

# Reclaiming the Airwaves

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## Victory For Micropower Broadcasting Historic Defeat for the FCC

On Friday, January 20 Federal judge Claudia Wilken refused to grant the Federal Communications Commission a preliminary injunction to stop the micro power broadcasts of Stephen Dunifer and Free Radio Berkeley. Stating serious constitutional concerns as her reason, Judge Wilken denied the request, ordered the FCC to exhaust administrative remedies and to rule on Dunifer's appeal of their \$20,000 fine before seeking any further court action. This ruling sets a historic precedent: it is the first time the FCC has been denied an injunction to stop the broadcasts of an unlicensed radio station. The Commission will have to address the issue of the constitutionality of their regulations when ruling on Dunifer's appeal. Any further court proceedings are delayed until the FCC acts on the appeal which has languished in Washington for more than a year. In the meantime the government's attempt to enjoin broadcasting by non-licensed micro radio has been put on hold.

Luke Hiken, attorney for Stephen Dunifer, stated, "This is the second time a Federal court has recognized the constitutional implications of micro radio technology. We hope the FCC will recognize the importance of facilitating the use of this technology for the benefit of the American people instead of denying its existence and obstructing its use."

Speaking on behalf of the National Lawyers Guild Committee on Democratic Communications, Peter Franck commented, "The CDC hopes that the court's refusal to enjoin micro radio is the beginning of a recognition by the country that any hope for democracy depends on free access to the airwaves. Micro power broadcasting has the potential for creating a 'green movement' of low-cost, easy-to-use media. It is as totalitarian to require expensive, hard-to-get licenses for micro radio as it would be to say you can only speak from a soap box if it is made of gold."

Stephen Dunifer said, "Judge Claudia Wilken's decision affirms the validity of our legal position. Further, this victory is a credit to four years of work by the National Lawyers Guild Committee on Democratic Communications and my attorney, Luke Hiken, on behalf of the micro power broadcasting movement. Unlike FCC attorney, David Silberman, I do not see irreparable harm resulting from micro power broadcasting. Instead, I see an immeasurable benefit for all citizens if the micro power broadcast movement prevails. For too long, media access and the tools of communication have been concentrated in the hands of corporate and essentially anti-democratic interests. If any harm results, it will be to those monopoly interests."

**Free Radio Berkeley &  
SF Liberation Radio  
Second Anniversary Celebration**

**See Page 7 for details !  
Info: (510) 464-3041**

## Seize the Space !

With the FCC's recent loss in Federal District Court now is the time to seize the space before this window of opportunity slams shut. If micro power stations take to the air in massive numbers the FCC will be confronted with a regulatory and enforcement nightmare at a time when they are still trying to figure out how to respond to January's ruling.

Further, we must take other proactive steps to ensure our eventual success. Consensus must be reached on what type of regulatory structure, if any, we are willing to accept. At the moment, a simple two page form has been proposed. You would: fill this out with name, address, etc.; state that the equipment be used meet certain basic requirements for frequency stability, harmonic attenuation, etc.; that the power level does exceed a certain level (perhaps two ceilings, one for urban and one for rural); list the frequency used, power and studio location. At that point, after mailing the form back with a modest fee of \$25 or so, the burden of proof would be on the FCC for interference and other issues. Let us know your ideas and thoughts on this. We need to have something in hand when asked "Well, what do you propose ?"

More technically knowledgeable people are needed to provide assistance and act as mentors for those who lack the requisite skills to build the kits or put a station on the air. Everything possible must be done to ensure that the micro stations are putting out a clean and stable signal. Any sort of interference and instability will just be ammunition for the FCC.

Finally, continued support for our efforts is crucial. We wish to thank those who have already contributed to this effort. Our total costs involved in putting out this edition are over \$1000 including postage. Much has been accomplished in the last three years. Your financial contribution will help ensure the continued success of this movement to take back the airwaves. Further, donations of equipment are needed as well. In particular we need: high speed tape duplicators; a good quality copier; electronic test equipment such as a spectrum analyzer; tape decks - portable cassette, studio type and DAT.

*"There's nothing that so horrifies the Federal Communications Commission as freedom of speech - unless it is backed by the billions of now required exercise that right on the airwaves."*

*"For more than 60 years, it's been the role of government to restrict access to airwaves to those powerful enough and rich enough to stake out and hold their slice of this public resource. The excuse for restriction has always been 'chaos.' But in the eyes of the FCC, chaos is not 5,000 shopping channels or 200,000 easy listening stations. Chaos is political, possibly seditious broadcasting."*

-Alexander Cockburn

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## Giving Voice to the Voiceless

As night rolls across San Francisco Bay and rushes westward, micropower FM transmitters spring to life at the flick of a switch bringing new voices to the FM broadcast band. Voices that defy and challenge the FCC's control of the airwaves. Radio Libre (103.3) operating from the Mission District offers a diverse and multicultural programming mix in both Spanish and English. In the western portions of the city San Francisco Liberation Radio (93.7 FM) provides the only unlicensed call-in talk show broadcast along with excellent documentaries on local and national issues. Comic relief is provided by the Jolly Roger Radio Comedy Troupe who satirize everything from the Olympics to local politicians. SFLR also produces the monthly Food Not Bombs Radio Network program heard on a number of stations across the United States and Canada. New voices will be soon taking to the air in the SOMA (south of Market St.) district and the urban district known as Hunter's Point (107.3 FM) in eastern San Francisco. A new voice (88.1 FM) has made its appearance in North Beach as well.

To the north across the Golden Gate Bridge alternative voices are heard in Sausalito, San Rafael and other areas of Marin County. Meanwhile, covering the East Bay cities of Berkeley, Oakland El Cerito, Albany and Alameda, Free Radio Berkeley (104.1 FM) is on 24 hours a day. Further to the south in areas populated by migrants and farm workers voices of the mexicano, la Raza and Zapatista are taking to the air as well. Much further to the South across the Rio Grande, transmitters built by Free Radio Berkeley are on the air in the barrios of Mexico City and the state of Chiapas.

Indeed, a revolution is underway here and other parts of the country and world as well. Seeking to break the corporate media stranglehold on the free flow of information, news, ideas, cultural and artistic expression, these low cost and relatively low power (1 to 30 watts) FM broadcast stations are establishing themselves as voices of the voiceless. Further, most are urging everyone to fight back against a racist and corrupt system by not only providing the poetry, music and spoken word of inspiration but the vital information required for an empowered struggle. Where else can one hear the voices and art of street poets, gang members, homeless persons, activists, punkers, immigrants and many more? Truly, micropower broadcasting is technology for the people.

