



## Cybertech

### Technological Survival Newsletter

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<http://www.ticom-tech.com/>

Thomas Icom (Ticom), editor <[ticom@ticom-tech.com](mailto:ticom@ticom-tech.com)>

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### WANT TO JOIN THE MILITIA? DON'T WASTE YOUR TIME!

I get a fair amount of email from individuals who wish to join "The Militia", and ask if I know of a "unit" they could join. I always reply "Why waste your time trying to join something you're already a member of?" If they get over their initial confusion after my reply, I point out to them that every citizen of the United States is part of the militia. This is pointed out in Title 10, Section 311 of the United States Code.

#### *United States Code (USC)* **TITLE 10--ARMED FORCES**

#### *Section 311. Militia: composition and classes*

**(a) The militia of the United States consists of all able-bodied males at least 17 years of age and, except as provided in section 313 of title 32, under 45 years of age who are, or who have made a declaration of intention to become, citizens of the United States and of female citizens of the United States who are commissioned officers of the National Guard.**

**(b) The classes of the militia are—**

**(1) the organized militia, which consists of the National Guard and the Naval Militia; and**

**(2) the unorganized militia, which consists of the members**

**of the militia who are not members of the National Guard or the Naval Militia.**

There it is in black and white. **Every American citizen is part of the Militia.** You do not need to join some particular group. You especially don't need to join some group of people you don't know, can't vouch for, and might drag you down with them as a result of stupidity on their part. It is far better to form a group of your own comprised of relatives and friends of like mind that you've personally known for at least 5-10 years, that you can personally vouch for, and that you know are trustworthy.

If you don't know anyone of like mind, you have the option of becoming a one-person cell. There is quite a bit one person can do if they assess their individual talents and base their activities around them. The one advantage to being a solo operator is that there is no-one around to compromise you. In the words of Ben Franklin "Three can keep a secret, if two are dead." Paladin Press once published an excellent book by Jefferson Mack titled **Secret Freedom Fighter**, which discussed single-person freedom-fighting operations. It's now out of print, but if you can find a copy it's worth reading. A recent article by Jefferson Mack indicated that an updated version is in the works.

For those of you lone wolves who are more survivalist-oriented and would like to meet oth-

ers of like mind, I would suggest volunteering in a local Scouting, Civil Air Patrol, ARES/RACES (Amateur Radio Emergency Service/Radio Amateur Civil Emergency Service) group, joining a local volunteer Fire Department/Ambulance Corps, or the local Red Cross chapter. The individuals in these organizations have parallel interests, at least a modicum of interest in disaster preparedness, and are community service-oriented. You can use membership in these organizations to establish a good reputation in your community, make contacts, and feel people out over the course of a few years before inviting them to join a group of your own making.

It was Aldous Huxley who said "To associate with other like-minded people in small purposeful groups is for the great majority of men and women a source of profound psychological satisfaction." I agree with Huxley in this instance, but the situation these days requires that the seeking out of fellow travelers be done with extreme caution. Unfortunately, there are just too many yahoos out there who call themselves a "militia unit", and either do nothing, or get involved in some stupid enterprise that gets them and their associates in a world of trouble. You, being one of the Great Pumpkin's loftier creations, don't need that hassle. By either forming your own group with people you've known for years (and know you can trust), or by flying solo you avoid such hassles.

## WILDFLOWER'S SURVIVAL NOTES

### KNOWLEDGE ALLOWS ONE TO ADAPT, EVEN TO EVOLVE AS ONE'S WORLD IS CHANGING!

I admit that is a rather large title for this article, but as you will see it may be a rather condensed way of statement here. Please pay attention now.

When was twenty years of age, computers were filling whole rooms, doing four and eight bit operations with magnetic core memories and using IBM printers to display end results. The personal calculator for most was still pencil and paper, with the help of a math table chart book and occasional slide ruler. Boy, have things changed by now! Most of you under thirty years of age started out into a new world that began to change as personal home computers evolved, along with other systems, into what was once regarded at my age of twenty years, a fantasy dream for crazy people to believe in. Am not fooling you, for it was quite legal to regard what is now common place technology, as the basic reason to lock away somebody because it was acceptable norm to believe in such technology as "a delusional fantasy by a sick mental defective", aho!

Incredible that even a dream of "landing on the moon" in spring of 1969 could label one as "a nutcase" to be subjected to drugs, shock therapy, even lobotomy as "a treatment for madness"; what would had they done if one strongly fantasized in pocket palm pilots or pocket telephones? Yes, one was being educated for the future, but only as long as one did not make fantasies different than the "official version" permitted by the government and god, aho so too! But then, like now, one can still be convicted if self-fantasy future differs from government approved version, still

today! Difference is that you can appeal your case amongst the vast Internet, acquiring useful help in your defense, even the information to sue the bastards' back into that glass house they contrived to keep you in!

Yes, in this world now you can acquire more information to improve your skills and talents considerably more than when I was your age back then. The real danger is being certain it is the right information, not some urban myth crap peddled by others, or be punished by official sources for knowing such information, that one does not wind up more askew both mentally and physically as a result. Such bad karma only accelerates one's personal destruction into multiple destruction of others too!

