

Number 12

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The most dangerous thing anyone can do, is to be born. Birth is 100% fatal. There are no exceptions. Fortunately for us, between cause and effect, there is usually a very slight delay. A tick or two of Eternity's clock. This delay we call Life. -BW

COMMENT

Any effect that can be strong, can also be less strong. A good example of this is moving air in our atmosphere. It can have the unbelievable velocity of a tornado, or it can be a chill winter wind. It can be a mild summer breeze, or it can move so slowly that only a weather balloon can detect any movement at all. There is no air speed that we can point to and say that this is the slowest it is possible for air to move. No matter how slowly it may be moving, it can always move at an even slower speed. And this of course, is a general principle. Any effect that can be strong, can also be weaker to any degree.

A more pertinent example, is that of radio communication. The useful range of such communication is determined by the power output of the transmitter and the sensitivity of the receiver, among other factors.

As a mental exercise, lets imagine a low power AM

broadcast station in some mid-western town, where the land is flat as a pancake. Lets suppose we have a car with a radio receiver equipped with an output jack which can be connected to a recorder. While we are recording, we can also hear the station through the speaker.

As we drive out of town, directly away from the station, the signal is at first quite clear. After some miles however, we notice there is now a bit of static mixed with the signal. As the miles go by, this static gradually grows stronger, making the station more and more difficult to understand. Finally a point is reached where the presence of the station can still be detected, but nothing can be understood through the speaker.

A little further, perhaps at a hundred miles distance, nothing

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can be heard but static. However, since our object is to determine how much is audible in later analyzing the tape, we continue driving for another hundred, perhaps two or three hundred miles. At that distance, is the station signal still present even though we can't hear it through the speaker? The answer is yes. In fact the signal would still be present even if we put the radio on a space ship and took it to the moon. Although at that distance, with the little stick antenna, the signal would be so weak as to be beyond the ability of even the most sophisticated computer enhancement technique.

In later analyzing the tape, we would find of course, that at the beginning of the tape, the part that was recorded near the station, the voice would be very clear, even through a speaker. A bit further along we would notice a little static in the background. Further still, this noise would become louder, as the signal to noise ratio gradually deteriorated. Everything could still be understood, but now there would be enough background noise to become irritating. A little further, and the noise would become strong enough that we would miss a word or two here or there, of what was said. (In a car this would be about the point where one would change to a stronger station or turn off the radio)

In analyzing the tape however, we can now apply the first special technique, which is the use of earphones. By using a headset, which shuts out environmental noise and aids concentration, at this point everything on the tape can still be understood, even though there is quite a bit of noise. A little further however, even this is not enough.

As the noise gradually increases, again we find that some of the words are being missed.

Now another technique is required, that of repetition. By playing the tape segment back several times, the word or statement that could not be understood the first or second time, can usually be understood by listening to it several more times. By now the signal to noise ratio has deteriorated to the point that in listening casually to the recording through a speaker, one may, or may not, be able to tell there is a station present, but in either case little or nothing would be understandable.

Going yet further down the tape the voices become weaker still, as we approach a signal to noise ratio of one or zero decibels. If at this point it were possible to separate the noise and voice signal and display both on a dual trace oscilloscope, both would be the same amplitude.

Another way of thinking about this would be to imagine being in some kind of factory. Lets say that about twenty feet away there is a very noisy machine. Along side the machine someone is standing who is trying to talk to you. They are shouting as loud as they can. But the loudest they can shout, is at exactly the same volume level as the noise made by the machine. How much would you be able to understand? Well according to studies done by NASA as described by Alec MacRae (SV-10/37), you would be able to understand about 50 percent.

As we go even further down the tape the S/N ratio goes into the negative decibel area. Meaning of course that the noise is now literally louder than the

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voice. There are two characteristics that allow us to distinguish voice from other sound, and understand what is said. The first and most important is of course, amplitude. In most cases when one is listening to a voice, in person or on the radio, etc., the voice is louder, by far, than any other sound. And we have come to expect this to be so.

There is however, a second attribute of voice that allows us to distinguish it from noise. That attribute is waveform. The waveforms of voice are different from the waveforms of noise. And it is this attribute that allows a voice to be understood even when the signal to noise ratio has gone into the negative decibel area where all amplitude advantage has been lost.

According to the graph drawn by Mr. MacRae, of the NASA studies, at -3dB, roughly 30 percent of what is said can be understood. At -6DB about 10% can be understood. In our example of the factory, at -3dB the loudest the person could shout would be at only 75% of the volume of the noise generated by the machine they were standing by. At -6DB their loudest shout would be only 50% as loud as the machine noise. Yet even at this level about 10% of what they said could still be understood.

As we go further along the tape we are analyzing, and enter into this negative decibel region, yet a third technique is required. (By this time most people listening to the tape would hear only noise and would already have concluded that there were no longer any voices on the tape.)

At better S/N ratios we would have the volume and tone

controls set to a comfortable adjustment, and probably leave them there, because they are not that important. In the negative decibel area however, where we are trying to understand voices based on waveform patterns rather than on amplitude, the adjustment of these controls becomes critical. A voice that can be heard and understood at one combination of volume and tone settings, may be undetectable at slightly different settings.

An additional complication is that the settings are voice sensitive, that is, the best settings are usually slightly different for each individual voice. Higher pitched voices, deeper voices, male voices, female voices, all require slightly different setting combinations. One cannot simply "tune-in" the first voice on a tape segment, and then hear all the other voices on the segment at the same settings.

Because of this, in order to hear each voice as clear as possible, each must be listened to repeatedly, each time at a slightly different tone and volume combination setting, until the best combination is found. This of course, is very tedious and time consuming. Since intense concentration and numerous repetitions are required, it can easily take 15 to 30 minutes to analyze even a five to ten count segment of tape. Longer segments are impractical because it becomes progressively more difficult to maintain the necessary degree of concentration.

In TC recording, just as in our recording of the fading radio station, there is no bottom cut-off level. That is, there is no level, no matter how weak, at which the voices cannot be even weaker. And this is true whether

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or not they are understandable or even detectable. In other words, TC voices can be anywhere along a linear sliding scale from "Hi-Fi" to absolutely undetectable.

Just how much can be heard in this "fringe area" or negative decibel region, varies considerably between individuals. In order to communicate at all, those of us who are not Transmediums, have had to work very hard, listening intensely and repeatedly to short tape segments, until we train ourselves to discern the presence of, and understand the voices that are recorded. On the other hand, Transmediums, who's S/N ratio is better, have not had to do this, because for them it is not necessary. Quite understandable.