Inspired by Mabana Kantako of Black Liberation Radio, Free Radio Berkeley is pivotal in the current micropower broadcasting movement by its open defiance of the FCC and ongoing legal challenge to its regulatory authority aided by the National Lawyers Guild Committee on Democratic Communications. Free Radio Berkeley offers a complete line of kits which enable anyone with some degree of technical skill to assemble their own transmitters. A complete station can be put on the air for less than \$1000 compared to the \$50,000 to \$100,000 under FCC guidelines. Workshops and training are offered along with a growing list of technical mentors to aid in the creation of micropower broadcasting stations. If you have electronic skills you can make a very valuable and vital contribution to this movement by teaching and training others.

Of course, this is not happening without reprisals from the Federal Government. Stephen Dunifer of Free Radio Berkeley has not only been threatened with a \$20,000 fine by the FCC but was also threatened with the possibility of a court injunction which would have gagged Free Radio Berkeley. On January 20th, 1995, in a historic ruling, Federal Judge Claudia Wilken refused to grant the FCC a preliminary injunction to shut down Free Radio Berkeley. Other individuals such as Richard Edmondson of SF Liberation Radio and Bill Dougan of Phoenix, Arizona have been threatened with fines of \$10,000 and \$17,500 respectively but are not facing the possibility of court imposed sanctions at this time.

Micropower broadcasting is more than the leaflet of the 90's. It is a tool by which to organize and bring about fundamental social change. For far too long the corporations have been allowed to steal and fence off the natural resources of this planet, including the airwaves. It is time to tear down the fences, grind the no trespassing signs into the ground and take back what belongs to everyone on this planet. We need to use these resources for the good of all instead of the enrichment of the few. If you want to make micropower broadcasting a reality and a revolutionary force in your community, contact Free Radio Berkeley.

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## A Tale of Two Broadcasters

By Jeff Cohen and Norman Solomon

Jack Welch oversees a project that fills America's airwaves with millions of watts. His outfit has committed felonies that include bribery and large-scale fraud.

Stephen Dunifer oversees a project with 15 watts of radio power. He and his organization have never been found guilty of a crime.

Guess which man is in trouble with the Federal Communications Commission.

It isn't Welch, the chair of NBC's parent company, General Electric. In spite of a criminal rap sheet as long as a transmitting tower — with massive swindles involving sales of military equipment — GE continues to run NBC's broadcasting operations.

In theory, the FCC evaluates the "character" of would-be broadcast licensees. A few years ago the agency declared it would "consider all felony convictions" and sometimes even misdemeanors. But GE, a corporate felon, has gotten no grief from the FCC about its criminal record.

On the other hand, Stephen Dunifer is one of the FCC's prime targets. He has developed a low-cost, low-watt way that neighbors can use radio to communicate with each other. For \$600, he discovered, people can build a mini-station and go on the air.

Dunifer takes seriously the idea that the airwaves belong to the public, not just those with big bucks. Worst of all, from the FCC's vantage point, Dunifer has spread the idea around.

His nonprofit newsletter recently touted gizmos like "a phase lock loop controlled half-watt transmitter kit," designed to meet "all the technical objections of the FCC regarding drift and harmonic interference."

But Dunifer's emphasis is hardly technical; it's community oriented. His newsletter hails micropower broadcasting as a tool that communities can use to break down the barriers of "suspicion, mistrust, anger and violence" bred by a lack of communication.

The micropower concept got a boost four years ago, when Mabana Kantako — living in a housing project in Springfield, Ill. — founded Black Liberation Radio, a low-watt station. Despite harassment from local police and the FCC, Kantako and the station are still on the air, serving needs of nearby residents unmet by mass media.

Dunifer, who lives in Berkeley, Calif., learned from Kantako's example, and set to work refining the micro-technology. Now, he says, "We are riding the wave of a movement that will not be stopped." He may be right.

Across the bay, in San Francisco, two independent microbroadcasters are on the radio every night.

In the Mexican state of Chiapas, microradio programs aligned with the rebel Zapatistas can be heard, courtesy of equipment supplied by Dunifer. In downtown Mexico City this fall, a central traffic island became the base of Radio TeleVerdad ("Radio Tell-the-Truth"), providing five-watt FM transmission while hundreds of thousands of vehicles passed by each day.

When we spoke with founders of Radio TeleVerdad a couple of weeks ago, they seemed determined to continue their independent broadcasts — despite an Oct. 19 raid by 150 Mexican police, who swarmed over the traffic island and confiscated the transmitter along with studio equipment.

In Taiwan a few months ago, several thousand government troops raided 14 unauthorized makeshift radio stations on the same day. Protests and riots ensued.

Here at home, the FCC has slapped Stephen Dunifer with all kinds of legal documents, threatening to fine him \$20,000. The goal: to prevent him from going into hills near his home and airing a mix of music and political commentary. But Dunifer keeps transmitting "Free Radio Berkeley."

A guiding principle of microbroadcasting is that small-scale decentralized communication can nurture democracy. In contrast to media behemoths, requiring huge financial resources and dominating wide geographic areas, microbroadcasters don't need a lot of money — and if a listener wants to talk with the broadcasters directly, they're no more than a bicycle-ride away.

The FCC contends that such unauthorized broadcasts interfere with big-power licensed stations. But Dunifer points out that in neighborhoods there are many openings on the dial. After about 100 of his broadcasts, Dunifer says he has yet to receive a complaint of radio frequency interference — except for objections from FCC officials, who went out of their way to intercept and monitor his signal with their radio gear.

San Francisco attorney Luke Hiken asserts that the FCC actions against his client are "content oriented," motivated by government hostility toward Dunifer's anti-establishment activism. Hiken cites unlicensed radio broadcasters operating with FCC knowledge but without FCC opposition — such as an unauthorized Southern Oregon station airing Tommy Dorsey music.

Even if the FCC is able to stop Dunifer — who has invited federal enforcers to "kiss my Bill of Rights" — it's probably too late for the feds to short circuit microradio. Says Dunifer: "It is our intent and purpose to see thousands of

(continued to page 7)

## Some Comments and Excerpts from The United States of America vs. Stephen Dunifer

by The Black Hat, FRB Programmer

What happened on January 20, 1995 was a continuing play of historic events that embraced the acts of those who were in attendance in the United States District Court of the Northern District of California in San Francisco.

These included (in spirit) the Plaintiff, the United States, an oppressive geo-political entity that resides between the sovereign states of Canada to the north and Mexico to the south and in body its representatives: David Silberman, an attorney for the FCC and Patricia Duggan, special assistant United States attorney. Also appearing for the Defendant, Stephen Dunifer, a political activist, an anarchist and a twenty five year veteran of street action: Louis Hiken, his attorney, and Peter Franck, an attorney.

Sitting on the bench is a person whose recent decisions have given hope to many struggling groups and individuals: the (very) honorable Claudia Wilken, United States District Judge.

Neither the Plaintiff nor the Defendant speak as the drama of the day unfolds: Ms. Duggan, Mr. Hiken and Mr. Silberman introduce themselves to Judge Wilken, referred in the transcripts as "the court". She responds:

The Court: Well, it seems to me that there are some constitutional issues here with respect to the FCC's regulatory scheme. It appears that this Court is not the one that would rule on those....it seems that what this Court should do is allow the FCC to have its consideration of the issues, which it could do in the context of the pending forfeiture action [the \$20K fine against Stephen Dunifer by the FCC]. If Mr. Dunifer or anyone else doesn't like what the FCC does, it can appeal it, I presume.