And of equal note, is the worst ignorance that there are changes always occurring on this world, that can change locally to global significance, making your personal survival subjected to a trivial problem to one altering your whole survival done to crucial life or death decisions that can impact not only you, but others too.

For example; civilization has fallen, so you have lost the Internet, personal computing, electricity, fast foods, and more, all within a short period of time. It has gotten so bad; your neighbors want to invite you over not for, but as dinner! Your fat dog looks better roasting over a fire, your daughter is selling herself for a can of dog food, and your local government wants to convict you for hoarding "their cans of food". Now, between what is now to such an extreme state of survival, did you avail yourself of information to increase your survival skills long before your world changed so drastically? Or are you sitting now in a cooking pot because you was so smart back then not to do certain

stupid things like improving your survival skills, or acquiring the nassery tools and stocks because it marked you as a "crazy survivalist"? Yes, am full of stupid skills and information on doing things, from making soap from scratch, or making do with junk, a still or wood boiler for a steam water pump. Am proud to be a crazy, self reliant, survivalist that can survive no matter which way tomorrow goes, so what about you?

It has been predicted the next ten to twenty years may see the end of many things, including wholesale destruction locally to globally of civilization, the environment, even down to the local conditions where you live or work now. Don't believe this? Try holding a party on the top floor of the World Trade Center now! It is incredible how much September 11<sup>th</sup> has changed your world, hasn't? At twenty years of age, one could get a good job without a high school diploma, join the union, and retire on a comfortable pension, living in a home in Florida. Today, you are lucky to have a decent paying job, to afford the luxury of eating in a warm home, and required to have a college degree in some areas just to be a garbage collector! My how things have changed, wonder what twenty years from now, if civilization does not go extinct, what twenty-year-olds then be facing just to live on a basic income? Worse if they are now parents of that future, struggling with a baby, or more, trying to survive that future modern world. And you complain how tough it is now!

So my best advice is start learning now how to be a self reliant person whom has the knowledge and skills to improve your personal future, before it is too damn late, so that future people whom you live amongst can be helped at surviving tomorrows world, one hel'va lot better, no matter what comes about. Or

get comfortable to the idea that you will be a self-made fossil, maybe on display in some future museum!

Please, think about this now, and choose now your choice of future. (Hint - As a self-made loser, you will make a nice display as an example of an extinct lifeform that "didn't make it", a wonderful idea, yes?)

#### **RECYCLING FOR SURVIVAL**

It is totally amazing how much is tossed out in the curbside trash cans, including old appliances, old computers, clothing, and kitchenware. What was once brand new from the store, now awaits pickup to a transfer station to usually a landfill or trash to energy plant, even those items separated for recycling never get recycled.

On my limited budget, it is important to try using repairable, reusable, or even rechargeable items in my home and workshop. It is too damn easy to land in debt, especially when charge card purchasing, so one has to find better means of keeping cash in one's pocket for household expenses and emergencies. Therefore, am going to show some examples one can start using now.

#### **WIDE MOUTH "KITTY LITTER" JUGS**

Such empty jugs can be refilled with salt, sand, pea coal, soil, dry grain & beans, or even glass marbles; all, which can then be stored or poured easily on the storeroom shelf. Or cut tops off for use as storage shelf bins pails for water, or even container gardens.

#### **PLASTIC FOOD CONTAINERS WITH LIDS**

Ideal for storing dry chemicals, shop hardware, cigars, or even matches. At least if dropped, won't shatter like glass jars will, mixing sharp shards with contents. Restaurants toss out bulk spice plastic containers, some large

enough to use as a goldfish tank, especially if transporting fish from one home to another.

#### **JUNK MAIL**

Envelopes can be trimmed for paper pouches to hold small amounts of seeds, parts, or tiny hardware. Aside for notes, same paper can be cut and trimmed, pasted or clear taped as a label on your containers. Shredded, like newspaper too, can be used for packing shipping cartons or spreader on an oil spill to absorb it for disposal. No matter how important the plea is for your donation, find a local agency instead if you want to donate to, for a lot of the money sent may wind up in some con artist's pocket, and not the intended charity. As for the stickers, cards, and pens, keep them and use them!

#### **EMPTY AND CLEANED METAL FOOD CAN CONTAINERS**

Paint or paper label cans for what hardware or materials you store in them on your shop shelf. Useful are coffee cans for making into cook pots, camp stoves, pails, or cut into sections of sheet metal. Restaurants toss out metal cooking oil cans, which can be cleaned and cut opened into useful sections of sheet metal.