Unfortunately, this difference in reception quality has caused certain problems. The first of which is with new people coming into the field. A person attempting to establish contact, and having expectations that are too high, is listening for something obvious on the recording. They are listening for a voice, understandable or not, that is louder than the noise, listening for something that is at least loud enough to attract their attention as they go by.

After doing this repeatedly over several days or weeks, and hearing nothing obvious, even though they may very well have recorded numerous voices, all too many, I'm afraid, simply give up, believing they have failed. However, I think it more probable that in virtually every case they have not failed to record messages. Where they have failed, is in realizing these voices can exist at any signal to noise ratio, and in being persistent enough to learn to detect and

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understand the low level voices they have most probably recorded. (Of course if the new person is fortunate enough to have TM ability, they will likely not have this problem.)

Everyone knows people who are in the Spirit world. Parents, Grandparents, great Grandparents, Uncles, Aunts, perhaps sisters, brothers, or cousins, maybe even children. In addition there may be friends, ex-schoolmates, co-workers, etc. There are also numerous relatives, friends and acquaintances from previous lifetimes. And even beyond this there are people one has never met, who volunteer their time to help researchers here on our side. Logic tells us then, that when someone here, someone who is open-minded, serious, and persistent, attempts to establish communication, that there are people on the other side who do their best to get through.

If the researcher is not a Transmedium, and the best their Transpartners can do is get through on a very weak, non-mediumistic level, this does not mean communication isn't possible. What it does mean is that the researcher has to work harder to develop the skill necessary to understand what is said.

On the AA-EVP cross country list, roughly half list themselves as engaging in taping. We can probably assume they have succeeded in making contact. But what of the other half. Have they not tried, or have they tried and believed they have not been successful? If these people are interested enough in the subject to join an organization, then I think it likely some or most have tried, but have not succeeded.

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There is an experiment I would love to do, but which is absolutely out of the question because of the impossible amount of time involved. That is, I would like to write to all of the people who do not list themselves as tapers, ask each if they have attempted to establish contact, and if so, whether they succeeded. If they tried but did not succeed, then I would ask if I may listen to one of their original recordings (not a copy). I adventure to speculate that virtually everyone of these recordings would be found to contain the voices of one or more persons who tried to get through. However, as much as I would love to do this, it is simply out of the question. (Please do not send me such tapes to analyze.)

The second problem that arises because of the difference in reception quality between different researchers, is that of sample tapes. A recording which to one researcher may contain nothing but noise, to another researcher, may contain a number of understandable voices.

Suppose, for example, that someone who is not a TM makes a recording. On first playback the tape seems to contain nothing but noise. The researcher however, being an experienced non-medium, notices there are several transient irregularities in the noise, which of course, is a clue that the noise waveform at these locations is other than random. Concentrating on these points, the researcher determines that several are voices. With further work the researcher is able to determine the exact location, duration and gender of each voice. He is also able to understand what is said, and even

identify the voices of certain of his Transpartners.

The researcher of course, realizes the voices are difficult to hear. (But may not realize just how difficult) But at the same time he may think that because he has been able to understand what the voices are saying, others will also. Because he would like others to hear what he has recorded, and/or would like to help some new people get started, he makes copies and sends them to others.

What happens now? Well, you have already guessed it. The people who review the tapes, do listen carefully as they would with any other sample tape, expecting to hear understandable voices, or at least something obvious. Not hearing anything that stands apart from the noise, they understandably come to the conclusion that there are no voices on the tape. At this point they would probably say nothing, or write to the researcher and state, as diplomatically as possible, that the researcher is mistaken, there are no voices on the tape, and that the only thing on the recording is noise.

Unfortunately, one of our readers unwittingly became involved in just such a no-win situation. After sending copies of two tapes to several people, none of whom were able to hear the voices on his recordings, he was probably beginning to doubt his own sanity. Fortunately, around this time he sent me copies of the tapes and I was able to verify the voices he had recorded. There were in fact, two or three dozen voices between the two tapes.

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Why was I able to hear what others could not? Well, it certainly is not because I have exceptionally keen hearing. In fact I know my hearing has deteriorated to some extent, as is normal for a person who no longer puts candles on their Birthday cake because the heat would melt the icing.

The reason is simply that I also am not a Transmedium. Most of my reception is of about the same average signal to noise ratio as that of the voices on these sample tapes. Voices which I am not surprised no one else seemed able to hear. Because I have had years of experience with this non-mediumistic level of reception, the voices on these sample tapes were no more difficult to hear than are the voices on most of my own recordings.

The moral of this story of course, is to not send sample tapes to anyone, unless the voices are relatively easy to understand. If you can understand the voices through a speaker the first time they are played, then others will probably be able to hear them also. If you have to use a special technique, earphones, repetitions, etc., then forget it. Better safe than sorry.

It is futile to send sample tapes on which the signal to noise ratio is so low that the people who review the tape might hear nothing but noise. In fact it is even worse than futile. At best the people you send the tapes to, if they don't hear anything but noise, will probably come to the conclusion that you have an overactive imagination or are simply mistaken. At worst they may come to the conclusion that you are not playing with a full deck of cards. In either

case it isn't going to do your credibility rating any good.

The essence of Transcommunication is just that, --communication. Communication between you and the next World, between you and your transpartners. It is not necessary to prove this to anyone else. And if your reception, like mine, is at a very difficult signal to noise ratio, then it is much better not to try to prove it. If you are working on TC technology, then it may very well be an advantage to not be a TM. At least this way you can be sure any improvements you may bring about, are due to equipment design rather than to your TM ability working a bit better that day.

Transcommunication needs to be proven to the World. But this must be done in a credible fashion, meaning loud, clear, understandable reception. This of course, is the province, the "mission" if you will, of those who have strong TM ability. Just as it is the "mission" of those with a background in Science and/or Electronics, to work toward the development of improved receiving systems.

To summarize a rather long and rambling article, first of all, TC reception has no lower cut-off point. There is no signal to noise ratio that we can point at and say the voices can exist only above this level, they do not exist below this level.

In the same way there is no signal to noise ratio that we can point at and say the voices can be understood above this level, they cannot be understood below this level. The lowest level at which the voices can be understood varies considerably between different individuals. The re-

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searchers who are able to understand what is said at the lowest possible signal to noise ratios, are those who are not Transmediums, and who have therefor had to practice, train themselves, and develop the necessary techniques for this level of reception.

It is inadvisable to make sample tapes for others to review, unless the signal to noise ratio is high enough for the voices to be relatively easy to understand through a speaker. Other wise you run the risk that those you send the tapes to, even if they are Transmediums, may not be able to hear the voices you have recorded. Keep in mind that TMs do not use the techniques necessary to understand non-mediumistic reception. Which is quite understandable, since they do not have any reason to develop or use any such techniques.

