

## INSTRUCTION COUNTER TEST

## A. UNIT TESTED

## INSTRUCTION COUNTER

## 1. PURPOSE

TO TEST THE ABILITY OF THE INSTRUCTION COUNTER TO SEQUENTIALLY STEP THROUGH ALL ADDRESSES, AND TO BE SET TO ALL ADDRESSES BY TRANSFER CONTROL.

## 2. METHOD

THE INSTRUCTIONS FRN AND TSX ARE WALKED THROUGH STORAGE, THE ACC IS SET TO 30, AND IS STEPPED BY THE FRN AND THE VALUE OF THE INSTRUCTION COUNTER IS PLACED IN XRC BY THE TSX INSTRUCTION, THESE VALUES ARE COMPARED FOR EVERY ADDRESS. THE TRUE VALUE OF THE LOCATION OF THE FRN IS KEPT IN XRA. ALL LOCATIONS IN CORE OTHER THAN THOSE OCCUPIED BY THE PROGRAM AND THE FRN AND THE TSX ARE CLEARED TO ZERO.

## B. AREA OF THE MACHINE REQUIRED

## 1. MAIN FRAME, CORE, CARD READER

## 2. STORAGE LOCATIONS

ALL OF CORE STORAGE, REGARDLESS OF SIZE, IS STEPPED BY THIS PROGRAM. THE CONTROL PART OF THE PROGRAM OCCUPIES 2 THROUGH 26, OCTAL.

## C. PROGRAM CONTROL

## 1. DECK

ONE CARD - SELF LOADING 9M10A 000.

## 2. SENSE SWITCH CONTROL.

SWITCH 6 - DOWN - REPEAT PROGRAM

UP - HALT AT THE END OF THE PROGRAM.

THE OTHER SWITCHES ARE NOT USED.

## D. NORMAL STOPS

23. END OF PROGRAM - PRESS START TO RESTART. STOPS HERE ONLY IF SWITCH 6 IS UP.

## E. ERROR STOPS

17. ERROR STOP. THE ADDRESS IN THE ACCUMULATOR WAS NOT THE TWO'S COMPLEMENT OF XRC, WHICH SHOULD HAVE BEEN DEVELOPED BY THE T8X INSTRUCTION. WHEN THE MACHINE STOPS HERE.

THE ADDRESS OF THE ACCUMULATOR IS THE LOCATION TO WHICH THE IC SHOULD HAVE STEPPED.

XRA HAS THE ADDRESS FROM WHICH THE IC SHOULD HAVE STEPPED.

PRESS START TO TRY THIS SAME ADDRESS OVER.

NOTE -- ANY OTHER STOP WILL PROBABLY BE A HTR 0000. THIS INDICATES AN ADDRESSING FAILURE. XRA HAS THE TRUE VALUE OF THE ADDRESS THAT YOU SHOULD HAVE TRANSFERRED TO FROM THE MAIN PROGRAM.

F. PRINT OUTS.      NONE

00000 0 00024 0 00003 I000 3.,20 BRING IN CARD  
 00001 0060 00 0 00001 TCOA \* WAIT

\* GREETINGS TO D. B. H. AND ALL THE BOYS AT THE CAPE

00002 0774 00 1 00030 AXT 24,1 SET FIRST ADDRESS  
 00003 0754 00 1 00000 PXA ,1  
 00004 0737 00 2 00000 PAC ,2  
 00005 0560 00 0 00025 LDQ 21 L-OF-FRN  
 00006 -0600 00 2 00000 STQ ,2  
 00007 0560 00 0 00026 LDQ 22 L-OF-TSX  
 00010 -0600 00 2 00001 STQ 1,2  
 00011 0600 00 2 77777 STZ -1,2  
 00012 0020 00 2 00000 TRA ,2 GO TO THE FRN INSTRUCTION

WE GO OUT TO FRN-THUS GENERATING  
 THE LOCATION OF THE TSX IN THE ACC.  
 THEN, STEP IC TO THE TSX AND  
 RETURN TO 13 WHERE WE CHECK.

00013 -0634 00 4 00015 SXD 13,4 XRC WAS LOADED BY TSX  
 00014 0734 00 4 00000 PAX ,4 ACC HAS CORRECT LOCATION  
 00015 1 00000 4 00016 TXI \*81,4,0 ADD TSX VALUE TO ACC VALUE  
 00016 -3 00000 4 00020 TXL \*82,4,0 SHOULD BE ZERO.

00017 0000 00 0 00003 HTR 3 ERROR, ADD. IN ACC DOES  
 NOT MATCH VALUE IN XRC-  
 ADD. OF ACC. IS THE LOC.  
 TO WHICH THE IC SHOULD  
 HAVE STEPPED. PRESS  
 START TO TRY THIS ADD. AGAIN.

00020 1 00001 1 00021 TXI \*81,1,1 INCREASE FOR NEXT LOC  
 00021 3 00001 1 00003 TXH 3,1,1 STOP AFTER PASSING 7777  
 00022 0760 00 0 00166 SWT 6  
 00023 0420 00 0 00000 HPR STOP IF 6 IS UP  
 00024 0020 00 0 00002 TRA 2 REPEAT PROGRAM  
 00025 0760 00 0 00011 FRN  
 00026 0074 00 4 00013 TSX 11,4

00000 END