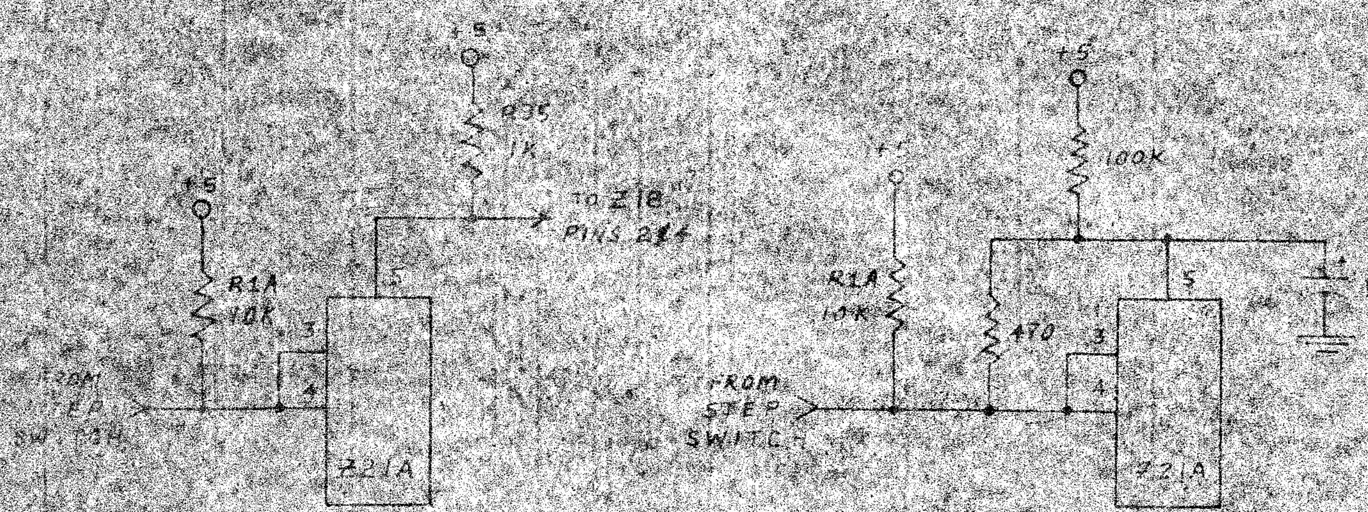
IMPROVING THE OPERATION OF THE SCELBI-8H STEP SWITCH

SEVERAL OF OUR CUSTOMERS HAVE EXPERIENCED DIFFICULTY WHEN USING THE STEP SWITCH ON THE SCELBI-8H. THE SYMPTOMS HAVE BEEN EXPRESSED AS "ERRATIC" OPERATION IN THAT SOMETIMES THE COMPUTER WOULD ADVANCE TWO CYCLES AND AT OTHER TIMES WOULD FAIL TO STEP WHEN THE SWITCH WAS OPERATED.

EARLY INDICATIONS WERE THAT SOME STEP SWITCHES THEMSELVES WERE DEFECTIVE, BUT FURTHER EXAMINATION OF THE PROBLEM HAS LED TO MINOR CIRCUIT MODIFICATIONS TO ELIMINATE SUCH "ERRATIC" OPERATION. USER'S WHO ARE EXPERIENCING ANY DIFFICULTY WITH OPERATION OF THE STEP SWITCH, WHO HAVE TYPE #1100 CPU CARDS - REVISION "A" - (WITH I.C. Z21A INSTALLED) SHOULD CONSIDER PERFORMING THE FOLLOWING MODIFICATIONS TO THEIR UNIT TO CORRECT SUCH PROBLEMS.

1.) CIRCUIT MODIFICATION TO THE CPU CARD STEP CIRCUITRY AT I.C. Z21A. CHANGE THE CIRCUITRY AT Z21A TO APPEAR AS SHOWN IN THE SCHEMATIC BELOW.



ORIGINAL CIRCUIT MODIFIED CIRCUIT

THE CHANGE CONSIST OF ADDING TWO RESISTORS (A 470 OHM AND A 100,000 OHM 1/4 WATT) PLUS A 1 MFD CAPACITOR AT Z21A AS ILLUSTRATED IN THE SCHEMATIC. THE ADDITION OF THE COMPONENTS CAN BEST BE IMPLEMENTED BY MOUNTING THE PARTS ON THE CIRCUIT SIDE OF THE CPU CARD AS SHOWN IN THE DIAGRAM ON THE NEXT PAGE. THE DIAGRAM SHOWS THE FOIL PATTERN ON THE CIRCUIT SIDE OF THE CARD IN THE VICINITY OF I.C. Z21A (TOWARDS THE UPPER RIGHT HAND CORNER NEAR THE TRIMPOTS WHEN VIEWED FROM THE BACK OF THE CARD WITH THE CONNECTOR PINS EDGE OF THE CARD NEAREST THE OBSERVER). BE SURE TO CUT THE P.C. FOIL AT THE POINT NEXT TO THE FOIL PAD MARKED [illegible] IN THE DIAGRAM.