Judge Wilken is making the case for the constitutional effects of the FCC's restriction of broadcast under 100 watts. She is attempting to redirect the FCC back to its own internal processes as a means to address the issue before the court that day.

Mr. Silberman interrupts her thought and interjects peevishly:

Mr. Silberman: No, Your Honor. And we disagree that the pending forfeiture matter has any effect on this Court's jurisdiction...to issue an injunction to prevent a continuing irreparable harm...

He attempts the argument that all other FCC means to stop Stephen's broadcasts have been "exhausted" and the FCC must ask the court to stop him with an injunction.

Mr. Silberman: Your Honor, we believe that there is a major difference between a preliminary injunction, which is to prevent further violations of the law and the forfeiture matter which is pending at the agency.

Judge Wilken reminds Mr. Silberman of the FCC's "primary jurisdiction" and he objects, claiming a "major difference" between the request for an injunction and the \$20,000 fine. Clearly Mr. Silberman has been taken by surprise and indulges in a lengthy harangue at Judge Wilken.

Mr. Silberman: The forfeiture deals with two of the 24 illegal broadcasts. And not to issue an injunction would allow the lawlessness to continue...Section 504(a) of the Communications Act requires the commission to ask the United States to file a complaint against the Defendant, Mr. Dunifer to recover the amount of the [fine]. There would be a trial...on that matter which could take some time...[I]n our view, the case that we cite to you...addressed that issue about exhaustion. The statute specifically authorizes this Court to issue an injunction if there are violations of the statute. The substantive charges are not disclaimed or denied in this case. There is an ongoing violation of Communications Act because of making radio transmissions without a license...We've proved irreparable harm because the statutory violation gives us that presumption.

The Court: Not if the statute is unconstitutional.

Mr. Silberman: Your Honor, there is no facial challenge to the constitutionality of the Communications Act, Section 301, in this case.

The Court: There's a challenge to the regulatory scheme.

Mr. Silberman: And if the defendant, or anyone else who wants to operate a radio station, wants to challenge those regulations, they can file a petition for rule-making at the commission...All of the cases support us, your honor...In every case where an injunction has been requested by the Government to prevent unlawful, unlicensed broadcasting, the District Court has granted the injunction. There is no case that we are aware of... [where] the Government has proved an unlicensed radio operation where the Government has been denied that injunction. And there's a very good reason for that. Unlicensed broadcasting creates chaos on the airwaves. It's anarchy on the airwaves. And to allow and not to enjoin this kind of operation, the Court should consider that in doing so it encourages continuing violations not only by the Defendant, but by those who would also see this as a signal that the law is not going to be enforced.

Mr. Silberman is clearly beginning to squirm and chafe under the idea that he may not only not get his injunction, but that Judge Wilken may take the FCC to task for it's procedures and require some clarification of Stephen Dunifer's rights under the present circumstances. The judge has no problem admitting that she could in fact do something on behalf of the situation, but turns the matter back to the FCC saying that they have preempted their own available procedures and prematurely brought the matter to the court.

The Court: I don't dispute that I have the jurisdiction. My concern is that if there were—and I think there are—serious questions about the constitutionality of [your] regulatory scheme, and if the FCC is meant to address those before I do, or in fact to the exclusion of me addressing them, how can we obtain the FCC's rulings on that so that they can then be reviewed by some court...My thought was that we could do it in the context of the forfeiture action. This action could be stayed. The forfeiture action could be ruled upon. You say it would have to go to the District Court first, right?

This bombshell from Judge Wilken sends Silberman into a panic and he tries to demonize Stephen Dunifer and his broadcasts and criticizes the actions of the court in this context.

Mr. Silberman: That's right. And then there would be an appeal to the Court of Appeals and then the Supreme Court, all the while if there was no injunction by this Court, Mr. Dunifer would have the freedom to violate the law. And this Court, by not issuing an injunction, would permit him to violate the law...Your Honor, the Defendant has a right to go to the commission and ask it to change its mind. What this Court should do is issue an injunction to prevent him from continuing to broadcast, because each broadcast provides for irreparable injury.

Mr. Silberman is unable to resist throwing in a personal note that reflects on his age and what he presumes to be the age of Judge Wilken.

Mr. Silberman: The constitutionality of Section 301 was established right after I was born and before you were born, Your Honor, in 1943 in the NBC case. The Supreme Court said, "No one has a right to operate a radio station without a license, and the scheme for licensing is constitutional." ...The law is clear, Your Honor. An injunction should issue.

Judge Wilken now turns to Mr. Hiken, Stephen's attorney. In the course of their conversation, Mr. Hiken makes it clear how the FCC will not listen to requests for rule changes under its own regulations. He punctures the argument that FRB broadcasts are any sort of "emergency", given the nature and amplitude of micro-power broadcasting. He points out the position of the FCC in not recognizing the "standing" of person to challenge their "regulatory scheme".

The Court: Why don't you petition for a change in the rule to the FCC?

Mr. Hiken: We believe that...the forfeiture hearing is a perfectly legitimate forum within which to raise this.

The Court: Maybe so, but why not file this petition to change the rule, in addition to it?

Mr. Hiken: [refers Court to book] [This] book outlines the history of the FCC from the period of 1928 to 1935 in which the radio industry...was placed in the pockets of the corporations that have controlled them since. The idea that the FCC does not have before them the information they need to initiate rule proceedings on their own is ludicrous. There is a broadcaster in Springfield [Illinois] who has been broadcasting 24 hours a day, a blind African American man, for five years. They gave him a forfeiture order five years ago. If there is an emergency, why is it that they haven't done anything about that? There's no emergency in this case. And we would point out to the Court that the suggestion you were making is exactly what should occur here. We made a request in the forfeiture order that "If there were proceedings or rules or means whereby we can raise this issue for your consideration, please give them to us." We did that a year and a half ago.

The Court: Right. But what they are saying is you're supposed to file a petition for a change of the rules.

Mr. Hiken: But the petition for change of rules is a procedure which is applicable...only if the constitutional standard is appropriate and legitimate...

The Court: I don't follow that. Why can't you go to them and petition that they



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change their rule that says they won't license a low amp station or whatever it is?

Mr. Hiken: [T]he equivalent to...their law is if people can't go into the parks and speak because we're finding...litter and things like that and people are saying "That's unconstitutional." There's no need to go petition the rule-making authority to say, "We asked you not to have this unconstitutional rule and law." This microradio we're talking about. To compare this...with something that Ted Turner or KCBS is using with 100,000 watts over the airwaves is ludicrous. Mr. Dunifer does not have the kind of funds or the ability, nor do any of the people that are involved in trying to regain just a voice over the radio, have the means to go to the FCC and do this.