Everyone knows people who are in the Spirit world. Some of these people, as well as others, are almost certain to try to get messages through when given an opportunity by an open-minded, serious, diligent person. When such a person believes they have failed to establish contact, it is almost certain to be because they are not hearing the low level voices that are actually on their recordings. Not because there was no one over there trying to get through. And not because those who were trying to get through were not able to project their voices onto the tape.

LETTERS

From Jim Waddingham (Physicist)
Mar 28, 92

"Last weekend I received the copies of SV (issues 7 through

10) you sent to me. They were fascinating reading and I sure want to receive the next issue! Enclosed is a donation.

I have Breakthrough and Voices of Eternity and I have frequently pondered on how recording equipment and radios could be used by noncarnate beings to communicate with incarnate beings. While reading the SV issues all manner of questions and pictures were coming to my attention. I will present in this letter two of these ideas.

First Idea:

Being a physicist, I have frequently wondered how a noncarnate being could affect or communicate with something like an animal body. The procedures for controlling the development and maintenance of an animal body have been studied for many centuries, but how bodies are controlled, or "steered", is neither understood nor studied, as far as I could see. Hopefully, this situation is no longer true.

While reading those SV issues, it occurred to me that possibly the basic controlling signals are injected at the interfaces between certain nerve cells in the brain and, possibly, at certain nerve cells throughout the body. If this is the case, there could be just a few, or a number of injection interfaces. And depending on how well "connected" the being is to its body, one could have a human being that is "sickly" or an Olympic class athlete.

Figure 1 (SV-12/9) is a drawing of a proposed transducer that could be used to test this idea. Basically, this device might consist of a plastic tube, two metal cores, 2 permanent magnets and several coils of copper wire.

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The plastic tube is a housing that holds the two cores and is threaded, so that the separation between core 1 and core 2 can be precisely adjusted. These two cores are made from a material that is an excellent conductor of magnetic fields, like an iron alloy from which transformers cores are constructed. Core 1 has flat, polished surfaces on both of its ends while Core 2 has a flat, polished surface on its back end and a stem protruding from the center of its front end. The front surface of Core 2 is a flat or pointed surface. The 2 permanent magnets are disc-shaped, ceramic magnets that provide a fixed magnetic field which will link the two cores.

Using an ohmmeter connected across the S_R contacts, core 1 can be rotated so that a minute gap will exist between core 1's inner face and the end of core 2's stem. If a noncarnate being can manipulate the magnetic permeability of the gap, there will be a change in the magnetic flux passing through the stem, which will cause a voltage to appear across the S_M contacts. At least three different ways of providing this transducer with feedback would be by using one of the copper coils that have contacts F_1 , F_2 or F_3 . To minimize noise in the stem coil signal (S_M), it would be advisable to twist together the stem coil's leads.

Coils 1 or 3 would inject a magnetic field that would tend to not affect the stem coil's signal, S_M , but could be used by the Being to gauge the effect it is having by manipulating the permeability of the gap. Coil 2 would inject a magnetic field that would affect S_M and could be used to provide positive feedback. Also, several of the same type of

feedback coils could be used to create a finely adjustable feedback field by appropriately dividing the feedback current amongst these feedback coils.

Besides being used to set a small gap, S_R can also be monitored to see if the voltage difference between the two cores changes. It seems likely that if the magnetic permeability of the gap can change, then the voltage difference could also change. One way of detecting such changes would be with an electrometer connected across S_R .

Second Idea:

It occurred to me that there may be a way to extract the noncarnate Being's signals from the much more powerful AM signals that now clutter our environment. Two AM receivers with outputs R_1 and R_2 can be connected to an operational amplifier, whose output will be $R_1 - R_2$. If receivers 1 and 2 receive the same signal, S_B , have the same amplification, phase shifts and antenna configurations, then the outputs of these receivers will cancel each other when they are subtracted. Figure 2 (SV-12/11) shows a mathematical proof of this statement.

Using two matched receivers in the configuration shown in Figure 2 can significantly reduce the effect of an unwanted signal, S_B , when trying to detect the minute signal, M_C , of a noncarnate being. However, I have found that obtaining matched receivers is not easy; this is probably why this method is not now widely used. I have purchased several pairs of the same model receivers and through it was easy to match their amplifications (compared on an oscilloscope) by adjusting their volume controls, their phase shifts were so badly mismatched that no use-

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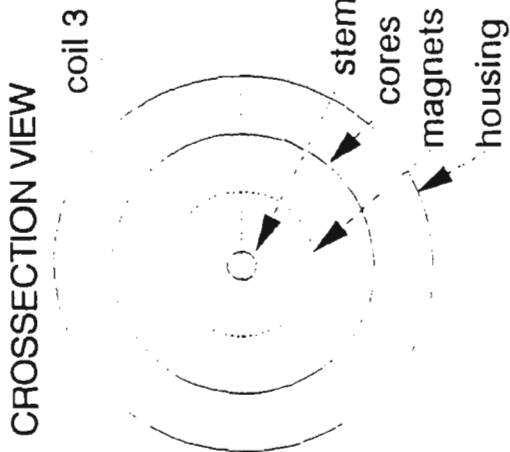
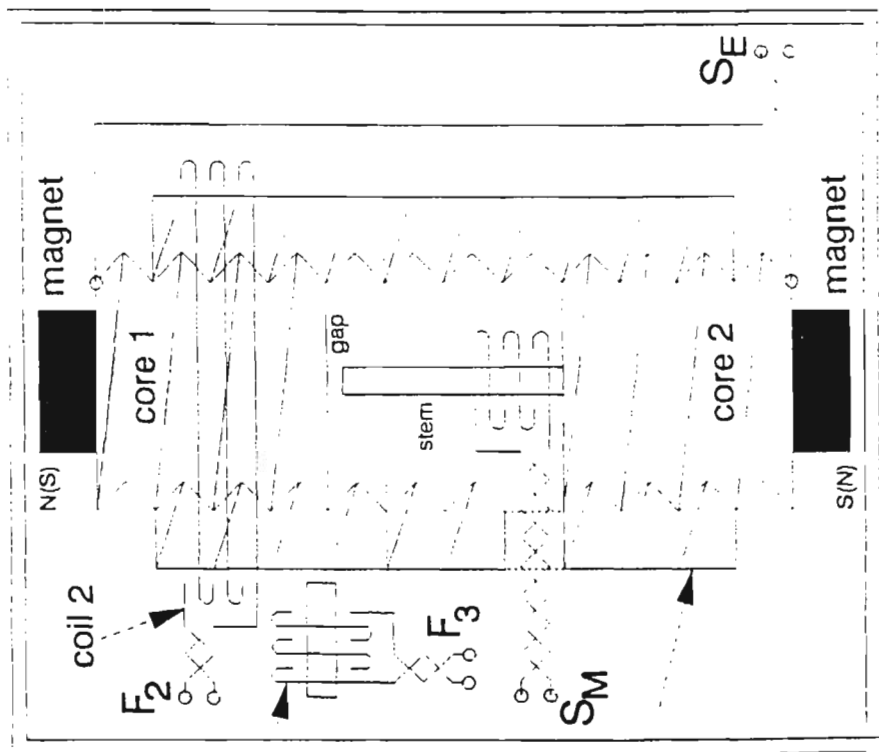