2.) CHANGE THE WIRING [illegible] THE [illegible] CARD AT SLOT XA02 (CPU CARD) BY PERFORMING THE FOLLOWING STEPS.

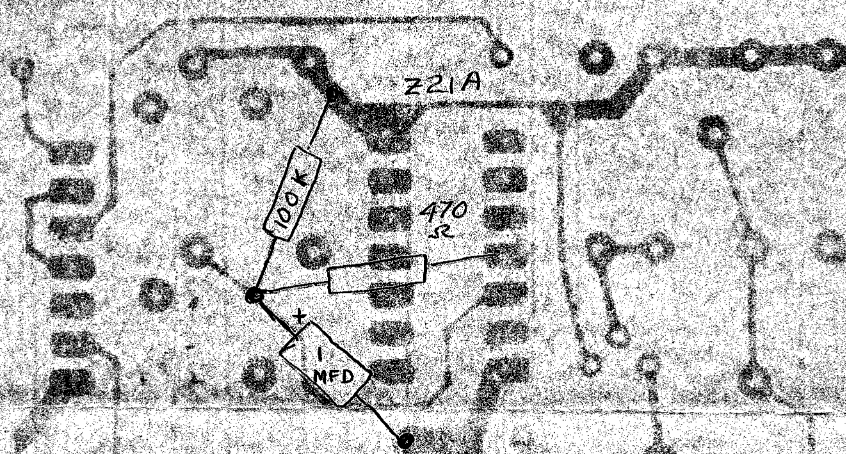
A.) [illegible] THE JUMPER [illegible] BETWEEN PINS AX, AY AND AZ (THE [illegible] SIDE OF SLOT XA02).

B.) INSTALL [illegible] SLOT XA02 (LEAVING [illegible] AY [illegible]

C. RUN A WIRE FROM PIN AY OF XA02 TO PIN BF (T3N SIGNAL) OF XA02.

THE FIRST MODIFICATION ELIMINATES THE POSSIBILITY OF CONTACT BOUNCE UPON RELEASE OF THE STEP SWITCH CAUSING MULTIPLE STEP OPERATION.

THE SECOND MODIFICATION ELIMINATES A POSSIBLE "RACE" CONDITION IN THE CONTROL LOGIC FROM OCCURING THAT CAN SOMETIMES RESULT IN THE STEP CIRCUIT FAILING TO "STEP" THE COMPUTER WHEN IN THE INTERRUPT MODE. IT WILL BE NOTED THAT THE SECOND MODIFICATION WILL RESULT IN MINOR CHANGES OCCURING IN THE SEQUENCE IN WHICH THE INTERRUPT AND STATUS LIGHTS APPEAR WHEN AN INTERRUPT IS RECEIVED AFTER THE COMPUTER HAS BEEN IN THE RUN MODE - DEPENDING ON THE OPERATION BEING PERFORMED AT THE TIME THE INTERRUPT SWITCH IS ACTIVATED. HOWEVER, THE BASIC OPERATION REMAINS THE SAME: WHEN THE OPERATOR DEPRESSES THE INTERRUPT SWITCH, THE STEP BUTTON SHOULD BE ADVANCED (IF NECESSARY) UNTIL O N L Y THE "I" LAMP IS LIT. IF, FOR INSTANCE, THE INTERRUPT AND A STATUS LAMP COMES ON WHEN THE "INT" SWITCH IS OPERATED, THEN THE OPERATOR SHOULD OPERATE THE STEP BUTTON UNTIL THE STATUS LAMP(S) GO OFF (WITH THE "I" LAMP REMAINING ON) TO SIGNIFY THE START OF THE INTERRUPT CYCLE. THE OPERATOR THEN PROCEEDS AS IN THE PAST TO USE THE STEP SWITCH TO BRING THE STATUS LAMPS TO THE DESIRED CONDITION(S) (IF REQUIRED) FOR INSERTING "INTERRUPT MODE" INSTRUCTIONS TO THE COMPUTER. (THE CASE OF BOTH THE "I" LAMP AND THE STATUS LAMP(S) BEING LIT WHEN THE INTERRUPT MODE IS INITIALLY ENTERED SIGNIFIES THAT THE COMPUTER HAS NOT FINISHED THE LAST MULTI-BYTE INSTRUCTION BEING EXECUTED WHEN THE "INTERRUPT" SIGNAL WAS RECEIVED - THIS MUST BE DONE IN THE STEP MODE BEFORE THE NEW COMMAND IS GIVEN VIA THE CHASSIS SWITCHES).



PARTS PLACEMENT ON CPU FOIL PATTERN FOR STEP CIRCUITRY MODIFICATION

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