The Court: Maybe you don't have to do it, but what's the problem with it?

Mr. Hiken: In the Duggan case that was argued a year ago, Justice Kleinfeld asked Mr. Silberman to brief the question of: "Why does the FCC regulatory scheme ignore microradio. Would you please explain why you're dealing with this technology the same way you're dealing with megawatt stations?" The FCC said that a person even who had received a forfeiture order did not have the standing to go into court to challenge their regulatory schemes...If you read the decision in Duggan you will see that the Court...was saying, "No, that's not so." The second you issue a forfeiture order, the person has standing to go into Federal Court...Our feeling is that the proper procedures to challenge the legality and constitutionality of their scheme is before the FCC itself first...Their own act gives them the authority to initiate rule-making procedures anytime they feel it's appropriate.

The Court: So if you get an adverse decision from the FCC...you would take it to the District Court, would you?

Mr. Hiken: When and if they will finally give us a ruling before the FCC, we'll be back here. That's why we request that you stay these proceedings. If there's an emergency, they can rule on those issues so that you will have the benefit of knowing their analysis.

At about this point Mr. Silberman objects and asks to interject that only the Government can initiate a lawsuit based on recovering a fine and then the Defendant is subject to trial. The Defendant cannot start this action. In effect, if the FCC chooses not to collect its fine, it need not defend its regulations in court unless it decides to do so.

The Court: Would you do that?

Mr. Silberman: What?

The Court: Will you do that?

Mr. Silberman: It depends on what the commission does. And we do try to recover forfeitures.

He waffles playing a what-if game. This is a topic Silberman would clearly like to avoid. Just as they have avoided dealing with that other matter in Springfield for five years. He shifts gears and goes on another long whining harangue, citing the same cases and regulations, apparently having played out his arguments he tries to give them added strength by repeating them again ad nauseam. This proves too much for the attorney for the defense.

Mr. Silberman: And we're entitled to an injunction because we've proved in our papers that there is irreparable injury. And they don't challenge that, really.

Mr. Hiken: Your Honor, he's repeating himself.

Mr. Silberman: Well, may I just...

Mr. Hiken: It's my opportunity to argue, I believe, sir.

Mr. Silberman: I'm sorry. I'm sorry.

The Court: That's all right.

Mr. Silberman: But irreparable injury...

The Court: Well, they do challenge...

Mr. Silberman: And there's no adequate remedy at law.

The Court: There's no adequate remedy at law for who?

Mr. Silberman: There's no adequate remedy at law for the Government here.

The Court: For the Government?

Mr. Silberman: No. There is not, because every time there is a broadcast it's irreparable harm.

The Court: Well, it's sort of an odd statutory scheme and regulatory scheme, but what it leaves me with is I have to balance your likelihood of prevailing and the harm to either side. And what I think is relevant to that is the constitutionality of the regulatory scheme...So I think what I have to do, in order to carry out the test I need to apply is to turn to the FCC and ask them to do what they are supposed to do, and tell us whether this regulatory scheme is required and proper and still correct in light of existing technology. Then I can decide on the constitutionality.

Mr. Silberman indulges his previous arguments one more time. To paraphrase Mr. Hiken, Silberman seems to think that if he repeats his arguments often enough, someone will finally believe them.

The Court: Well, my inclination is to deny the preliminary injunction and to stay the proceedings and turn to the FCC to act on it in the context of the forfeiture proceedings, so that this Court will have their guidance with respect to the need of those regulations and the balancing of the need for the regulations against the constitutional interests of the people who wish to broadcast and so forth.

As the matter begins to wind down, Ms. Duggan steps into the fray for clarification and makes it possible for Mr. Silberman to make his penultimate "can

of worms" argument.

Ms. Duggan: If I could ask for a point of clarification about when the Court is saying "a stay" are you expressing an inclination towards denying the preliminary injunction?

The Court: I'm denying it at this time. I would say without prejudice.

Ms. Duggan: [The injunction] is not being stayed, but the further proceedings after the preliminary injunction are being stayed.

The Court: Right. Because I can't make a final ruling without turning to the FCC first to do its statutory evaluation.

Mr. Silberman: Your Honor, I know you seem to make your decision. When we have a rule-making proceeding...that could affect the public at large and other broadcasters...there would be a requirement for notice and comment. And it could take months to years to resolve that question. Is Your Honor saying that we would have to have a rule-making proceeding, open up for public comment, have the staff consider the recommendations, provide a report...to the commission, and go through the judicial review process if someone were to challenge any new rules or to challenge the decision not to adopt new rules? This could take years.

The Court: That's not what I'm saying at this point.

Mr. Silberman: Because that's precisely what's going to happen, Your Honor. Your Honor, this opens up such a can of worms. You don't realize. I mean it. Your Honor, what would happen would be that you've given carte blanche to this group of people who think they can operate a radio station without a license...This is turning it on its head, Your Honor. I know you are inclined, and you've made a determination. But it opens up such hazards to the public interest that I want you to realize what you're doing...

The Court: I didn't find such egregious hazards on the records. I mean, if there is some further showing that you want to make at some point, I can't prevent you from doing that.

Though a court date was set for early March for a showing by the FCC, this was later postponed. As of this date April 25, 1995, nothing has emerged from the FCC, and something is expected within the first two weeks of May. If ever. After all, to quote Silberman, this could take years. Hold on to your transistors, it could be a bumpy ride.

## FRB Interviews FCC on Fine Structure

by Carol Denney

**FRB:** One curious aspect of the current administration of the Federal Communications Commission is its seemingly arbitrary assignment of uncollectible fines to people accused of broadcasting without licenses. How does the FCC structure its fines? Is there actually some kind of system? To find out, we asked an FCC agent shivering in a van frantically twisting dials outside the suspected location of a pirate broadcaster. Mr. FCC agent, is there actually some kind of system?

**FCC AGENT:** Of course we have a system. It's just too complicated for lay people to understand. We take the average daily temperature divided by the current interest rate, factor in the price of gasoline, premium gasoline, that is, and then multiply by 14% of the amount of people who voted in the latest mayoral election according to the municipality of the radio pirate in question, subtract twenty-nine and there you have it; a rational, objective formula for the assignment of fines to pirate radio broadcasters.

**FRB:** Was this always the method used for the assignment of fines?

**FCC AGENT:** No, we used to use a dart board and a blindfold, but it was suggested to us that this might be perceived as somewhat arbitrary. . . . being good public servants we began a course of serious study with renowned experts to, uh, refine this method.

**FRB:** What other methods have been used?

**FCC AGENT:** Well, for a few years we experimented with an FCC secretarial pool lottery system, after which we moved to more complicated formulas based on the third horse race at Santa Anita, then for several months we relied on adding up the numbers in the first forty license plates through the Bay Bridge toll plaza at midnight. These are valuable indicators, of course, but we believe our current methods offer a truly scientific rationale.

