

1541 SUPER CARD INSTALLATION

READ THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE YOU ATTEMPT TO DO ANYTHING. USE CARE, TAKE YOUR TIME, PAY CLOSE ATTENTION, AND IF YOU HAVE ANY QUESTIONS, CALL US FOR HELP IF YOU NEED IT. IT IS NOT HARD TO DO IF YOU ARE JUST CAREFUL. ALSO EVERY SINGLE SUPER CARD IS PRETESTED BEFORE IT'S SHIPPED SO WE KNOW IT IS WORKING WHEN IT WAS SHIPPED. WE WILL NOT BE RESPONSIBLE FOR ANY DAMAGE YOU MAY DO TO YOUR DRIVE. IF YOU NEED HELP, THE TECHNICAL STAFF IS AVAILABLE ON THURSDAYS AND FRIDAYS FROM 10:00 AM TO 3:00 PM PST AT 206-254-0324.

INTRODUCTION

INSTALLATION OF YOUR SUPER CARD WILL BE AN EASY PROCESS IF THESE INSTRUCTIONS ARE FOLLOWED EXACTLY. THE ILLUSTRATIONS INCLUDED SHOULD HELP CLARIFY THE DETAILS OF THE INSTALLATION, SO PLEASE REFER TO THEM WHEN INSTRUCTED AND WHENEVER A PROBLEM ARISES. PROPER OPERATION OF THE SUPER CARD REQUIRES THAT YOUR DISK DRIVE BE AT PEAK PERFORMANCE. THIS INCLUDES GOOD TRACK ALIGNMENT, ACCURATE ROTATIONAL SPEED, AND A CLEAN DEMAGNETIZED READ/WRITE HEAD. ALL OF THESE FACTORS ARE CRITICAL WHEN COPYING A HEAVILY PROTECTED DISKETTE. THE ORIGINAL SHOULD LOAD PROPERLY ON THE DRIVE YOU INTEND TO COPY IT WITH.

WARNING! IMPROPER INSTALLATION OF THE SUPER CARD COULD RESULT IN PERMANENT DAMAGE TO YOUR DISK DRIVE. PLEASE FOLLOW ALL STEPS CAREFULLY, AND DOUBLE CHECK YOUR WORK. MAKE SURE TO LOOK FOR SHORTS BETWEEN THE CLIP LEADS AND THE INTEGRATED CIRCUIT CHIP (IC) BEFORE APPLYING POWER AFTER INSTALLATION. YOU SHOULD ALSO BE AWARE THAT IF YOUR DISK DRIVE IS STILL UNDER WARRANTY, THE WARRANTY MAY BE VOIDED BY THE INSTALLATION OF THE SUPER CARD.

TYPES OF DRIVES

SUPER CARD IS DESIGNED TO FIT ALL OF THE OLDER STYLE DISK DRIVES. THIS INCLUDES THE ALPS, NEWTRONICS, AND ALSO THE NEWER 1541C (NOT 1541C-2). THERE ARE THREE DIFFERENT SIZE CIRCUIT BOARDS THAT WERE USED IN THESE DRIVES AND YOUR SUPER CARD WILL WORK ON ANY ONE OF THE THREE.

INSTALLATION PROCEDURE

1. TURN OFF ALL POWER! DRIVES, COMPUTER, PRINTER, ECT.
2. DISCONNECT ALL CABLES! CONNECTED TO YOUR DISK DRIVE.
3. TAKE IT APART! PUT THE DRIVE UPSIDE DOWN ON A SOFT SURFACE, SUCH AS A TOWEL. USING A PHILIPS SCREWDRIVER, COMPLETELY LOOSED THE FOUR SCREWS LOCATED IN THE RECESSES OF THE CASE BOTTOM.
4. WITH GREAT CARE, WHILE HOLDING THE CASE TOGETHER WITH YOUR HANDS, AND WATCHING FOR THE SCREWS TO FALL OUT, TURN THE DRIVE RIGHT SIDE UP. LIFT OFF THE TOP AND SET IS AND THE SCREWS ASIDE. REMOVE THE TWO PHILLIPS SCREWS THAT HOLD THE PERFORATED METAL RFI SHIELD (IT COVERS THE TOP OF THE PRINTED CIRCUIT BOARD) AND REMOVE IT. (NOT ON ALL MODELS).
5. CHECK YOUR BOARD SIZE WITH A RULER MEASURE THE LENGTH OF YOUR CIRCUIT BOARD. THERE ARE THREE SIZES: SHORT - 7", MEDIUM - 9", LONG - 12". THIS IS VERY IMPORTANT, EACH BOARD HAS DIFFERENT CONNECT POINTS FOR YOUR SUPER CARD.
6. LOCATE THE 6502 CHIP FOR YOUR SIZE BOARD (S-M-L) REFERING TO FIGURE 1 AND STUDY ALL THE DIAGRAMS ONE LAST TIME BEFORE YOU START.