#### **CLOTHING**

If wearable, can be washed and dry for own use or donation to charity. Old sweaters can be disassembled into balls of knitting yarn. Or salvage the clothing for buttons, zippers, or patch materials for mending or hobby crafts. Cut into sections for rags, or cut into strips for weaving into rag rope or rag rugs. Pantyhose can be reused in making filters, woven into rope, or spread over a frame for insect barrier in a window. Leather coats and pocket purses can be cut into craft materials, gaskets, or making footwear repairs. A friend stuffed old farm feed bags with clothing

scraps, sealed the bag into a homemade cover bag for use as a "beanbag chair" or "foot rest". I have made pant legs in stuff bags for sorting clothing and items for the camping trips, even modified one bag with a shoulder strap to hold a plastic soda bottle as a camp canteen. (Have seen commercially sold version for twenty dollars at local trail outfitter store)

#### **PACKING FOAM BITS**

Fill empty wall spaces for insulation, fill empty feed bags and sewn shut for building rafts, start wet wood fires, or donate to others whom can reuse it for their own shipping needs. There is one type that dissolves in water, and have found enough can be dissolved into a thick starch paste for gluing paper or cardboard crafts. Some have even used it in their compost earthworm farm bins.

#### **APPLIANCES OF ANY SORT**

Most dumped are usually still in working condition or can be restored by cleaning, or simple repairs. Have known others whom will resell such items for a profit. My shop fans were from a Dumpster discarded because they were clogged with dust, blowing a simple inline fuse located under the motor housing. A few replacement fuses for five dollars, ten cents of lubricants and some simple cleaning versus five fans sold at over twenty dollars apiece! Bad switch replacement gave me a shop vacuum machine worth over twenty-five dollars. Or strip for parts have yielded motors, switches, wire, and more for other repairs or shop projects. Ever priced a half-horsepower ac motor, even from surplus sources?

(Note # have seen others repair cleaned oldies for resale at "antique collector" outlets)

#### **LEFTOVER HOUSE PAINT REMENTS**

Mix altogether into a gray paint for

painting shop tool-stands or utility shop projects. Or contact hazardous waste disposal at local EPA office

**LAST WORD**

In a post-aftermath world, skills at reusing, basic repairing, or recycling will be the norm, as local stores and suppliers no longer existing. You will have to make do with salvaged or homemade parts and materials to continue meeting your needs and requirements on a day to day basis. You may even be forced to recycle your dead into compost to grow your crops. But do remember this, the dead no longer live but you as the living can still make choices in your life-path!

**WILDFLOWER of 2001 AD**

**PSYCHOLOGICAL OPERATIONS:  
THE FM BROADCAST  
SPOT-JAMMER  
BY, NOX**

**Introduction**

Let's face it, in this day and age, it is nearly impossible to get a message out to the masses via radio unless you have a large amount of capital. Even if one can raise the capital, editorial staffs across the spectrum of radio stations, while usually practitioners of diversity and first amendment rights, will not let unbound patriotic views be broadcast. As patriots, we do not want to infringe on the rights of others expressing their points of view, hence the need for the FM Broadcast Spot Jammer.

What the Spot Jammer is not:

- 1.a continuous broadcast station jammer.
- 2.Large coverage area, fixed point jamming station

The general idea of the Spot Jammer is to only park on a particular station for a moment, transmit a message, most likely taking form of a 30 second Public Service Announcement (PSA) advocating a particular message. Because the transmission is low power, only participants in a particular area around the transmitter will receive the transmission. The unit is designed to be mounted and operated in a vehicle. Since most listeners of FM radio are usually commuters or day time travelers, the spot jammer is optimally for use during high traffic areas centered on commute hours. Also, because the nature of the broadcast message is 30 seconds or less, a computer controlled Phase-Locked-Loop transmitter enables the Spot Jammer to hop from station to station, to pre-programmed times, lining up with the target stations programming as best as possible. The ultimate goal is for the unsuspecting audience to think the PSA is part of the normal broadcast.

**The Equipment**

The basic system consists of the following components:

- Computer Control Unit** - basically a PC for controlling the transmitter via the parallel port, a hard drive, for the storage of the PSA's, and a soundcard for the playback of the PSA's.
- Stereo Encoder / Limiter** - processing of the audio for production quality.
- PLL-Based Transmitter** - used as a tuner and as an exciter for the power amplifier.
- Power Amplifier** - final stage for transmission. This should have a bypass, to enable low power operations as well.

**The Computer Control Unit (CCU)**

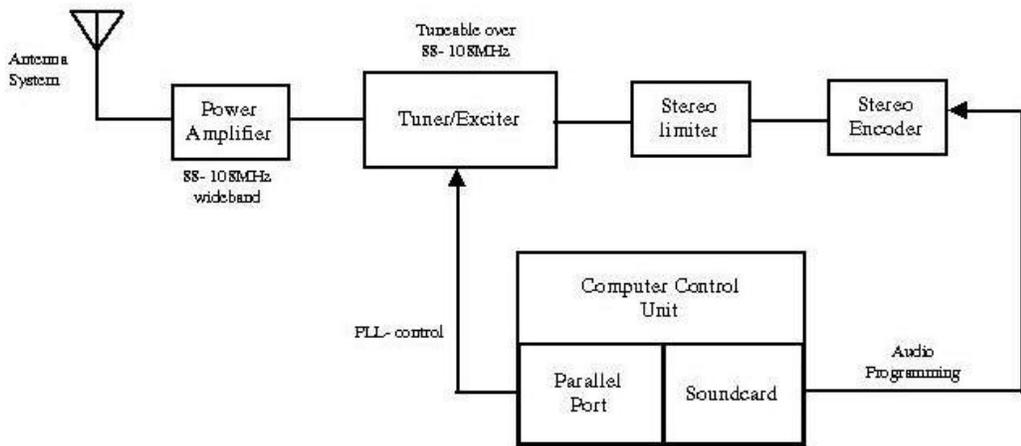
The CCU is the heart of the system. It provide the following functions:

- Controls the frequency of the FM transmitter via a parallel port that interfaces to the transmitters Phased-Locked-Loop Interface.
- It stores the PSA's in digital format. Multiple PSA's can be stored and made active or inactive for broadcast.
- Schedules broadcast time, frequency, and PSA to transmit.