**FRB:** Will the FCC be further improving its current fine selection method?

**FCC AGENT:** Well, we take our duty to discourage pirate broadcasting extremely seriously so despite the fact that we have no way of actually collecting any of these fines, we tirelessly continue to experiment with fine structures hoping that someday the pirate broadcasters will surrender their headphones in defeat. Our latest experiments involve an inverse ratio of atmospheric negative ions to salt content in canned soup, carefully factoring in other numerical indicators such as football scores and stock prices. The American people can be proud.

**FRB:** Of course, of course. We've been listening to an FCC fine agent explaining the creative aspects of the FCC fine structure. Back to you in the studio. . .

## Kits & Accessories From Free Radio Berkeley

First, a word from our legal department:

For educational purposes only. These kits are offered for the furtherance of one's knowledge regarding radio frequency design and principles. At all times during operation the assembled unit must be connected to a dummy load. Part 15 of the FCC rules prohibits an antenna being used with these units. All responsibilities for the ultimate use of these kits are born solely by the builder and/or operator.

### KITS AVAILABLE NOW !

All kits are complete and come with professionally manufactured, drilled and tinned PC boards. All coils are pre-wound. Each unit, unless specified, requires 12 volts for proper operation. Full instructions and diagrams included. Required tools include a 25-30 watt soldering iron with a fine tip, diagonal cutters, needle nose pliers, assorted screwdrivers and other small hand tools. Full assembly diagrams and instructions are included with each kit. Antenna construction diagrams are provided with each transmitter or amplifier order.

Certain kits are designed to work with each other. For those whose wish to boost the output of their Ramsey FM-10 the 1/2-1 watt amp will work very well for this purpose. The 30 watt amp is designed to be driven by 3-5 watts and works extremely well with the 5 watt transmitter. The 15 watt amplifier is designed to be driven to full power with about 1/2 watt of input power, hence it works very well with the 1/2 watt stereo transmitter or PLL transmitter. If you wish to only boost a 1/2 watt signal to 5-7 watts then choose the 6 watt amplifier kit. An amplifier only increases the output power of a given input signal, it can not produce an FM signal whereas a transmitter or an exciter creates the FM signal at a suitable power level for possible further amplification by an RF amplifier.

#### 1/2-1 Watt PLL Transmitter - \$105

Our newest kit. Full digital PLL control locks the frequency and prevents any drift from happening. Will easily drive the 6-8, 10-15, and 20-24 watt amplifier kits. Easy to assemble and a major improvement over the Panaxis PLL kit. If you have one of our 5 watt transmitter kits, they can be modified to be driven by the PLL transmitter. Full instructions are provided for this modification.

#### 1/2 - 1 watt Stereo Broadcast Transmitter - \$55

A vast improvement over the Ramsey FM-10. It uses the BA1404 IC as a stereo modulator only to modulate a FET vfo, buffer and amp chain. Better audio input filtering and bypassing. IC voltage regulation for the 2.5 volt supply for the BA1404. A very rugged output stage and collector voltage bypassing make this unit stand out from all other transmitter designs using the BA1404 chip. Requires 12 volts DC

#### 5 Watt FM Transmitter - \$65

This is a very good basic unit that is very compact, fits into a 4 x 6 inch enclosure (available punched and drilled). Frequency stability is maintained by a well designed oscillator section. It is a mono unit that accepts line level input (i.e. an audio signal from a tape deck, mixer, etc.). A fine frequency adjustment control allows for easy adjustment of operating frequency. To increase power of this transmitter use the 30 watt amplifier. Both will fit into a 7 x 7 inch enclosure (available punched and drilled). Requires 12 to 14 volts DC at 3/4 to 1 amp for operation.

#### 6 watt RF Amplifier - \$30

Uses the same output transistor as above. It is designed to boost low wattage transmitters to a bit higher output power and will produce up to 8 watts of output power. A very small and compact circuit measuring 3 x 1 1/2 inches for 1/2 watt input drive. Easy, quick assembly. Requires 12-14 volts DC at 3/4 to 1 amp for operation.

#### 15 watt RF Amplifier - \$55

Uses a very high gain (14dB, power gain of at least 25X) RF transistor to boost a 1/2 watt input to 15 watts. Perfect for boosting the 1/2 stereo transmitter to 15 watts. Measures 2 1/2 by 5 inches and fits into a 4 x 6 enclosure (available punched and drilled). Includes heat sink. Easy, point to point surface mount assembly. Requires 12-14 volts at 2 amps for operation.

#### 20 -24 watt RF amplifier - \$115

\$115 might sound a bit steep, but for those who do not wish to do an extensive amount of soldering and tuning, this is kit is for you. It uses a broad band high gain, RF power module which will put out a 20-24 watt signal for only a 100 to 200 miliwatt input. Kit requires less than 20 solder connections to complete, including a 5 element filter. Since the module is broad band from 88 to 108 MHz no tuning is required, plug and play as they say. Requires 12-14 volts at 3 to 4 amps.

#### 25-30 watt RF Amplifier - \$65

Will produce full power with an input drive of 3-5 watts. This unit works very well with the 5 watt transmitter kit. In fact, next to the 5 watt kit, it is our most popular item. Fits a 4 x 6 inch enclosure (available punched and drilled). Easy point to point surface mount assembly. Includes heat sink. Requires 12-14 volts DC at 4-5 amps for operation.

#### 30-40 Watt Amplifier - \$95

30 to 40 watts of output power for an input of 1/2 watt. This is a two stage unit with a 5 watt and a 40 watt amplifier on the same board. Easy, large surface mount type assembly. Works very well with the PLL transmitter. Requires 6-7 amps at 12 volts DC.

#### 1/2 to 1 watt Amplifier - \$30

1/2 to 1 watt output for an input power of 10 mw. Great for boosting lower power

VFOs and low power Ramsey FM-10 type kits. Very compact size, 3 1/2 X 1 1/2 inches. An optional transistor can be substituted to take the power up to 1 1/2 watts, add \$5 for this option.

#### Output Filter Kit - \$8.00

A seven element low pass filter, composed of 4 coils and 3 capacitors, to flatten those harmonics. Please use a filter on any transmitter you to use to avoid possible interference with other services.

#### 15 Watt Dummy Load Kit - \$10.00

Essential for tuning up and testing transmitters and amplifiers. Will handle 15 watts without any strain, higher powers for a briefer period of time (i.e. shut down when it gets rather hot). Presents a uniform 50 ohm impedance to the transmitter.

#### 25 Watt Dummy Load Kit - \$20

As above, use this with the 30 watt kit for testing and loading purposes. Uses a single, film non-inductive resistor

#### 50 Watt Dummy Load Kit - \$35

Same design as the 25 watt unit, use this if you plan on running the 30 watt unit for an extended period of time with a dummy load.

#### 100 Watt Dummy Load Kit - \$50

Same design as the 25 & 50 watt units. Uses 2 film resistors.