Figure 1

Jim Waddingham, 28 Mar 92 coil 1

Title--	Gap Permeability Test
Concept By	Jim Waddingham
Drawn By	
File--	Date 4/27/92

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ful cancellation of S_B could be achieved. Amplifiers that should work could be found on a multi-channel oscilloscope or on a multi-channel data acquisition preamplifier. These devices tend to be expensive.

Note that if the Being is to be detected by this technique, the Being must produce a larger signal, M_C , in one receiver than the signal it produces in the other receiver, M_r . To provide the Being with feedback so that it can better gauge the effect it is producing on receivers 1 and 2, a local transmitter is provided and is modulated by the signal, O , from the output of the operational amplifier. To prevent unwanted oscillations, instabilities, etc., receivers 1 and 2 and this local transmitter must be positioned so that the signal from the local transmitter is also cancelled when the outputs of receivers 1 and 2 are subtracted. In terms of a point source radiator, the radiator must be as close as possible to one of the receiver's antennas and as far as possible from the line R and the other receiver's antenna."

Reply:

I think both concepts you describe and illustrate would be very interesting and helpful to our readers. If you have no objections, I would like to publish this material in the next issue.

Several years ago Sarah Estep mentioned in the AA-EVP news that someone in Germany had used two radio receivers together with a differential amplifier used as a "detector". There was little other detail, even as to whether the radios were identical. If they did try to use matched receivers, they probably encountered the same difficulty you did

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in trying to find two radios that are precisely matched.

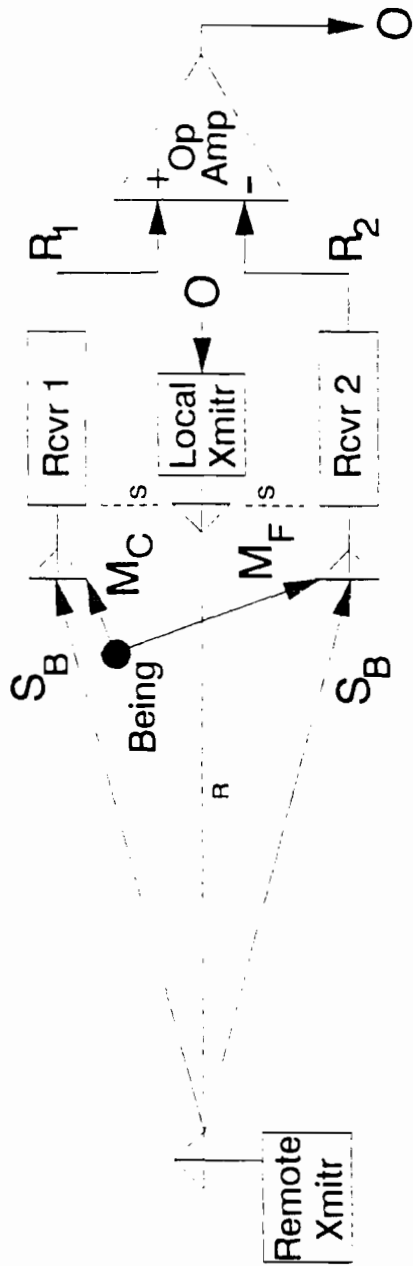
Some years ago, in the late 1970s, it was indicated to Mary and I that a differential amplifier should in fact be used as the receiving system "detector". (I know you did not know this) However, it still remains to be determined exactly how it is to be configured for this application. So I think your idea of using matched radios is sound and has a lot of experimental potential.

Perhaps the matching problem could be solved by building two radio receivers from scratch, using narrow tolerance components, and matching the performance of each circuit between the two, etc. Such receivers could probably be quite simple. In fact simple would probably be an advantage, because the less circuits and components are involved, the more closely their performance would probably match.

In addition to what we have been told by our Transpartners, the reason I believe this general concept is sound, is because the Spirits have demonstrated on numerous occasions, to various researchers, that they are quite capable of effecting one receiving system, while leaving another system, only a few feet away, un-effected. And this is not because one system works for them and the other does not. Because a few seconds later the same Spirit may use the second system and leave the first un-effected.

In group sessions, where there are several recorders in operation, the same voice is at times received simultaneously on each recorder, at other times the Spirits may direct their voice at only one recorder, leaving other

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$$R_1 = S_B + M_C$$

$$R_2 = S_B + M_F$$

$$O = R_1 - R_2 = S_B + M_C - (S_B + M_F)$$

$$= M_C - M_F$$

Figure 2 Jim Waddingham, 28 Mar 92

Title-	Single Stage / Dual Section
Concept By	Jim Waddingham
Drawn By	
File-	Date 4/27/92

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nearby recorders un-effected. This same thing can and does happen with radio receivers. A case in point being mentioned by the Marcello Bacchi group. (SV-11/4)

In direct comparison experiments, as described in SV-8, the Spirits have demonstrated, in numerous experiments, that they can indeed effect one system more than the other, even though the other is only several feet away. And they can do this even to the extent of using one of the systems to the complete exclusion of the other.

In the receiver system you describe, the problem then would seem to be matching the two receivers, or two halves of the system, depending on how one thinks of it. The Spirits definitely do have the ability to use one side more than the other. However, they do tell me this is somewhat difficult, which means it takes a bit of practice on their part. I should imagine this would be a bit like being in a quiet room with several people and trying to whisper something to one of them with out being overheard by the others. Only in this case it would be a matter of trying to concentrate on one system or piece of equipment without permitting one's thoughts to "bleed" over to nearby equipment.

In your radio system, it seems to me, any degree of noise cancelation that can be obtained, would be beneficial, even though there may be something less than complete cancelation. For example, if the voice level remains the same on it's channel, and 6db of noise reduction can be obtained by the "detector", this should have the effect of improving the output S/N ratio by approx. 6dB. So I definitely think you are on the right track.