**Tuner/Exciter PLL Modification for Computer Control**

**A Ramsey FM-25A as chosen to be modified for the following reasons.**

Figure 1. Spot Jammer Block diagram.



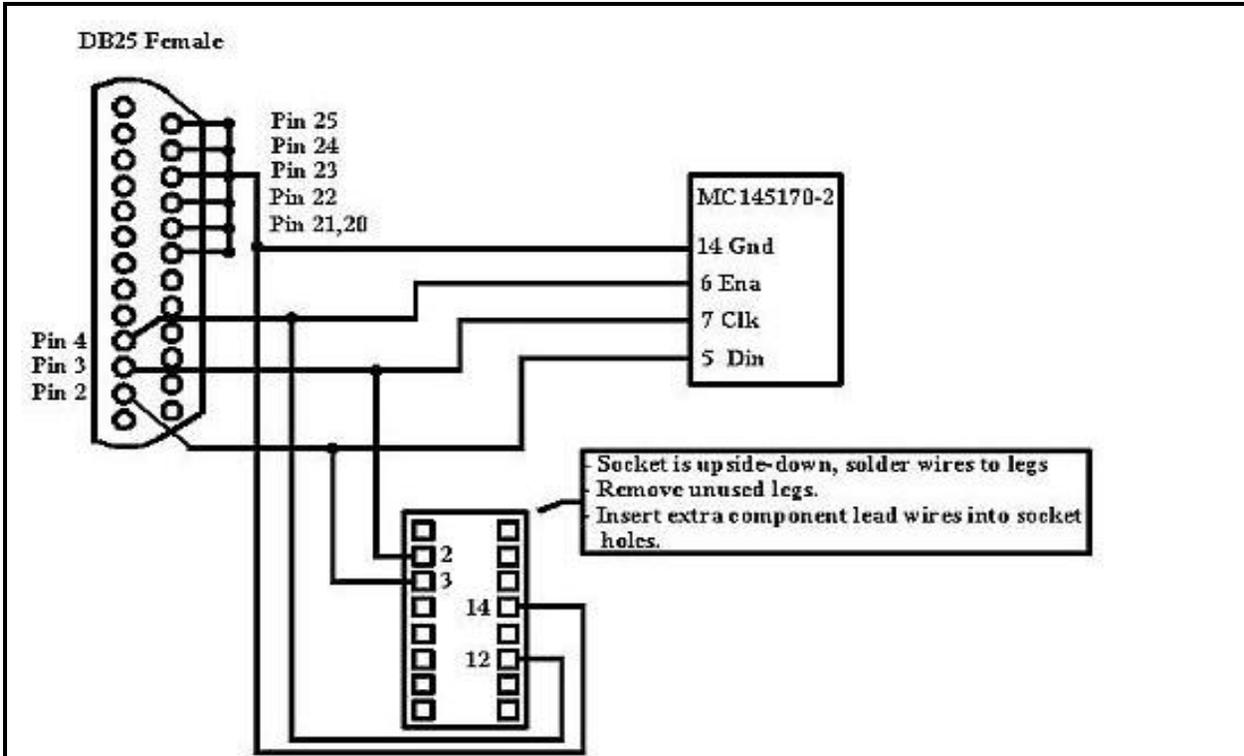


Figure 2. Parallel port interface schematic.

- 1. It uses a Motorola MC145170-2 PLL with an easy to program serial interface at TTL levels. The standard parallel port on any PC and be used to interface to the IC.
- 2. It is inexpensive and easily purchased from Ramsey or hobby kits companies.
- 3. It is relatively inexpensive.
- 4. It can be used to excite a higher power amplifier if needed.

Building the kit is straight forward. The only modification I would make is to replace the external antenna jack with something other than the PCB mount RCA jack the kit is supplied with. You should replace with a bulkhead mount BNC connector or PL-259, for easier connect/discon-

Figure 3. Front Chassis mount of the parallel interface DB25.

nect to either an external amplifier or antenna. Save some component leads for use in the upcoming modification.

Once the FM25A is built and tested, you can move on to the computer control modifications. The following materials are required:

- telephone cross-connect wire (or braided equivalent)
- bulkhead mount DB-25, female connector
- 16-pin socket
- left over component leads

Remove U2, the PIC microcontroller and

store in a safe place, in the event you wish to use the transmitter as originally intended by the manufacturer, you can easily reinstall the IC.