#### Stereo Generator Only - \$30

Actually 1/2 of the above the stereo transmitter, will allow one to broadcast in stereo using the 5 watt transmitter with a very minor modification.

### HIGH POWER AMPS - USE WITH CAUTION

#### 75 Watt Amplifier - \$200

Requires 28 volts DC (two car batteries in series or 28 volt DC power supply). Point to point surface mount construction. Easy assembly, includes heat sink. Amplifier measures 6 3/4 x 3 3/4 inches. Only 5 watts input power needed to drive to full power.

**150 Watt Amplifier - \$250** Requires 28 volts DC (two car batteries in series or 28 volt DC power supply). Point to point surface mount construction. Easy assembly, includes heat sink. Amplifier measures 6 3/4 x 3 3/4 inches. Use a power FET RF transistor that requires only 3-5 watts of input power for 125 watts output.

### ANTENNA KITS

These are partial kits, just go to your local plumbing supply or hardware store for the copper pipe and/or wire needed for completion. Full construction diagrams and instructions included.

#### J-Pole - \$25

Metal box drilled with SO239 connector, tuning cap and tubing clamps. This one is know as the "electricians special" since it uses mostly electric hardware in its construction. Works very well for urban areas. No soldering of copper pipe required for assembly. Can be adjusted for operation over the entire FM band.

#### Slim Jim - \$20

SO239 connector and clamps. Works very well for urban areas where a powerful horizontal pattern is needed. If used at too great of height, an area surrounding the antenna will be skipped over due to its low angle of radiation. Even at a height of only about 12 feet mounted on a traffic sign pole this antenna was able send a 5 watt signal 2-3 miles. Requires soldering of copper pipe. Can be placed inside a 6" piece of black plastic pipe for concealment. Provides a gain of 2-3.

#### Dipole - \$20

Easy and quick design.

#### 5/8 Ground Plane - \$35

All necessary parts except copper element and ground radials. This is a great design and works extremely well. It is very portable and will boost the power by a factor of 2 to 4.

### POWER SUPPLIES

Unless you are planning on operating from a 12 volt lead acid battery or from the lighter socket in a vehicle you will need an AC operated DC power supply. Wall adapter units can not be used. We have the following units available.

#### 2.5 Amp 13.8 V DC power supply - \$35

Use this to power either the 1/2 watt transmitter or 5 watt transmitter or the 1/2 watt stereo unit in combination with the 6 watt amplifier.

#### 4.5 Amp 13.8 V DC power - \$45

Use this to power the stereo transmitter in combination with the 15 watt amplifier.

#### 12 Amp 13.8 V DC power supply - \$75

Use this to power the 5 watt transmitter in combination with the 30 watt amplifier or the PLL with a 40 watt amplifier.

### METERS

#### Power & SWR Meters

These are essential to the proper tuning and setting up of both transmitters and antennas. An antenna has to be fine tuned so that it accepts the full power of the transmitter and reflects the lowest amount possible back, that ratio of forward power to reflected power is know as the standing wave ratio (SWR). The various stages of both transmitters and amplifiers have adjustable capacitors which are used to tune the unit to the frequency of operation. A power meter allows you to see the effect of these adjustments on the power level and to set everything at an optimum level.

#### Economy Power/SWR meter - \$35

A compact in-line unit that works up to a frequency range of 150 MHz.

#### High Quality Daiwa Meter - \$100

A dual cross needle meter that shows both forward and reflected power on the same meter face. Makes tuning up very easy, no need to switch back and forth between these two

functions. Compact design with 12 volt connection for lighting the meter face.

#### FREQUENCY COUNTER

To accurately maintain your operating frequency a digital frequency counter is highly recommended. A digital tuner with signal strength indication can be used as a substitute. We have a frequency counter available for \$80.00

#### COAXIAL CABLES

A coaxial cable is a special type of wiring that has an inner conductor surrounded by an insulating plastic sheath which is covered by a braid of copper wire that is then covered by a plastic jacket. The 75 ohm video cable used in home TV applications is one type of coaxial cable. For most RF purposes, 50 ohm cable is used. Quite a number of 50 ohm coaxial cables are available ranging from the rather small to cables over 1" in diameter. Regardless of the type, all such cables exhibit a loss that increases with frequency of operation and the length of the cable. For most purposes we will concern ourselves with RG8 and RG8x (mini version of RG8). In very short runs RG58 can be used, but we prefer RG8x due to its lower loss and ability to stand a bit more abuse. RG8 has the lowest loss of the group. Under no circumstances should the cables be twisted, kinked or crushed, this will cause major problems. We supply both RG8X and RG8 in the following lengths. Each end is terminated with a PL259 plug.

RG8X: 25 feet - \$15, 50 feet - \$25, 75 feet- \$35, 100 feet - \$40

RG8: 50 feet - \$32, 75 feet - \$42, 100 feet - \$52

#### ENCLOSURES

**4 x 6 aluminum chassis** punched and drilled for 5 watt xmtr, 15 watt amplifier or 30 watt amplifier - \$20

**7 x 7 aluminum chassis** punched and drilled for 1/2 watt stereo transmitter or 5 & 30 combo or PLL 1/2 watt. - \$25

**The Brick Enclosure - 15 to 30 watt size -\$35 / 40 watt size -\$45**

Combined heat sink and enclosure made from extruded aluminum. Will support a 1/2 or 5 watt transmitter and any of the booster amplifiers.

#### VARIOUS & SUNDRY ITEMS

**Tweak stick - \$2.50**

Essential to tuning transmitters and amplifiers. Non-conductive body with tiny metal blade at end. In tuning these transmitters and amplifiers a metal screwdriver will cause false tuning to happen due to the interactive effects of the metal and the holder of the screwdriver with the circuit. A plastic TV tuning tool kit can be found at Radio Shack as well.

#### NEW ITEMS

**1-5 Watt AM & SW Transmitter - \$60**

A well designed AM & SW transmitter which uses standard microprocessor crystals with a switchable 1-10 frequency divider. I.e. an 8 Mhz crystal yields frequencies of 4, 2.66, 2, 1.6, 1.33, 1.14, 1, 8.8, .8 Mhz. Specific frequency crystals can be ordered from various sources. Supplied with 8, 6 and 4 Mhz crystals. Output power is adjustable from 0 to 5 watts.

**25 watt AM & SW amplifier kit - \$55**

Broadband up to 10 Mhz. Requires only 2 watts of drive power for 25 watts out. Needs 28 volts DC for operation.

**150 watt AM & SW amplifier kit - \$275**

Broadband to 30 Mhz. Requires 5 watts of drive power. Requires 12-14 volts at 18-20 amps.

Proceeds from the sales of these kits go to the furtherance of micro power broadcasting, bringing a voice of empowerment to every community.