From Jim Waddingham

11 April, 92

"-----if you feel that my comments/ideas could be of interest, then please publish them.

Since I wrote that letter, I have been thinking about the different approaches to the Trans-Communication (TC) problem that have been described in various Spirit Voices articles. The technique of obtaining a useable signal by mixing white noise with a weak signal seems to be what the scientific community calls "Stochastic Resonance". This is a relatively new branch of statistics and I have seen several reviews in Science News of articles that have appeared in various technical journals. Also, it is not very well understood or developed. It will be most interesting to see what EVP researchers learn and develop.

Whenever I have thought about the best way to construct a TC device or transducer, there always seemed to be great emphasis placed on providing feedback in the transducer (eg. in the "gap" shown in Figure 1) so that the non-carnate Being (NCB) can estimate or gauge the physical effect where it is causing its effect. By working with such a device, the NCB can learn how to use and control the effect it is causing. It would not surprise me if it should be discovered that this can be done by relatively few NCBs.

(and)

The addition of positive feedback could significantly improve the sensitivity of a transducer and the addition of negative feedback could improve its signal-to-noise ratio, which is an approach that would reduce the noise present in a NCB trans-

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ducer, rather than increase the noise.

To test a circuit (2 matched receivers or matched transducers connected to the inputs of a differential amplifier), I connect the output of a square wave generator to the inputs of the 2 matched receivers or transducers and the channel 1 input of an oscilloscope and the output of the differential amplifier to the channel 2 input of that oscilloscope. My design goal has been to learn how to build matched receivers or transducers so that the voltage output of the differential amplifier is $1/1000$ th of the voltage output of the square wave generator. Square waves are used because they make any phase distortion obvious, while sine waves would not reveal such distortion. I then sweep the output of the square wave generator over the frequency range for which I am designing the receivers or transducers, checking the difference trace (channel 1 - channel 2) displayed on the oscilloscope to see if the $1/1000$ th test is satisfied. So far, it hasn't been met.

As you indicated in your letter, keeping the receiver designs simple has given the best results. When I can get back to this project, I will next make a printed circuit board and use dual op-amp chips, in an effort to balance-out the effects of stray capacitance, which to date has caused unacceptable and uncontrollable phase distortions. If there is interest, I could write a description of my intended design and any one, especially those more skilful than myself at building such things, could also try this approach."

Reply:

I must first apologize for not getting back to you sooner. I'm afraid lack of time has been my nemesis for years. I just have to do what I can, when I can.

Your mention of "Stochastic Resonance" was the first I heard this effect named. In an article I read some time back, about telecommunication I believe, it was mentioned that in certain cases a weak signal might be somewhat improved by a bit of white noise. However, this was mentioned only in passing and the effect wasn't named, so I didn't take it very seriously. It seems to defy common sense. But then so does Transcommunication. Thanks for the information.

Just how many Spirits or NBCs as you say, are able to communicate at a high level, is debatable. However, I would agree with you that they are probably few and far between. Generally speaking, from the results Researchers have had so far, it seems the situation over there is pretty much the same as it is here. That is, it seems that on both sides of the Veil there are just a very few who have whatever mysterious talent is necessary to communicate at a good quality level. While a somewhat larger number on each side have this talent to a more limited degree, and can communicate only on a more modest, rather noisy, and not really easy to understand level.

And then there is the majority, on both sides, who have this talent to only a very limited degree, or not at all, and can communicate only on a very weak, or as I have been calling it, a "non-mediumistic", level. Which of course, is why there is an

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urgent need for more sensitive equipment.

On the subject of sensitivity, I think we have a long way to go. Some years back I was waiting for a room in the lobby of a motel in Holbrook Arizona. An eight track stereo in the lobby was playing western music, when suddenly, the music was drowned out by a second or two of a loud, clear CB radio conversation. At the time the freeway bypass had not yet been built and all Interstate traffic, including trucks, went down main street, right past the front of the motel. And at the exact time this conversation was heard, there happened to be a truck right in front of the motel.

CB radios are of course, legally limited to four or five watts output. However, many long distance truck drivers carry illegal linear amplifiers, ranging from several hundred to several thousand watts. (Because their "station" is constantly on the move, the chances of being caught are almost non-existent.) No doubt what had happened is that as the driver was passing the motel, he had keyed-up such an amplifier, putting out several thousand watts, and generating such a powerful signal that it had forced it's way into the tape player even though tape players are not designed to receive radio signals.

I believe the situation with Transcommunication is very similar, in that we are receiving a type of signal for which the equipment was not designed. And since tape recorders and radios are not designed to receive psychokinetic signals, and are most probably grossly insensitive to such signals, in order for there to be any voice signal reception

at all, such equipment must literally be hit with a "jolt" of PK energy. An energy level so high that, at this point in time, there are still only a handful of Spirits and/or Transmediums who are capable of generating enough energy to allow clear communication. A situation that hopefully will change in the future as we learn more about which circuits are effected and how they are effected, and take steps to optionalize such circuits, and design special circuits, for this purpose.

You have the right idea in using a dual trace scope in analyzing a two channel system. I've been using this approach in the systems I've been working with. Mary and I were told, back around 1979, that a differential amplifier should be used as the "detector". At that time I was working with a quite simple arrangement, so I am not certain if this applied only to what I was doing at the time, or if they meant that the diff. amp. needs to be incorporated into any efficient system. Although, I believe the latter to be the case.

Mary was once shown a vision of a system in which the predominate feature was an arrangement of seven sensors or transducers. In a second vision some years latter, around 1987, she was shown a more detailed vision in which there were two sections of such elements, each with seven elements.

To this day we still know very little about this arrangement. A lot of experimentation still needs to be done. Modern radio was not developed overnight. However, in theory, if the incoming PK signal has a directional effect on the electronics, such as a changing EM

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field has on the direction of current flow in a wire, then it might be possible to configure the two sections of sensors, so that the voice modulation is received, out-of-phase, between the two sections. In such an arrangement an AF carrier would be applied, in-phase, to both sections. The outputs would be applied to the diff. amp. where common mode rejection would eliminate all or most of the white noise or whatever, AF carrier. At the same time whatever voice modulation might be present would be out-of-phase between the diff. amp. inputs and would be doubled in amplitude. I believe this is the general arrangement that is necessary. Although, it will probably still take a lot of experimentation to work out the precise details. As mentioned, modern radio was not developed overnight.