Cut the leftover compent lead wires to a length of approximately 1.5 centimeters (1/2 in.) and insert into in pin 2, pin 3, pin 12, and pin 14. These are the minimum required, you may add more lead wires to provide stability if so desired (limit additional wires to pins 5 <-> 11, as they are inputs from the now unused banks of dip switches).

The schematic on Figure 2 will demonstrate the actual connections.



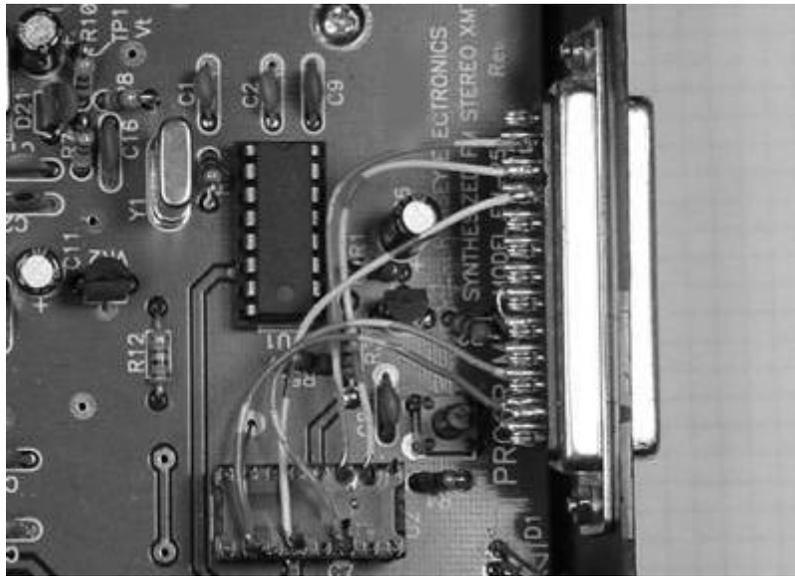


Figure 4. Modification complete. Note the upside-down socket in the U2 position.

After mounting the upside-down into the socket of U2 using the leftover component leads, bend wires from the socket to the appropriate solder lugs on the rear of the DB25 and solder appropriately. Figure 4 shows a detail of the completed result.

Caveats:

For periods where there are no transmissions, the CCU should be able to shut off the transmitter. This is the proper behavior, and will lessen the chances of detection. A simple solution would be to install a relay behind the VCC line after the main switch. This will provide the user with a physical kill switch, but still allow the CCU apply and remove power from the transmitter circuit. The parallel port D4 signal could be used to trigger the relay or SCR.

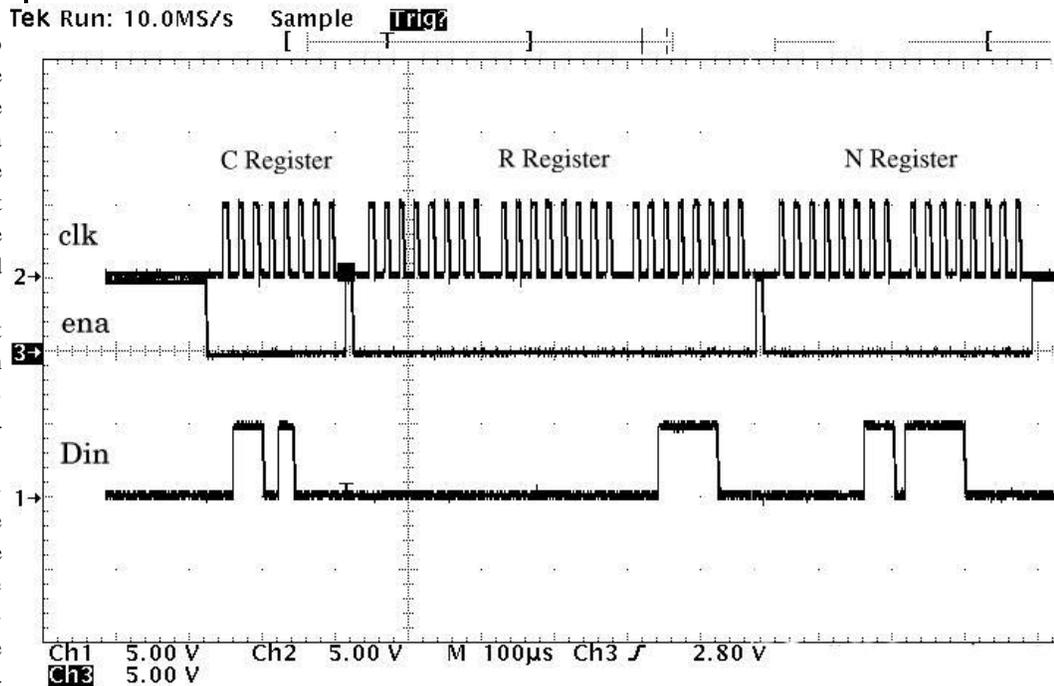
During construction, it was found that soldering the cross-connect wire to the upside-down socket was the easiest to start with. Once complete, the DB25 should be mounted onto the plastic front cover panel. However, the ground pins should be soldered together first (pins 20 <-> 25). Make sure you leave enough room to solder a wire easily onto one of the ground pins to pin 14 on the socket.

integrity to the panel when connecting a parallel cable. The DB25 is mounted approximately .5cm (1/4 in.) from the top cover, 5.5cm (2 2/16ths in.) from the left side, 2.5cm (1 in.) from the right side and 2cm (3/4 in.) from the bottom cover. Standoffs should be used instead of the screws shown in Figure 3 to allow for a more secure cable connection.