7. IN MOST CASES THE CHIP WILL BE SOCKETED (PLUGGED INTO A BLACK PLASTIC SOCKET, NOT DIRECTLY SOLDERED TO THE CIRCUIT BOARD). THIS IS WHERE THE SUPER CARD BOARD WILL BE INSTALLED. IF THE 6502 CHIP IN YOUR DRIVE IS NOT SOCKETED, THEN A SOCKET MUST BE INSTALLED. THIS EXTRA SOCKET IS NOT PROVIDED. PLEASE ENLIST THE HELP OF SOMEONE EXPERIENCED AT THIS, AS PERMANENT DAMAGE TO THE DISK DRIVE OR THE 6502 CHIP MAY RESULT IF IT IS DONE IMPROPERLY. YOU MUST REUSE 6502 CHIP, SO CARE MUST BE TAKEN. IF IN DOUBT, DON'T DO IT YOURSELF.
8. HANDLE WITH CARE! IT IS IMPORTANT TO KNOW THAT SOME ELECTRONIC PARTS MAY BE DAMAGED BY STATIC ELECTRICITY SO GREAT CARE MUST BE USED WHEN HANDLING ANYTHING INSIDE YOUR EQUIPMENT. YOU SHOULD NOT WORK IN AN AREA WITH CARPET. PERHAPS A KITCHEN COUNTER WHERE YOU CAN TOUCH A WATER FAUCET TO DISCHARGE YOURSELF BEFORE TOUCHING THE CHIPS.

WARNING! FOLLOW THE NEXT STEP VERY CAREFULLY OR DAMAGE WILL RESULT!!!

9. REMOVE THE 6502 CHIP. NOTE KEYWAY LOCATION. USING A SMALL FLAT TOOL (LETTER OPENER, PARING KNIFE, JEWELERS SCREWDRIVER, ECT.) VERY CAREFULLY AND SLOWLY WORK EACH END OF THE CHIP UP SO IT COMES OUT STRAIGHT. IF ANY OF THE PINS BEND A LITTLE, YOU MAY CAREFULLY STRAIGHTEN THEM ONCE. AFTER THAT THEY MAY BREAK. INSTALL THE 6502 IN THE SUPER CARD'S EMPTY SOCKET WITH THE KEYWAY FACING AS SHOWN IN FIGURE 2.
10. PLUG THE SUPER CARD INTO THE DRIVE, FIRST CHECKING THE BOTTOM OF THE SUPER CARD TO MAKE SURE NONE OF THE MOUNTING PINS ARE BENT. NOW CAREFULLY PLUG THE SUPER CARD INTO THE NOW EMPTY 6502 SOCKET OF YOUR DRIVE AS SHOWN IN FIGURE 2A. MAKING CERTAIN THAT EACH AND EVERY PIN ON THE CARD GOES INTO ITS CORRESPONDING HOLE, IN THE SOCKET BELOW. ONCE THE PINS ARE LINED UP CORRECTLY THEN PRESS SLOWLY BUT FIRMLY DOWN ON THE 6502 AND SEAT THE SUPER CARD IN PLACE.
11. HOOK UP LEADS. CHECK FOR SINGLE OR DUAL LEADS ON YOUR SUPER CARD, IF YOUR CARD HAS ONLY ONE LEAD - FOLLOW INSTRUCTIONS FOR LEAD #1 ONLY. REFERRING TO FIGURE 1A, YOU ARE NOW READY TO HOOK UP THE LEADS. IDENTIFY THE CORRECT HOOK UP POINTS FOR YOUR SIZE BOARD (S-M-L) AND USE A PENCIL TO MARK ON TOP OF THE CHIP. NOW TO ATTACH THE CLIP LEAD, PRESS THE BUTTON ON THE TOP OF THE CLIPS TO EXTEND THE SMALL HOOK, CAREFULLY POSITION THE HOOK AROUND THE DESIRED IC PIN, AND RELEASE THE BUTTON. IF YOU HAVE NOT DONE THIS BEFORE, BE PATIENT.
12. DOUBLE CHECK YOUR WORK CAREFULLY AND MAKE CERTAIN THAT THERE ARE NO SHORT CIRCUITS!! THE CLIPS CAN SHORT THE PIN NEXT TO IT VERY EASILY.
13. SET COVER BACK ON DRIVE AND MAKE SURE IT SEATS OK, THEN REMOVE IT AGAIN AND DO A COMPLETE CHECK TO MAKE SURE THE COVER DID NOT KNOCK THE CLIP LEADS OFF. IF EVERYTHING LOOKS GOOD, YOU ARE READY TO TEST IT. LEAVE THE SCREWS OUT UNTIL THE SUPER CARD PASSES THE TEST.
14. PLUG THE DRIVE POWER CORD IN WITH THE POWER ON THE SWITCH OFF, AND DON'T PUT THE SERIAL CORD IN YET. TURN POWER ON WHILE WATCHING THE RED DRIVE LIGHT. IT SHOULD GO ON FOR JUST A SECOND (LIKE NORMAL) THEN GO OFF. IF NOT, SHUT THE POWER OFF IMMEDIATELY TO PREVENT POSSIBLE DAMAGE, THEN CHECK IN THE TROUBLE SHOOTING GUIDE. IF

