency of 8000 times per second. Since we need 12 bits per sample, the bit rate must be 8000 times 12 or 96,000 bits per second.

However, the full degree of voice quality isn't needed at the very loudest end of the spectrum. It was decided that many of the steps in the ADC could be ignored, as long as the fineness was kept where it counted - that is, within the normal range.

By using a coding table, it is possible to represent the 12-bit range with only 8 bits, concentrating most of the steps in the normal range. The table is fixed in codec (COder-DECOder) which converts

12-bit words to 8-bit words. The latest designs put the ADC and codec on a single integrated circuit chip, which takes the name of the codec. It performs the same generic function as a modem, but in the other direction. Now the factors call for a 8 kHz sampling frequency, with 8 bits per sample for a bit rate of 64 kbps. This coded or compressed version of digitized voice is known universally as PCM, for Pulse Code Modulation. It is the world standard.

Multiplexing 24 channels of 64 kbps gives 1,536,000 bps. To this the phone company added an allowance of 8000 bps for control and synchronization, for a total of 1.544 million kbps. This is known as the "T-1" transmission rate in the U.S. Elsewhere in the world, 40 voice channels, plus one for synchronization and one for signaling, are multiplexed for a T-1 rate of 2,048 Mbps.

A channel bank consists of codecs and a time division multiplexer, merging voice channels into a T-1 facility. Channel banks work only with PCM, that is, with 24 channels of 64 kbps each.

PCM is more than 20 years old. The compression technique of ignoring some of the steps saves a third of the original band-width, but PCM still describes each step fully - an unnecessary redundancy with modern techniques. In 1985, another technique, called ADPCM, or Adaptive Differential Pulse Code Modulation, was adopted by the CCITT as a recommended practice of digitizing voice at 32,000 bps. Ultimately, ADPCM could be adopted as the new world standard because it is most like the current world standard of PCM. The sampling rates of the two techniques are the same: 8,000 times per second. This compatibility facilitates the conversion between them in situations where both types of

HIGHER LIFE FORM? Last Friday will be remembered in Irvine, Calif., as the day of the Great Garage Door Revolt. Hundreds of automated garage doors, apparently acting spontaneously and on their own, flapped open and shut. Nobody knows why, and no ringleader has been pinpointed. The military and Secret Service have denied being the cause. "It's really strange," says Michael Ritter, a spokesman for the Federal Communications Commission in Los Angeles.

equipment (PCM and ADPCM) are in use.

Rather than send 8 bits to describe each step fully, ADPCM sends only the change since the last measurement. The human voice normally changes relatively slowly - seldom more than plus/minus 8 levels between samples. Therefore, 4 bits are sufficient to convey the new voice level. The sampling rate is the same as PCM, 8,000 bps, so the data stream is 32,000 bps or half the standard of PCM.

Another method of digitizing the voice signal for transmission over the digital line is CVSD, Continuously Variable Slope Delta modulation. This method transmits only the direction of the change in the analog input.

Delta modulation compares the input analog voltage with the "reference" voltage. If the input is greater than the reference, a "1" is sent and the reference is increased a step. If the input is less than the reference, a "0" is sent and the reference is reduced a step.

The size of the step varies increasing each time the output signal is the same (a 1 or a 0) as the last time. Since the size of the steps change, a plot of the reference has a "continuously variable slope." Thus the name of the technique.

In CVSD, the data word comprises just one bit. To maintain a voice quality that users are accustomed to, most CVSD applications sample 32,000 times per second. The bit rate is therefore 32 kbps. However, the sampling rate can be anything with CVSD: voice is recognizable at 16 kbps, and still understandable at 9600 bps. But quality suffers at slower speeds.

Don't Hoard Precious Metals or Stones!!

by John J. Williams

When the total collapse occurs, it is far better to have stores of dehydrated or freeze-dried foods than precious metals and stones. WHY?:

1. You can't eat precious metals and stones! Therefore you will be forced to leave your protected area and make yourself totally vulnerable to trade your precious commodities for food, clothing, guns, ammo, medical supplies, etc. What would stop the person you are dealing with from simply killing you outright and taking it all from you? Remember, he knows that time is on his side and that you must deal with him on his terms and on his turf because you have to eat.

2. The people who sold you the precious metals and stones will know who you are and where you are at. This information is of big survival value to them. When the collapse occurs, he can either attack you directly or sell or trade that information to someone

for something he needs. Your possessions aren't secret from Day 1. You are less likely to be noticed by those you buy food, clothing, and medical supplies from and you can easily buy them totally anonymously with cash. The people who sell you guns and ammo know who you are but that information is of less value to them because they sold you the means of defending your cache. And a Federal Firearms License, which allows you to buy for yourself and others is fairly easy and inexpensive to acquire.

3. Your precious commodities have to be assayed or otherwise evaluated at each trade. Food, clothing, medical supplies, guns, and ammo are of easily determined quality and quantity. There are few experts, though, who can knowledgeably and trustworthily appraise precious metals and stones. Even if you were lucky to find such a person after the collapse occurs, on what basis could he sensibly price your precious commodities? WITHOUT FOOD YOU DIE!! Therefore food can become INFINITELY valuable during extremely harsh times and totally unavailable at any price. During the Battle of Leningrad (WW II), food became even more precious than guns, ammo, clothing, and medical supplies. People were eating people! The economic collapse will likely bring about similar conditions in most of this country in very short order.

The premise for hoarding precious commodities during hard times has its roots in the immigrants who escaped oppressive regimes with the clothes on their backs and whatever valuables they could sew into their linings. Precious commodities take the least space for the greatest value. But always remember that they are valuable only where friendly, substantially less threatened people live who enjoy a strong currency and an established market for disposing of the precious commodities. However, when the US collapses, where will you expect to, to find people who have all of the above required attributes to make you profit from having precious metals and stones? NOWHERE!

Be careful in the investments you make in dehydrated and freeze-dried foods. Many firms selling these items are grossly overpricing them or appear to be misrepresenting their quality or quantity. I am not a member of the Latter Day Saints, but I suggest you read PASSPORT TO SURVIVAL, by Esther Dickey, Bookcraft Publishers, 1848 West 2300 South, Salt Lake City, UT. It provides some excellent tips on what foods are best to store, how to prepare them, and what you need.

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