For now, when not in use, the transmit-

Back to mounting the DB25. Figure 3 shows a good distance to ensure that the rear of the connector and associated wires to not interfere with the PCB mounted components. Also, positioning the DB25 near the top of the panel provides more structural in-

Figure 5. Capture of programming of the C, R, and N registers of the MC145170-2 PLL.



ter should be idle on an unused radio frequency, such as 88.0MHz.

Controlling the modified FM25A

The FM25A is controlled with a small program, spipll, written in C for the linux operating system. The source code for this program can be found on the Cybertech website at <http://www.ticom-tech.com/>. A parallel cable must be connected between the parallel port on the controlling computer, and the DB25 connector on the FM25A.

The program was written to be easily scripted or for inclusion into the cron table of a linux system. To set the frequency of the PLL in the FM25A, one issues the following command:

```
[root@localhost spipll]# spipll -f 1017
Frequency set to :101700 Khz
```

The FM25A will then change to the desired frequency and the amber LED will illuminate indicating the PLL locked on frequency.

Theory of Operation

The design of an oscillator based in a MC14170-2 is beyond the scope of this

article as we are focusing on configurability. The reader is directed to the MC145170-2 datasheet and AN1207 Application note available from Motorola.

The MC145170-2 is programmed through a Serial Peripheral Interface(SPI) that operates at TTL levels (+/- 5Vdc). The MC145170-2 is configured to provide the FM25A with a stable carrier frequency. It has been electrically configured to operate between the frequencies of 88MHz and 108MHz, by proper component selection, and the use of a reference oscillator. The individual frequencies are selected by programming a series of frequency dividers with in the MC145170-2. There are three registers that require programming whenever a new carrier frequency is desired. They are the C register, the R register and the N register. The C and R registers are configured based upon electrical characteristics of the circuit the MC145170-2, and we have no need to change them. The N register determines the frequency tuned. The value loaded into the N register is multiplied by the reference frequency, in our case 100Mhz. So 101.7MHz is sent as 3f9 in hex. Figure 5 illustrates the proper electrical signals programming the C, R, and N register to

produce 101.7MHz.

The Din(pin 3 on socket) data is clocked in on the rising edge of clk(pin 2 on socket), while the ena(pin 12) line is low. For more information, refer to the MC145170-2 datasheet.

Figure 6 (on page 8) shows the completed modified FM25A, use for reference and verification.

Conclusion

We have presented a way to modify a standard FM Transmitter kit to operate as a psyop radio dissemination mechanism, and provided some usage tips and techniques for using the modified transmitter.

In the next column, we will cover building and equipping a studio, the creation and playback of .WAV and .mp3 files, creating broadcast schedules, and evaluating the success of your psyop missions.

Hardware Sources:

These item are easily acquired through public sources. Scour auctions and ham fests for equipment as well.

Item	Description	Cost
FMA-200	5/8 wave FM Broadcast Antenna	114.95
FM-25	PLL-controlled tuner	129.00
FRB-40W	40W amplifier, 500mw drive	115.00

Antenna plans:

- [www.irrational.org/gic/radio/omni-aerial.html](http://www.irrational.org/gic/radio/omni-aerial.html)
- [www.ramseyelectronics.com](http://www.ramseyelectronics.com) - for FM-25 and FMA-200
- [www.ldbrewer.com](http://www.ldbrewer.com) - for Amplifier

References:

- MC145170-2/D MC145170-2 PLL Frequency Synthesizer with Serial Interface, datasheet, Motorola.
- AN1207 MC145170 in Basic HF and VHF Oscillators, Application Note, Motorola.

Figure 6. FM25A complete with modification.



**ACHOO!  
OR,  
HOW THE HELL CAN I  
NOT GET SICK THIS  
WINTER?  
BY: REVEREND VIV H.GREY**



Ah, cold and flu season: Sick children sneezing on shopping cart handles, walking into the drug-store and picking up a box of Sudafed/Actifed/Something-a-FED. General crankiness. Seasonal Affective Disorder (SAD). When one's torn between shoveling and sniffing. The most wonderful time of the year?

Ha Ha Ha. I think not.

That doesn't mean that you have to succumb to this invasion. If it were as easy as locking all rug rats up for six or eight months that'd be great and I'd be all for that, but that's not the answer (damn it). No, you need some vitamins, some minerals, some

herbs...and not the ones that the government would like to see you include in your diet.