I'm sure our readers would indeed be interested in any kind of design that would balance out the effects of stray capacitance in a diff. amp. circuit. In the simple diff. amp. arrangements I've used, I have not been able to reduce the output to less than about 10% of input. Although I have not tried to determine exactly how much of this distortion is in the section circuits, and how much is in the diff. amp. circuit, I think probably a significant percentage is in the diff. amp.

EXPERIMENTAL PART 2

Starting Point (Continued)

In the first Article of this series, the Mouser 7W Hi-Fi AF power amplifier was mentioned. (SV- 10/21) This amplifier kit must be one of Mouser's better selling items, because it has been listed in each catalog for

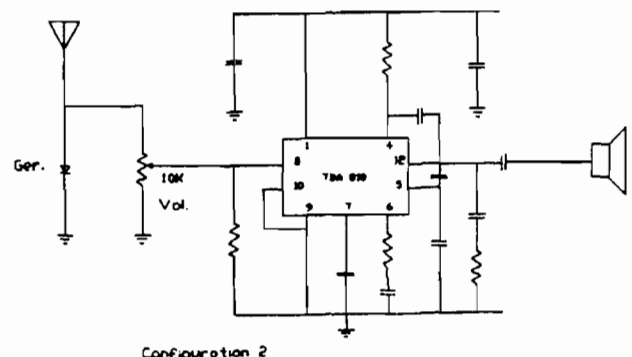
at least the past several years. And it is still listed in the latest catalog, which I just received recently.

Over the years I have tried several low power AF amplifiers, of various designs, which were built into or used in conjunction with experimental systems. Other than the Mouser, each of these had one or more problems. Either they had excessive noise, squealed at higher amplification, or 60Hz hum, etc. The Mouser is the only one I have found that has had none of these problems. (No, I do not own stock in Mouser)

At the very modest cost of \$11.39 each, these amplifiers are quite affordable. And this of course, is a consideration. In any kind of serious experimentation a minimum of two AF amplifiers are required in order to directly and simultaneously compare two systems against each other. And depending on what you are doing, you may need three or four.

These amplifiers are of course, power amplifiers, not voltage amplifiers. As such the voltage amplification is only about 12X. Going back to Configuration 2 from SV- 10/25 (Fig 3), this would mean nothing would

Fig 3



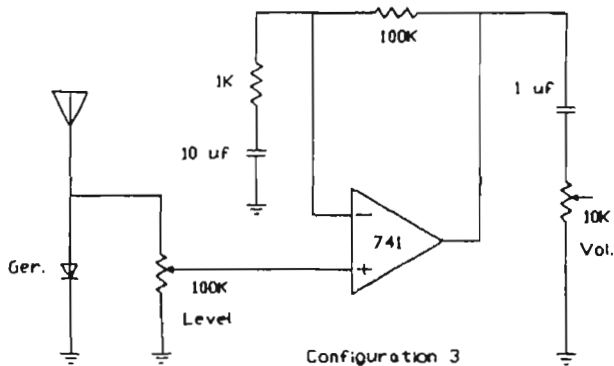
Configuration 2

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be received unless the signal was tremendously strong. This would be especially true if a very short antenna of 2 1/2 - 4 inches is used as was used by Raudive.

The next most obvious thing needed then, in this starting point design, is a voltage amplifier. One design that might be used is a non-inverting Op-Amp based on the 741 IC as illustrated in Configuration 3 (Fig 4)

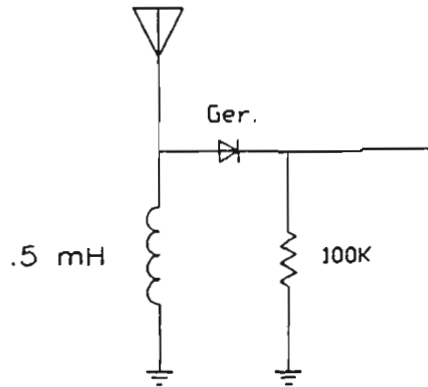
Fig 4



In this design the Op-Amp circuit has a voltage gain of 100X. Combined with the 12X gain of the Mouser, overall maximum gain is 1,200. The volume control is of course, placed on the control panel of whatever cabinets you are using for your experimental TransReceivers. The level control can be a vertical 25 turn PC board pot, which will plug into a breadboard.

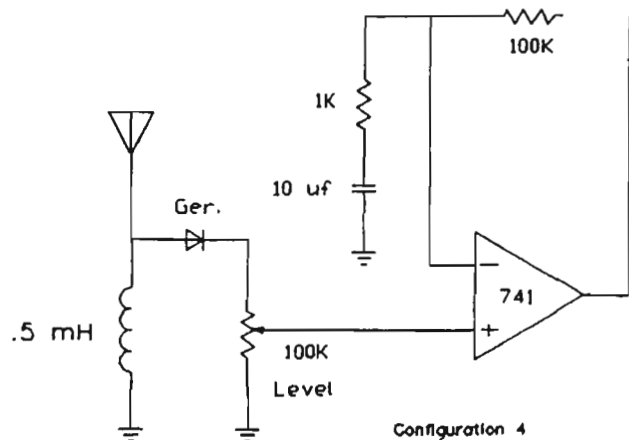
Although Config. 3 is an improvement over Config. 2, RF energy is still being applied to an AF amplifier, which isn't the best idea in the world. When tested with a local AM broadcast band transmitter (SV-10/19), the signal actually was demodulated, but this was probably due to the relatively slow slew rate of the Op-Amp. A little more advanced design is one used by Raudive. (Fig 5)