Please add \$6.00 for handling and shipping for each kit. \$6.00 for the 2.5 & 4.5 amp power supply and \$15.00 for the 12 amp power supply. Normal shipment is UPS 3 day select. COD orders add \$8.00. Air mail to other countries, \$12.00 per kit.

Payment to be made out to Free Radio Berkeley

Foreign orders please pay by money order drawn on US bank

Free Radio Berkeley 1442 A Walnut St., #406 Berkeley, CA 94709

Voice mail: (510) 464-3041

Net mail: frbspd@crl.com

## Microradio on the Road

by Keith McHenry

As part of a Food Not Bombs tour of 22 cities I demonstrated a 5 watt FM transmitter at every location. It started up without a problem on the first night in Dallas. The system was simple. I plugged my boom box into the mixer and I connected the mixer to the transmitter. The power supply went to the transmitter and the cable to the antenna hooked up to the other side of the transmitter. It took only fifteen minutes to put the system together. I had local Food Not Bombs people lock into a dead frequency and tune the transmitter in themselves. They loved it. The next night I broadcast the concert at the Engine Room in Fort Worth. People were so excited about the live show going out over the air that much of the audience went to the parking lot and listened to the event on their car radios. Micropowered radio was a hit in all 22 communities. The transmitter worked well even after it was dropped from a three foot high table onto a hard wood floor three times in Kansas City. I broadcast that concert as well. New York City and Chicago were the only two cities that have very little dead space on the band. My hosts in Canada thought we would lose the transmitter crossing the border. I left the mixer, microphone, power supply, etc. in Burlington, Vermont when I went to Montreal. The people in Burlington broadcast for 12 hours while I was in Canada. They called their friends and had them tune in. They said it went all over town.

The first video we presented showed C.T. and I talking about Food Not Bombs International Gathering on San Francisco Liberation Radio. One segment shows us receiving a call from one of the food servers who talks about that night's meal. Another segment shows Stephen Dunifer building a transmitter and encourages the viewer to attend the Gathering where workshops will be held on setting up a micropower FM broadcast station. Other workshops will cover all aspects of community organizing. Everyone is invited to come to San Francisco for the Gathering from June 19th to June 26th. A special Gathering station will on the air at 87.9 FM. For more information call 1-800-884-1136.

## Micropower Videos Available

A 2 hr. micropower broadcasting workshop video is available for \$25.00. It covers all the basic aspects of putting a micropower station on the air. A second 1/2 hr. overview of micropower broadcasting is available for \$20.00. It is perfect for putting on your local cable access station as a promotion of micropower broadcasting.

## Attention PLL Kit Owners

We have made several modifications to the PLL design to improve stability. Remove L7, the 5 turn coil, and replace with a wire jumper. Remove C25, 470 pf, and replace with a wire jumper. A hum may be present in the audio when using AC power supplies due to not quite sufficient rejection of 60 cycle AC. An external 12 volt regulator between the PLL voltage supply lead and the DC power supply will solve this. A retrofit kit is available for \$8.00 which includes a low drop-out regulator and filter capacitors.

## Use a Compressor/Limiter

We strongly suggest using a compressor/limiter between the mixing board and transmitter. This will prevent over modulation of the transmitter and possible subsequent interference due to splatter. An inexpensive model is the DBX 163, cost is about \$100-\$125. We will have a limiter/compressor kit available soon.

## Mixers Now Available

Free Radio Berkeley has disco style mixers available for \$160. These support 4 line level sources, 2 turntables, 2 microphones and have graphic EQ One is now in use at the FRB studio. A smaller version is available for \$95. For high end applications we have Mackie mixers as well, please enquire.



Radio Libre

103.3 FM

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## San Francisco Liberation Radio Rocks On After Two Years

by Richard Edmondson

From children's programming to talk shows on controversial issues, San Francisco Liberation Radio continues to offer progressive broadcasting to the people of west San Francisco as we get ready to celebrate our second anniversary.

In our two years on the air we have gone through some unbelievable changes—from broadcasting by flashlight one night a week while battling wind and weather on Twin Peaks, to the smooth, steady seven night a week operation we have now in the comfort of a Richmond District house.

It gave us an awesome feeling walking through Golden Gate Park after the storms in January and March and seeing all the huge, tall trees that had been knocked down by the wind. To think that our antenna made it through all that — battered perhaps but still flying proud and high—well, high fives all around. And we didn't miss a single night on the air!

San Francisco Liberation Radio continues to offer the best children's programming anywhere in the Bay Area—on Annie Voice's program, "Time Out!" In April Annie began reading "The Night of Wishes" by Michael Ende, a metaphorical tale about the wealthy making deals with the devil. In the story the devil is very upset because Beelzebub Preposteror, who in exchange for extraordinary wealth and power over his fellow mortals, has not been fully living up to his end of the bargain, so the devil sends his servant, Maledictus Maggot, to lay down the law: more rivers polluted, more trees cut, and more species rendered extinct. . .or else!

"We try to pick stories that are not only entertaining but also teach children to care for the Earth," said Annie, who in addition to being a micropower radio broadcaster, has also been a pre-school teacher for the past eight years.

We'd like to welcome back Keith McHenry as host of "Voices of Rebellion", our live weekly call-in talk show. Keith took a six week hiatus from the show as he went on a nationwide tour for Food Not Bombs. Very special thanks go out to Geoff McDonald and Nikki the Liberator of Radio Libre for filling in as guest hosts in his absence.

In keeping with our policy of bringing you the interesting and the unusual, we feature in May a fifteen-part reading of the book, "Worlds in Collision" by Immanuel Velikovsky. Food for the mind, you might call this one. Velikovsky, the original proponent of the theory of cosmic catastrophism, proposes that in the year 1500 BC, the Earth was struck by a giant comet, which went on to settle into an orbit around the sun as the planet Venus. The event triggered astounding catastrophes of nature which are ascertainable today in the geologic records of the Earth as well as the folklores of ancient peoples, according to Velikovsky.

Despite the impressive body of evidence Velikovsky presents to support his thesis, "Worlds in Collision" was harshly and at times stridently rejected by the scientific establishment when it first appeared in 1950. Many of the nation's top scientists referred to Velikovsky as a charlatan and threatened to boycott his publishers. Yet many of Velikovsky's predictions, such as the existence of radio signals emanating from the planet Jupiter, have since been borne out, and the book is fabulously rich in the culture of ancient civilizations, delving deeply into the secrets of Hindu, Babylonian, and Mayan astronomers. Moreover, Velikovsky's detractors found themselves sharply rebuked by no less than Albert Einstein, who maintained a correspondence with Velikovsky until his death in 1955.

We're looking forward to seeing all of you at our Second Anniversary Party, May 11th at Cesar's Latin Palace. As of this writing, the Funky Nixons have been booked for this joint anniversary celebration for ourselves and Free Radio Berkeley, and it promises to be a festive occasion. Micropower radio is now two years old in the Bay Area! So don't forget—Cesar's Latin Palace, 3140 Mission St., Thursday May 11th at 9 pm. See you there! And when in west San Francisco, keep your radio tuned to 93.7 FM, San Francisco Liberation Radio.