The government loves telling us to wear helmets, to wear seat belts, to do this, to not do that...they even tell us what we "need" to strengthen our bodies. It scares me- they don't know about cattle mutilations and they can tell me what's going to keep me a happy little tax payer? Or are they plotting to make me work hard and end up in an "adult care facility" without my faculties? Hmm...I'd say:

**\* DON'T GET A FLU SHOT!** It's not cowpox- you can't prove that the flu strain you're getting will prevent a damn thing. If you're allergic to eggs, the shot can kill you (the virus is cultured in egg embryos). Coincidentally, the government really pushes these shots, and that should tell you something right there!

**\* SKIP MILK WITH VITAMIN D ADDED.** If you can get your paws on

some real milk, as in from a cow, boil it. That's all you need. That crap that's sold in PLASTIC jugs on the store shelf is a PROCESSED FOOD. You should avoid those, as when you screw with food, it'll screw with you.

While plastic and processing is a big concern, the whole vitamin D thing is a lie- YOUR BODY SYNTHESISES VITAMIN D BY BEING IN THE SUN. So, yes, the sun IS good for you (or we wouldn't be diurnal, we'd be nocturnal). Fifteen minutes every four-six months is all you need to make enough to run your lil' bod all year. The crap that's added to milk is, well, waste in your waste (You are what you eat...and what you're not you whiz...).

**\* SKIP THE ECHANECA.** If you want an herb that will really help keep you fit and well, go with either Goldenseal (500mg standardized once a day for 10-12 weeks) or Astragalus (250mg twice daily for 3-6 weeks). You take these when you know you're "weak"- when your peak ill season is upon you. They

## TICOM'S TECH NOTES

### SURVEILLANCE GEAR

Alas, the days of looking through an issue of Popular Communications, and ordering a few "kits" from Deco Electronics are long gone. The Feds cracked down on the more obvious sellers of pusedo-spy gear, leaving the DIY "enthusiast" to search out alternative locations for his equipment. While good audio-type equipment has become harder to come by, video is readily available. The skilled technician, however, is able to find the solution to whatever field problem he may encounter. Where does the DIY-type get his equipment? Flea markets, hamfests, tag sales, pawn shops, and department stores are all possibilities. There is always Radio Shack for those with more money than time, although checking periodically for items on clearance is a good strategy. There is plenty of consumer electronics equipment out there that can be modified to suit an application. Some of it requires very little in the way of modification.

Interestingly enough, the lack of audio gear is more than made up for by the preponderance of video equipment. Back in the 1980s, an audio device the size of a quarter was hot shit. These days there are wireless video transmitters that size. I looked through a recent issue of one of my favorite magazines, Nuts & Volts. I saw five display ads, and another twenty classified ads for video surveillance gear. In retrospect, looking through some late 1980s issues of Pop'Comm (back when it was cool), netted TWO ads for audio device "kits".

### RECEIVERS

The first rule is to forget Radio Shack, and forget Uniden/

can only be taken for a few weeks at a time, should then be stopped for a period of two weeks (14 days), and resumed. The reason is that they are short-term herbs, and you don't want to continuously flood your system with them- Goldenseal is a de-facto antibiotic (one more bonus: IT WILL NOT DECREASE THE EFFICACY OF THE PILL!) while Astragalus's is a purifying agent.

The myth of Echinacea is that it can prevent colds- what it really does is boost your immune system. However, you have to take it all the time in a full dose- skip a dose, you lost your boost. Buy a cheap herb (and you don't always know what you're getting) and you're just wasting money. Someone sometime in the not so distant "New Age" past, wrote that the Native Americans used it a vole, it's chic. Chief Joseph probably ate more dandelions than that odd "cone flower weed"!

\* **DRINK WATER.** Not bottled- save your cash. Get a filter and make your own (if you have a well, test it. If you're within limits, use that). Dehydration will give you dry skin, decrease liver function, make you tired, groggy, make you hungry, and decrease your libido. Skip soda- all that sugar ("electrolytes" if you want to believe the sports drinks. It's just sugar and salt) isn't good for an adult. Stay away from processed fruit drinks- 100% juice is all you should purchase.

\* **WASH YOUR HANDS.** BEFORE YOU POTTY, and after. Don't forget that's a mucus membrane, and you can catch a cold off your winky/love button. You wash, wash, wash! Don't touch your face. Don't pick your teeth. Don't even honk your nose without a wash.

\* **IF YOU HAVE FOOD ALLERGIES, SKIP VITAMIN C.** Tropicana won't like that, but it's true. There is no

evidence that C can do all it says. If you really NEED a vitamin, take a CHILDREN'S CHEWABLE WITH FOOD. You will utilize the nutrients better...and adult vitamins usually have TOO MUCH in them.

\* **BE FULL OF HOT AIR!** So long as it's moisturized. You don't need a "cool mist humidifier" either. Boil a kettle- a pot of water. Make your oatmeal the old fashioned way. Just get water on the boil. It keeps your sinuses fresh. Keeps your skin moist. (Also avoid the humidity additions to your furnace- they just breed mold and bacteria. They're expensive and only help out the manufacturer and your furnace repair guy).