Fig 5



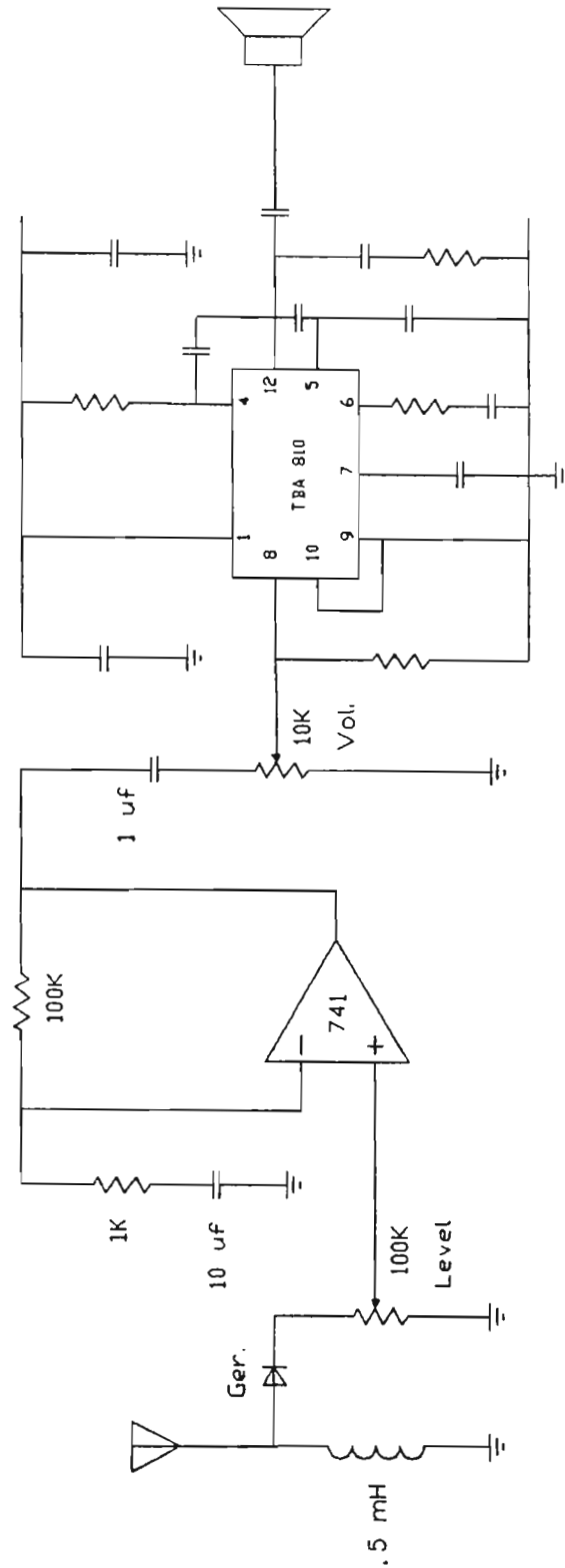
In this design, output is taken between the diode and resistor with no provision for level control. However this can be easily changed by substituting a potentiometer for the resistor. This creates an arrangement which is a combination of Config. 3 and the circuit used by Raudive (Fig 6)

Fig 6



The Raudive detector may have been intended to work at high frequencies since the antenna lengths used would equal 1/2 wave length between roughly 1.5 and 3 GHz. On the other hand ordinary diodes do not work above about 200-250 MHz, which may indicate they expected a signal of not over about double air band frequency and used the very short antenna only to reduce broadcast

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Title- Configuration 4
Concept By
Drawn By Bill Weisenale
File- Cf_004
Date 2/15/92

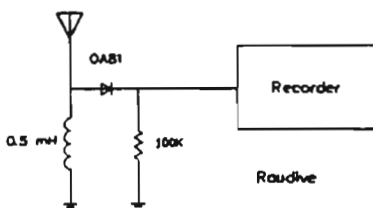
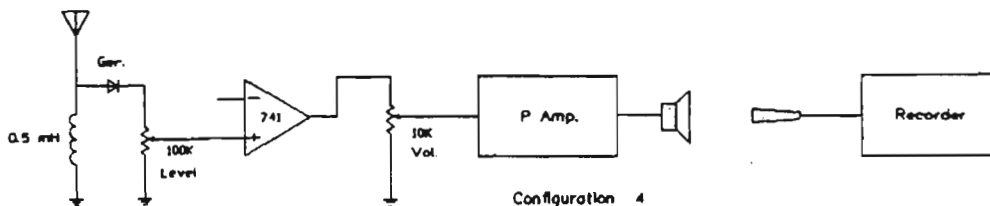
Spirit Voices

pickup. In any case the only thing we are interested in here is an arrangement that will demodulate an RF signal which we ourselves generate. And for this purpose, the Raudive detector is adequate as a starting point.

It is obvious from the schematic, that at some lower frequency the coil impedance will be so low that the signal will simply short out to ground rather than be demodulated. If this receiver is used with a local AM broadcast band transmitter such as describer in SV-10, this inductor may have to be changed to a larger size. (I have worked with somewhat similar detectors, but not with this specific design, so at this point I can't say for sure)

To compare Config. 4 with the arrangement used by Raudive, the main difference is that Config. 4 permits any voices that

Fig 7



may be audible at the time of reception, to be heard as they are recorded. Whereas, Raudive's circuit permitted nothing to be heard until the recording was played back. (As was discussed previously, it is debatable whether the voices recorded by SV-12/18

Raudive using these diode circuits, arrived in the diode circuits or arrived in the recorder itself.)

In any case, the circuit as described (Config. 4) is just about the minimum necessary, as a starting point, for direct comparison experimentation with systems that use an RF carrier. The circuit is capable of receiving an AM signal, demodulating the signal, amplifying the AF signal, and applying it to the power amplifier and speaker. In other words a simple, untuned, radio receiver.