((Solomon continued from page 2))

transmitters taking to the air in an all-out, no-holds-barred movement of electronic civil disobedience."

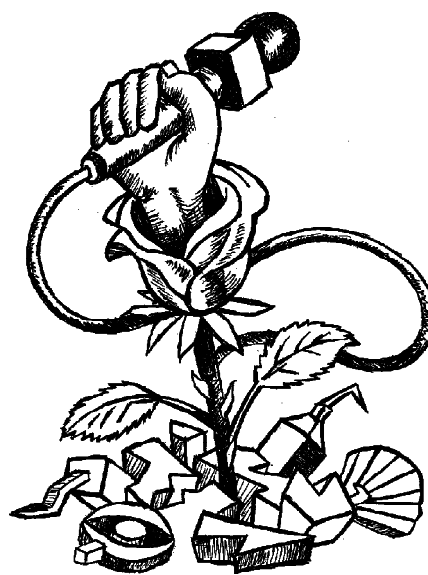
While Dunifer does battle with the FCC, the General Electric moguls in charge of NBC are engaged in a very different turf battle — with a competing media giant, the Fox TV network.

In early December, Fox went to the FCC with a petition challenging General Electric's control of broadcast licenses in view of GE's "pattern of illegal activity." The Fox petition was a counterattack against GE, which a week earlier had told the FCC that Fox's foreign ownership violates federal rules.

The chances are tiny that the FCC will banish GE from the broadcasting business. But if lightning strikes and GE loses its status as a mega-broadcaster, Jack Welch might want to consider trying his hand at a more humble role.

For a few hundred dollars, Welch can set up his own 15-watt radio station. Stephen Dunifer would be glad to show him how.

Jeff Cohen and Norman Solomon are syndicated columnists and the authors of "Adventures in Medialand: Behind the News, Beyond the Pundits" (Common Courage Press).



# Free Radio Berkeley & SF Liberation Radio

## Second Anniversary Celebration

### Thursday, May 11

#### Anniversary Party Benefit

8 PM Cesar's Latin Palace, 3140 Mission at Army  
With Resistance & the Funky Nixons  
\$5-10 donation

### Friday, May 12

#### Free Speech Demonstration

12 noon - Oakland Federal Bldg. - 13th. & Clay Sts.  
Status Conference with the FCC - 1:30 PM  
Oakland Federal Court - 13th. & Clay Sts.

#### Public Forum With Michael Parenti

8 PM - Berkeley Unitarian Fellowship, Cedar & Bonita  
\$5-\$15 donation

### Saturday, May 13

Workshops on Micropower Broadcasting  
10 AM - 12:30 PM & 1 PM - 3:30 PM  
Berkeley Unitarian Fellowship, Cedar & Bonita  
\$5-\$25 donation

Digital Editing & Production

Setting Up a Micropower Station

Internet as a News Source

Legal Aspects



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# FREE RADIO BERKELEY PROGRAM SCHEDULE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
6 AM		Salomeh			Hag		Bongload
7 AM					Bird		of
8 AM	Revolution			Prono	Celine	Joe	Blues
9 AM	The		John	Show	Resurrection		Peitsa
10 AM	Chochicken	Geneck	Jim's	Mobee's	Radio with	Open Air	Bret
11 AM	News		Interview Show	Chaos	the Birdman	Hoodlum	Cory
12 NOON	Radio		Judy	Channel	Sue	Mr. E	Adam T.
1 PM	Gitano	Rosnor	or	Jef & Jen	Clinton	Centri	The
2 PM	world beat	and	Jesus	MC	MC	City	Gospel
3 PM	Desmond	Peoples	The	Eternal Bliss	Rot-A-Lot	Shibbider	Our
4 PM	Doomsday	Loki live	Goophy	Community	compost	and	Forest
5 PM	The	from Valhalla	Girlz	Space	tips	Spydon	Love
5:30 PM	Julie	RADICAL	RADICAL	RADICAL	RADICAL	RADICAL	RADICAL
6 PM	Generic	NEWS HOUR	NEWS HOUR	NEWS HOUR	NEWS HOUR	NEWS HOUR	NEWS HOUR
6:30PM	Show	DJ	Sisters of	FIVE	How	Sub	Liquid
7 PM	Cyclogic	Red	Hysteria	CENT	Heather	Noble	Jim
8 PM	Loco	Beard	Copwatch	PUNK	Hears	Bad Newz	Show
9 PM	I.C.	Ask	Report	The	BLA	Hiphop Slam	Stephen D.
10 PM	Clearly	Dastardly Dee	Paul	Rad	Street	with	and Laura
11 PM	Show	a Question!	Panic	Man	Alert	Capt'n Fred	Drawbridge
12 MID	Bunny	The		The	Soul	Temple	The
1 AM	and	Space	X	Black	Conspiracy	Rage	Night
2 AM	Lonepuff	Platform	Ris	Hat	Review	with	School
3 AM	The	Rockabilly	Wilson	Show	The	Gandalf	In
4 AM	Crusty	Till		Lice	In	the	Be
5 AM	Undies	Dawn	Oklahoma	Crem	Crowd	Mad	Tween

## Free Radio Berkeley Studio Line (510) 655-7146

## On the Air !

At this the time of this printing the following micro power stations are on the air in the San Francisco Bay Area.

**San Francisco Liberation Radio 93.7 FM** - West and North of Twin Peaks in SF Sundays, 2 PM to 10 PM. Mon, Tues & Fri., 8PM to 12MID. Wed., 5PM to 12 MID. Thurs. & Sat., 7:30PM to 12MID.

**Radio Libre 103.3 FM** - SF Mission District, Tenderloin, SOMA, Civic Center. Every evening from 6PM until 12 Midnight. They announce the Food Not Bombs meal serving at Civic Center.

**Free Radio Berkeley 104.1 FM** - Berkeley, North Oakland, El Cerrito, Richmond & Albany. 24 hours a day.

**South Marin 87.9** - Mainly Sausalito area. Every evening until late.

**San Rafael**, low end around 88.1. In the evenings

**Santa Cruz** - just went on, low end around 89 or so.

**Salinas - 96.3 FM** - All Spanish community station

South and North Bay, and beyond. We have heard of folks being on the air from San Jose north to Ukiah. Unfortunately we have not received much information about times and frequencies. Any updates would be appreciated

**Black Liberation Radio** and Mabana Kantako are now on the internet. The email address is: townsend@eagle.sangamon.edu

Yes, I want to help support Micro Power Broadcasting !

Enclosed is a donation of \$\_\_\_\_\_ (checks to FRB)

I would like to volunteer

I have technical skills & can be a mentor to others who need help

I would like to start a support organization in my community

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Country \_\_\_\_\_ Phone \_\_\_\_\_ Email \_\_\_\_\_