

INTERCOMMUNICATION

TO: V. R. Vitols

FROM (NAME) & EXT: Vernon L. Sandusky

LOCATION & DATE: VAFB 30 October 1972

DEPARTMENT & M.S.: CSD - DSFE

CARBONS:

SUBJECT: Corrective Maintenance on  
Johnston Atoll

PLACE VISITED & DATES: Johnston Atoll  
10-19-72 thru 10-26-72

PERSONS CONTACTED: COL John Molchan - Deputy CMDR 10th ADS  
CAPT Arnold Austin - Acting CMDR DET 1 10th ADS  
7 XSGT Bill Smith - Computer Technican

ACCOUNTS: 6CX912 Labor  
6CX929 Travel

PURPOSE OF VISIT: Corrective maintenance to Univac equipment in  
GG-1, GGS-2, and IMS

STATEMENT OF WORK:

I. WORK PERFORMED

The purpose of the first task group was to bring the computers up to a good operating condition. As time permitted the other peripherals were worked on and a parts shortage list was made up so that the second task group could bring the parts with them.

In repairing the 642B computers the following actions were taken on both computers. The phase clock wiring was removed and rewired to a standard configuration. Univac MPL/FCO 927 which consists of installing a 4991 card in location 35E on each memory chassis was performed. The currents on each memory chassis were adjusted and the marginal limits were found. Any bad PC cards or other parts found during this process were replaced.

The IMS (1218) was not working when we arrived. Two bad PC cards were replaced.

At both guidance stations the 1232 punch and reader were adjusted. No adjustments were made to the keyboards.

The 1240 at GGS-2 had two new tapeheads installed on TT1 and TT3 and the electrical alignment was done. Bad mechanical parts were identified and ordered.

The Real Time Decoder portion of the RTD/RIU at GGS-1 was not working. A modification was installed to allow the problem to be worked on more easily and 3 bad PC cards were replaced. This modification was then removed. The RTD which had been at GGS-3 (Vandenberg) was installed and found to be working. Some work was done on the RTD which was to be brought to Vandenberg but due to a lack of time repairs could not be completed.

For details of the work performed see the work summary statement attached to this report. This was made for the DET 1 commander.

## II. PROBLEM AREAS

A great deal of difficulty was encountered in troubleshooting the RTD/RIU before a modification was made to allow the computer to receive the time of day every 10 ms. Since this modification consists only of deleting one wire and replacing it with another, a Test/Normal switch would permit much easier troubleshooting. See the attached drawings for details. This in conjunction with a new RTD test would simplify the troubleshooting of this piece of equipment.

A second area which needs looking into is the updating to new card types in serial number 12 642B at GGS-2. All 2011 and 2012 cards in this machine should be replaced with 2013 cards. The reason for this is that the 2011 and 2012 cards output narrow pulses as they age or under a heavy load. There are a total of 233 cards involved here.

Serial 12 also had 2190 current diverters in the memory chassis. These should be replaced with 2191<sup>B</sup> cards which have better component mounting and dissipate heat better. There are 50 cards involved here.

Both computers have 2580 cards in the film chassis as Sense Amp B cards. These are sensitive to computer voltage variations and should be replaced with 2581 cards. There are a total of 60 cards involved here.

If these computers are to operate reliably these changes should be made. Since these changes may affect phase clock and memory timing however it is recommended that this be done by UNIVAC personnel rather than by 10th ADS personnel.

A third problem area is the 1232 keyboards. Unless these can be successfully adjusted by the second task group, I would recommend that they be replaced, preferably with the new style keyboards which have reed switches.

The 10th does not have copies of the UNIVAC Technical Bulletins. Since I understand that these are available now to customers and this customer did express an interest, we should try to get them a copy.

