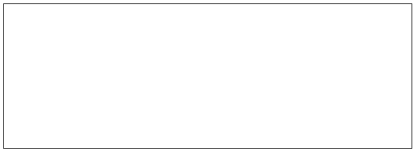


RD # 6251-67 (925)

File 5700

REL
JW

12 October 1967



(b)(3)

ATTN: J.W.

Gentlemen:

In response to your phone call we suggest looking for the spurious pulses in the following manner:

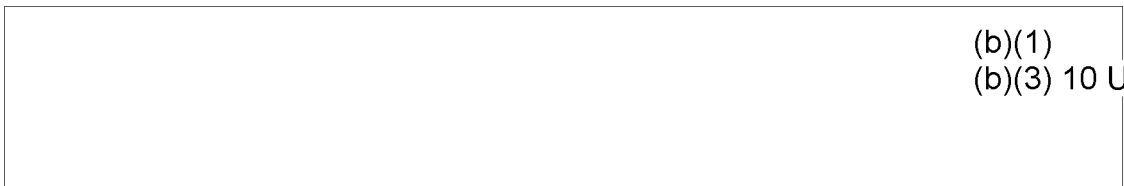
1. The most probable cause of target-like pulses with no target present is transients on the 28 v dc and 400 cps power lines. Procedure to identify this source is to look at the power input to the W-system breakers with an oscilloscope and attempt to correlate transients with the system response. Transients on the power lines can be generated by tuning on and off other systems — the 5 kw, for example.

2. The second most probable cause is tuning capacitor breakdown. We have observed an occasional arcing at the small valued capacitor. This will affect the stability of the coil driver and can be observed at the input J 204 pin H inside the control monitor box. The control box must be operational to perform this test (don't unplug).

Another check on coil driver stability can be obtained by setting the switch on the control monitor panel to the REF position and observing the VU meter for small, instantaneous changes in deflection.

3. The third most probable cause of spurious pulses is mechanical in nature. The following items should be checked:

- a. Loose screws, or other metal in stinger.
- b. Nuts (plastic) on sensor and coil locking devices.



(b)(1)
(b)(3) 10 USC 130

4. Other than these the problem gets more complex but the following can be accomplished easily.

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- a. Watch the null to see if field buckler and associated circuit is stable. This is accomplished by setting the front panel switch to NB (position 4) on control monitor and observing the VU meter. If it goes in and out of null fast, lock down sensor and coil. If it slowly goes in and out of null, a bad component in the field buckler circuit, which is in the control monitor box, is indicated.
- b. Any one of the regulated power supplies could have gone bad.
- c. Either of the output filters could be bad — one drives the remote meter and the other drives the strip-chart recorder. A response on one channel and not the other indicates the malfunctioning filter. We had this trouble once before and traced it to a FET.

Other than these as possible sources, a much more thorough analysis would be required to identify the intermittent signal source. We are prepared to travel to the equipment for the purpose of performing any maintenance or repairs that may be required.

Sincerely yours,

THE ELECTRO-MECHANICS COMPANY



Fred J. Morris
Director of Research

FJM:mw