### \* **BUT VIV, I'M ALREADY SICK!**

#### Top Ten Ways To Cut Your

Cold:

- 1) Sleep
- 2) Water/100% fruit juice
- 3) GOLDENSEAL
- 4) CLEAN YOUR HOUSE (Vacuum, change sheets, give the dog a bath)
- 5) RENT A COMEDY (laughter will de-stress you- and that's worth something)
- 6) TEA. HOT-WITH HONEY (honey has also shown antiviral as well as antimicrobial abilities)
- 7) EAT WELL. Stay away from processed foods...yech!
- 8) HAVE SEX. An Oxford study showed that sex can decrease the life of your cold/virus (those sexy Britons!)
- 9) TAKE A HOT BATH (the steam will loosen up phlegm as well as soothe)
- 10) Finally, IF YOU READ MY TIPS YOU WOULDN'T BE SICK...☺

Merry Part-and Blessed Be! Health & Happiness in our palindrome year 2002!

Bearcat. Conventional scanners are great for monitoring the local police and fire departments, local airport approach control, and other mundane applications. Most of them, however, lack the DC to Daylight coverage and features that distinguishes a real SIGINT-grade receiver from a common scanner. Take the PRO-92, for example, a fine unit that I use for keeping track of the locals. It's missing .1-29, 54-108, 174-380, 512-806, and 960-1300+ MHz. It can scan 500 channels. I only need to monitor one. It can do Trunk-Tracking, which is irrelevant for sitting on a single channel. It's also \$350, which is about \$150 less than you should spend on a new receiver that'll serve your purposes. Even the much-cherished Radio Shack PRO-43 has some big coverage gaps that are inexcusable in this day and age. I recently off-loaded one for \$100, and had some idiot ask me what was wrong with it. My reply was "Nothing. That's what they're worth, and what you can buy one for at a pawn shop if you kept got out from in front of the computer once in a while."

About the only "scanner" I'd seriously consider is a Realistic PRO-2004/5/6 series. While they do have an annoying gap from 512-760 Mhz., there is plenty of information available on modifications; including full 800 Mhz reception. One can still purchase an OE-456lite computer-control board from Optoelectronics for \$100. Otherwise, here's what you should look for:

- At least 500 KHz. to 1.3 GHz.+ coverage.
- Switchable AM/FM/WFM reception, SSB/CW if possible.
- Computer control (nice to have)

There are four manufacturers that make equipment with these features. They are Icom, AOR, Yaesu, and Alinco. You will expect

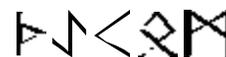
to spend at least \$160 for a unit that meets these specifications, up to a couple thousand \$\$\$\$. I have a fondness for Icom receivers. The other three manufacturers make nice gear as well. Icom receivers require a user that has at least a modicum of intelligence. This ensures that if you check your local pawn shops regularly you will find one in mint condition at about half of what you'd pay retail because some brain surgeon bought one at a ham shop and couldn't figure out how to make it work. Now assuming you have this thing for ordinary scanners, and want to buy new, go look at the Uniden BC-780XLT "Trunktracker III".

### BABY MONITORS

These things have been around forever, although upscale parents are now opting for video surveillance systems in the 900 MHz. and 2.4 GHz. ISM bands. At any rate, have you ever taken one apart? They have a decent audio amplifier section in them before the RF transmitter, and are pretty sensitive audio-wise for the money. At the time of this writing, my least favorite electronics retailer had them on sale for \$10 a set, but you can get them anywhere for a comparable price. They operate on the 49 MHz. channels that were once commonly shared with cordless phones and those TRC-500 style VOX walkie-talkies. Cordless phones are moving up to the same ISM bands all that video surveillance gear is on, and all the TRC-500 users are now on FRS or bootlegging with mod'ed-out two meter rigs. This has cleaned up 49 MHz., so now it's becoming a decent place to play again. YMMV, however. Less upscale sections of town may still be home to baby monitors and cordless phones that operate under 50 MHz. As an interesting side note, I checked out the cordless phone section of a local discount depart-

ment store known for its blue light. Of the twenty-odd cordless phones available for purchase, almost all were 900 MHz. There were a couple in the 2.4 GHz band, and ONE in the 40 MHz. band. Those of you who are into doing "field sociology" studies take note!

The transmitter in the baby monitor I disassembled was rock-bound. If you ever tried to adjust the frequency and tune into one of those Mr. Microphones that jump a couple dozen KiloHertz every time you look at it cross-eyed, you'd appreciate something that uses crystals to determine its frequency. Yes, PLLs are all the rage now, but these things only cost \$10! A 16.62 MHz crystal gives it a nice stable signal on 49.86 MHz. Likewise 16.63 MHz. puts it up on 49.89 MHz. A quick check in the Digikey catalog netted a few values of crystals in the same general area that would slide this thing off the baby band and into a little more private territory. When you have a handheld receiver that's capable of .5 to 1300 MHz. (minus the 800 MHz. cellular bands), all sorts of freqs become possible now that many VHF-Low band users have gone elsewhere (Nextel). We placed one of the transmitters on the front porch, and took a drive with an Icom R10 hooked up to a mag-mount scanner antenna on the roof of the car. We received it S9+ a half mile away. Not bad for \$10.



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