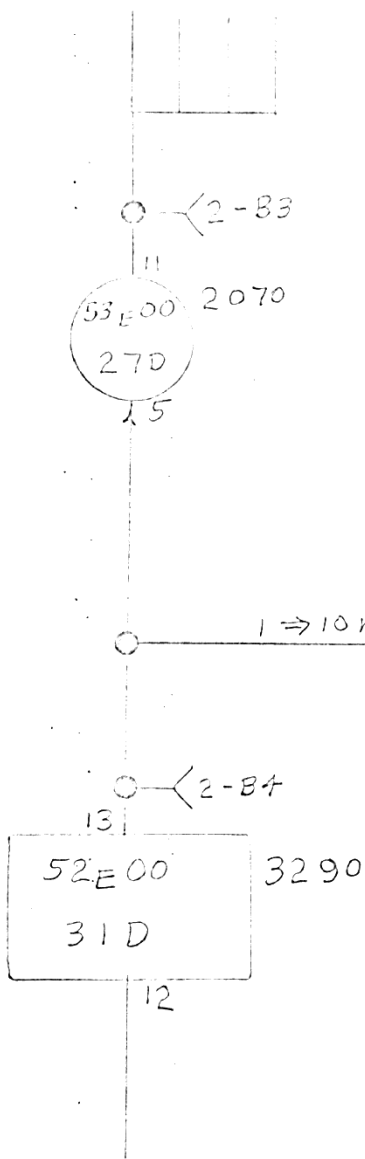
Attachments:

1. Work Statement
2. RTD/RIU Test/Normal Modification

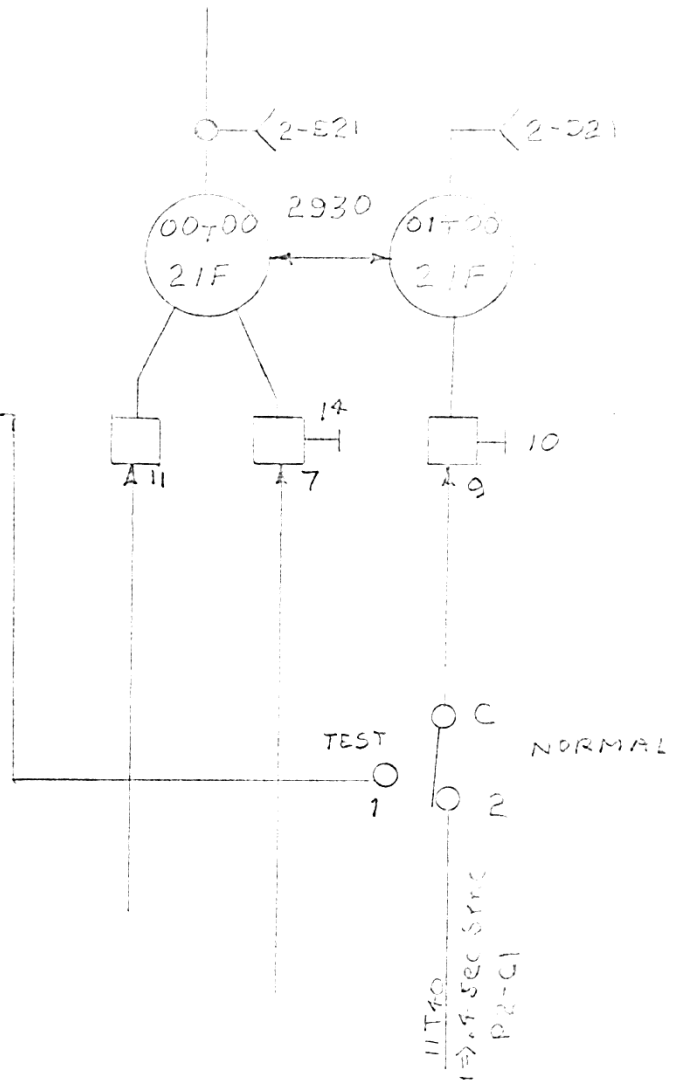
Distribution:

N. L. ALRICH  
K. L. KAMPF  
R. R. KISTLER  
D. L. LINDEMANN  
R. A. MALMEN  
J. D. MAREK  
E. J. OLSZEWSKI  
J. S. SARGENT

A handwritten signature in cursive script, appearing to read "V. L. Sandusky". The signature is written in dark ink and is positioned to the right of the distribution list.



Part of 7029910



Part of 7029911

1. Install spdt switch.
2. Add a wire from 27D-5 to switch contact 1.
3. Remove the wire on 21F-9 and place it on switch contact 2.
4. Add a wire from 21F-9 to switch contact common.