

Colonel Johnston has told you that the number of pieces of equipment, electronic equipment, have doubled since World War II. As a matter of fact, the number of electronic emissions in the battle area have probably increased by a factor of 5, and will increase by a factor of 10. In other words, there will be 10 times as many electronic emissions going on in a given battle area in 1970 as there were in World War II.

Now because we have learned a lot more about radio spectrum, we can break up the frequencies into much smaller frequencies than we could before.

In the band that is allotted for our tactical radios, we used to think if we got 80 or 120 channels in there, so that different companies or battalions could use different frequencies, this was good.

Our new radio sets have 900 channels in them. It doesn't mean every man has access to 900, but it means we have the selectivity to use 900 channels.

Furthermore, modern science has found out that when we state electronic emissions we are talking not only about radio and we are talking not only about telephone; we are talking about radar, we are talking about infrared signals, we are talking about amazing things that are happening that interrelate the light spectrum with the electronic spectrum.

Consequently nobody knows, not only in the Army but in the United States, as to whether when all these electronic emissions are occurring in an area, whether it is going to function or whether through intentional jamming on the part of the enemy or unintentional jamming because of the complexity of this equipment, whether it is going to work or not.

So there are two steps.

Mr. COURTNEY. This is a test of equipment, then, isn't it?

General TRUDEAU. There are two steps being taken. When this man brings up this program, this war game here, he will program in that there are so many emissions occurring at a certain rate and for a certain length of time, let's say 020.2, if this is the channel, and there are so many more on 020.4 and 050.3, and then he is cranking in also the number of frequencies or emissions that are occurring, and for how long on the part of the enemy, into a data computer to find out whether this is feasible.

We need the best brains in industry on this, and if you think that this is expensive, let me tell you that in order to lay this out on the ground with the actual pieces of equipment which will be also ready before 1963, that the Army is now spending \$30 million at Fort Huachuca, the environmental test ground, and this is proceeding.

This is like a paper exercise, and the next thing is to get your troops out for maneuver. This is expensive, and there isn't enough talent in the United States to tell you whether this is all going to work together until we test it.

Mr. HÉBERT. Well, General, what you are saying then, as I understand your testimony, it is this: In reality and as we understand it, you are testing the equipment under certain conditions.

General TRUDEAU. This is correct.