

~~TOP SECRET~~

New Milford, Conn.,  
May 21, 1951.

Mr. William F. Friedman,  
424 N. George Mason Drive,  
Arlington, VA.

Dear Mr. Friedman:

In answer to your request, I am sending you herewith drawings of the Telecrypto and a diagram which shows both the cyphering and the sending and receiving parts.

The keying mechanism consists of one drum which has 12 plus 12 (24) slide bars. The drum makes a half turn for each machine cycle. There are four cyphering cylinders. Each cylinder has 32 combinations. Each combination is wired up in a plug and it is very easy to change the arrangement of these plugs. The maximum advance which a cyphering cylinder can make during one machine cycle is six steps and the minimum is one. However on the two prototypes, if desired, the maximum steps each cylinder can advance may be raised to twelve, but in such a case the advance of the cyphering cylinders will be related to each other. It is intended that each customer shall choose the tooth arrangement on the slide and bars. When a machine is built with one tooth arrangement, it will be difficult and time consuming for the customer to change it.

A cord with five wires to the selector arrangement runs from each cyphering cylinder. The selector arrangement consists of three 5-pole two-way relays. These selector relays are governed by contacts from the key wheels. There are six contacts, but only a chosen three of these are used at any one time.

The receiving and sending cams on the Telecrypto are on one shaft and they are governed by one clutch. Incoming impulses have 10 Ms to throw the #1 cyphering relay. The #2 cyphering relay is set up from the cyphering cylinder.

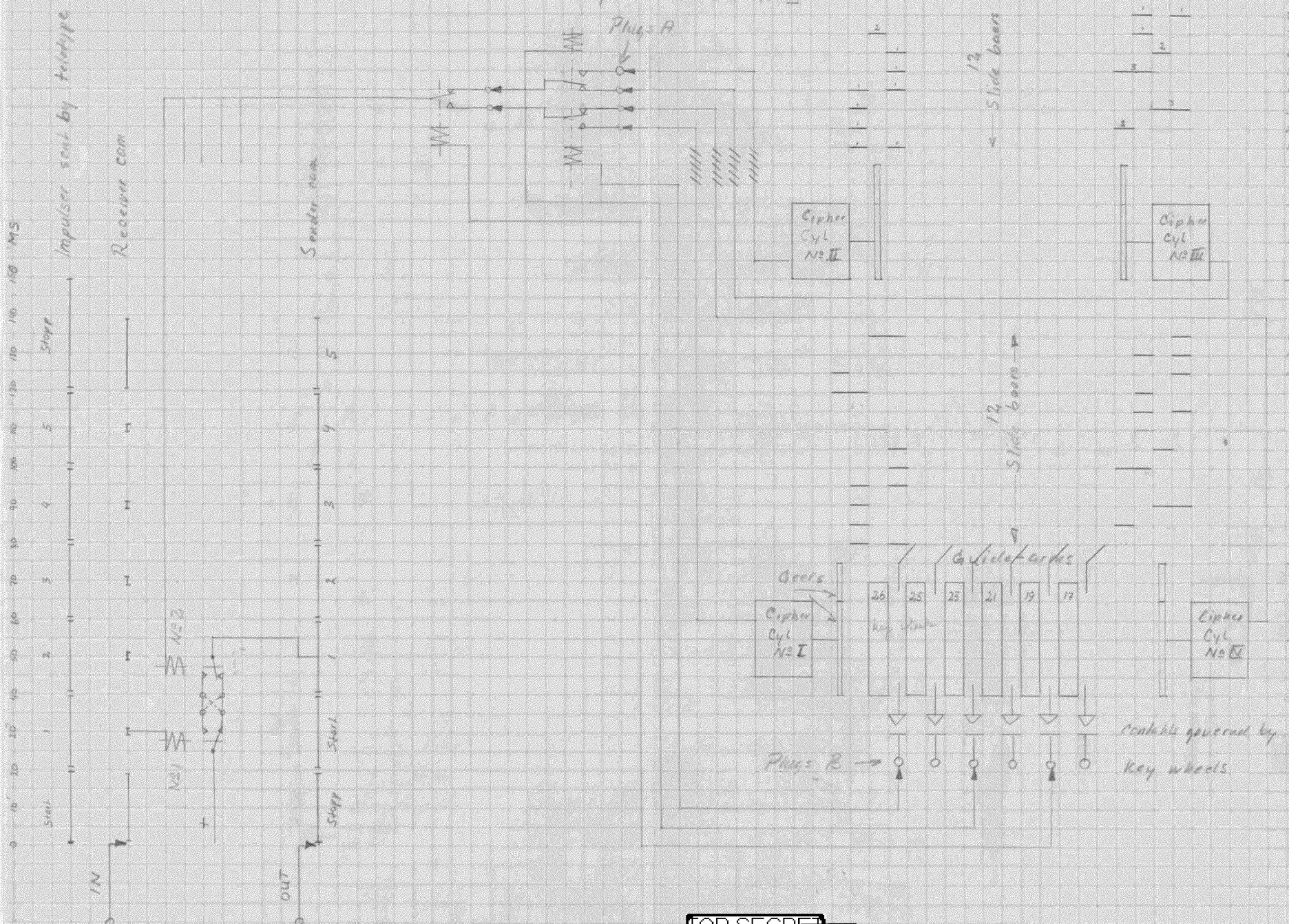
I hope this covers all the information you need. I will telephone you on Wednesday as you requested, and can then fill in any other details you desire.

Very truly yours,

Bo.

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