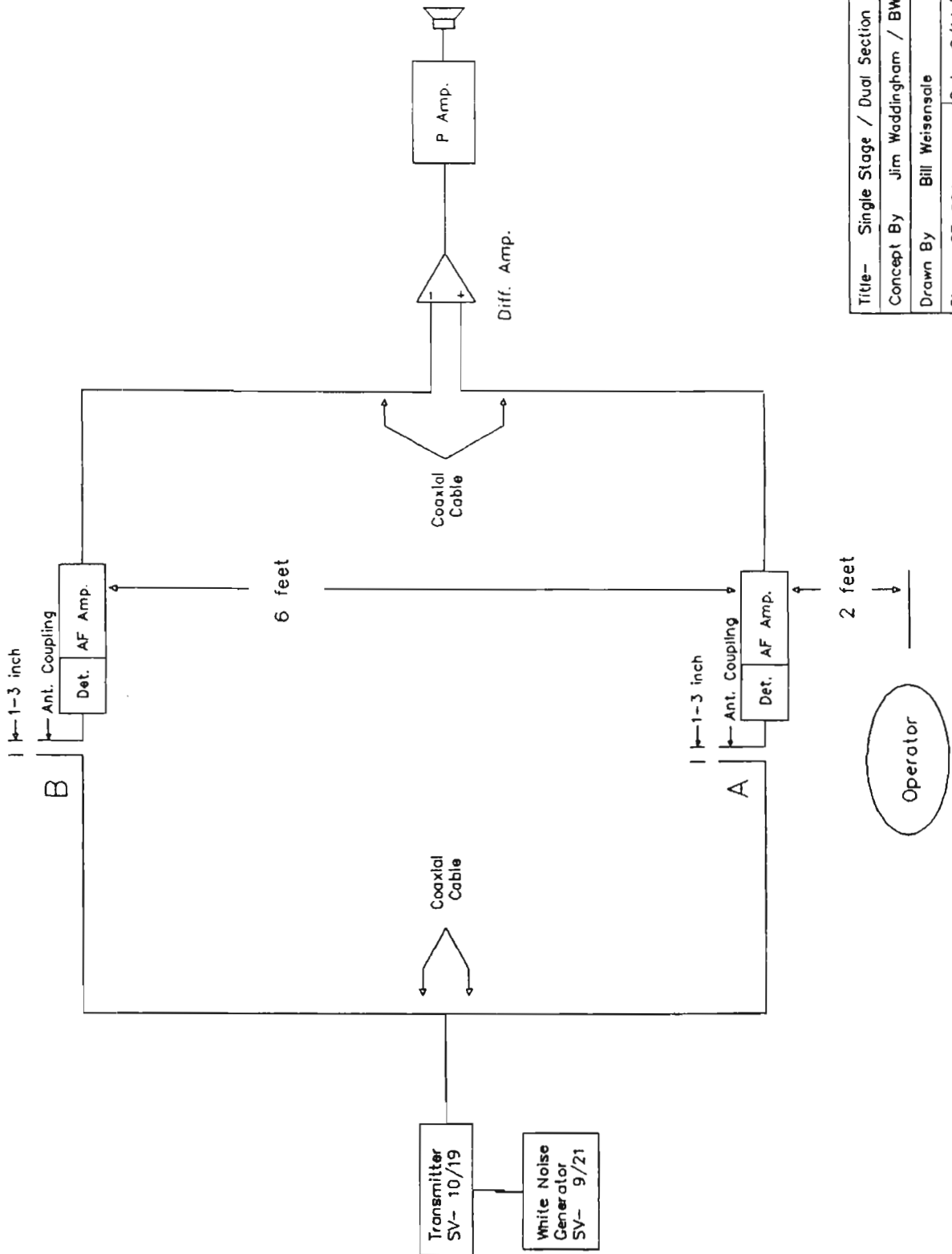
As such, it is of course, not an end point, but rather a starting point. A lurching pad, if you will, for experimentation. Nor is this the only possibility for such a starting point receiver. You may wish to use a different power amplifier, or a discrete device voltage amplifier, or perhaps a tuned front end, etc. All of which of course, is

up to the individual experimenter. To be continued---

A variation of Config. 4 could be used in system similar to, but not as sophisticated as, the system suggested by Waddingham. The front end of this system, i.e., the diode circuit and Op-Amp circuit, could be duplicated and used as the two receivers (SV-12/19). The differential amplifier would then be connected between these two receivers and the power amplifier.

Since these receivers have a low parts count and could be built with low tolerance compo-

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Title-	Single Stage / Dual Section
Concept By	Jim Waddingham / BW
Drawn By	Bill Weisensale
File-	CF_004
Date	8/14/92

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nents, it should be possible to match them reasonably, which as Jim pointed out, is very important. There is however, at least one drawback. Since the receivers are untuned, and have very low sensitivity, they would probably not be capable of picking up a signal over a great enough distance.

In the early '80s when we first began using the direct comparison technique, we were told by our Transpartners that if the two systems are too close together that it is, quote "difficult" unquote, to use one without effecting the other. This is quite understandable if we imagine two people standing say three feet apart and trying to whisper something to one without being overheard by the other. In TC we are not dealing with acoustic energy of course, but the principle seems to be pretty much the same. I would then recommend an absolute minimum distance of six feet between the two receivers (or two systems as the case may be), with eight to ten being better.

In the Waddingham system the transmitter is placed on the center line between the two receivers, so as to be an equal distance from both. If the receivers are a minimum distance of six feet apart, then each would be at least three feet from the transmitter. As mentioned, this is probably beyond the range of the Config. 4 units, especially if three inch antennas are used, and especially if a low power transmitter is used such as was described in SV-10. One solution to this problem would be to run two shielded cables, in parallel, from the antenna output of the transmitter to short antennas positioned within an inch or two of the receiver antennas, as illustrated (SV-12/19)

There is also one more consideration. If you are a Transmedium, that is, if the Spirits are using your PK energy to effect the equipment, then logically it would help considerably to position yourself as close as possible to one of the receivers and as far as possible from the other. In the illustration, if the operator is positioned as shown, they would be about two feet from one receiver and about eight feet from the other.

In this arrangement, if PK field strength is inversely proportional to the square of the distance, as is other kinds of energy, then the PK field strength at B will be only 1/16 or less, of the field strength at A.

On the other hand, if you are not a Transmedium and your normal reception is in the negative dB S/N ratio area, then it may make no difference whatsoever where you position yourself. That is, if this low level reception is non-mediumistic in nature, meaning the Spirits are effecting the equipment directly without using the operator's PK energy, which I believe to be the case, then it would be they who would need to position themselves closer to one of the receivers. In this case it would make no difference where the operator sits. You might try it both ways and see what happens.

NOTES

1) The sad news was recently received the Sarah Estep's husband, Charlie, has suffered a severe stroke, followed by several relapses. He is now out of the critical care unit, and has at least improved enough to be moved to a special facility which has the required skilled nursing

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care and therapy program. Charlie is still almost completely paralyzed on his right side, but is undergoing therapy and making slow progress. We join with the Estep's many, many friends in wishing Charlie a speedy and complete recovery.

Adding to this misfortune, was the fact that it happened shortly before the AA-EVP conference scheduled for the latter part of July. The conference could not have been successful without Sarah's undivided attention, which under the circumstances would have been impossible. After agonizing over the decision, Sarah did the only thing she could have done under the circumstances, and canceled the conference.

With the steadily growing interest in Transcommunication, over 100 people had registered to attend. And even this was probably only a fraction of those who would have liked to attend. We hope, circumstances permitting, that the conference, which would have been the best and most successful to date, can be re-scheduled for next year.

2) One of our readers who will remain anonymous because they may

not wish to express these opinions publicly, has made the following, very insightful, observations.

"You are correct in finding the lack of interest in EVP among religious leaders and parapsychologists a puzzle. I feel the parapsychologist, knowing they are the unloved stepchild of the scientific community, bend over backwards to out-scientific the scientists. They want to impress them with just how scientific they are. Since survival has always been a touchy subject and at least a gray area among rationalists, as most scientists are, the parapsychologists insist that they also are uninterested in things that go bump in the night. There are a few exceptions such as Dr. Wm Braud of TX and...

(and) As far as the religious community is concerned, this very much depends upon the priest or minister of a particular church. Some are afraid EVP (and other objective electronic communications) will supplant religion -- nothing could be further from the truth since it reinforces life after death as the Bible does. Many ministers though, (and born-againers) are still hung-up on the passages from the Old Tes-