LIGHT ACTS NORMAL, GO ON TO STEP 15.

15. CHECK IT OUT BY HOOKING UP YOUR SERIAL CABLE NOW AND TURNING ON YOUR COMPUTER. INSERT THE SUPER CARD DISK AND TYPE (LOAD "TEST",8,1 RETURN). BY RUNNING THIS PROGRAM, IT WILL CHECK THE SUPER CARD AND VERIFY THE THE CARD'S RAM IS WORKING. IF THE BOARD TEST BAD GO TO THE TROUBLESHOOTING GUIDE. IF IT TEST OKAY THEN GO ON TO #16.
16. LOAD SUPER CARD DISK BY TYPING (LOAD"*,8,1 RETURN). WHEN YOU RUN THIS PROGRAM, YOU WILL GET THE MAIN MENU. NOW PICK #8 TO FORMAT SOME BLANK DISKS TO USE. YOU WILL NEED TO USE AT LEAST 1 TO USE ON THE SPEED TEST AND MORE FOR COPYING. AFTER FORMATTING SOME DISKS, SHUT THE COMPUTER AND DRIVE OFF COMPLETELY AND GO ON TO #17.
17. RELOAD MAIN MENU THE PICK #7 SPEED TEST. RUN THIS PROGRAM TO VERIFY THE SPEED OF YOUR DRIVE -THIS IS EXTREMELY IMPORTANT. IF IT IS NECESSARY TO ADJUST THE SPEED DO IT WHILE THIS PROGRAM IS ON THE SCREEN. AS YOU VARY THE SPEED, YOU CAN SEE IT CHANGE ON THE SCREEN AT THE SAME TIME. SEE FIGURE 3 FOR ADJUSTMENT LOCATION.
18. ARE ALL SYSTEMS GO? IF SO, YOU ARE READY TO PROCEED TO HOW TO USE.

TROUBLESHOOTING GUIDE

IF YOU DO NOT FIND THE CAUSE OF PROBLEM IN THIS SECTION, CALL THE TECHNICAL SERVICE NUMBER ON THE FRONT PAGE!

- 14A. IF YOU POWER UP THE DRIVE AND THE RED LIGHTS STAYS ON - TURN POWER OFF IMMEDIATELY. DISCONNECT THE SUPER CARD LEADS AND LAY THEM ASIDE, MAKING SURE THEY DO NOT TOUCH ANY METAL. AND TURN THE POWER ON AGAIN. IF THE LIGHT ACTS NORMALLY THEN THE PROBLEM IS THE CLIP LEADS WERE NOT PROPERLY HOOKED UP. RECHECK THE INSTRUCTIONS, RECHECK THE DIAGRAMS. AT THIS POINT, YOU SHOULD ALSO CHEK THE SUPER CARD TO SEE IF IT IS SEATED PROPERLY. AFTER HOOKING UP THE LEADS AGAIN, REDO STEP 14.
- 15A. IF YOU FAIL THIS TEST, IT MEANS THAT THE SUPER CARD IS NOT SEATED PROPERLY OR YOUR MOTOROLA 74LS138 IS DEFECTIVE. SINCE ALL SUPER CARDS ARE PRETESTED, YOU SHOULD ONCE AGAIN CHECK ALL CONNECTIONS.

DIAGRAMS

FIGURE 1

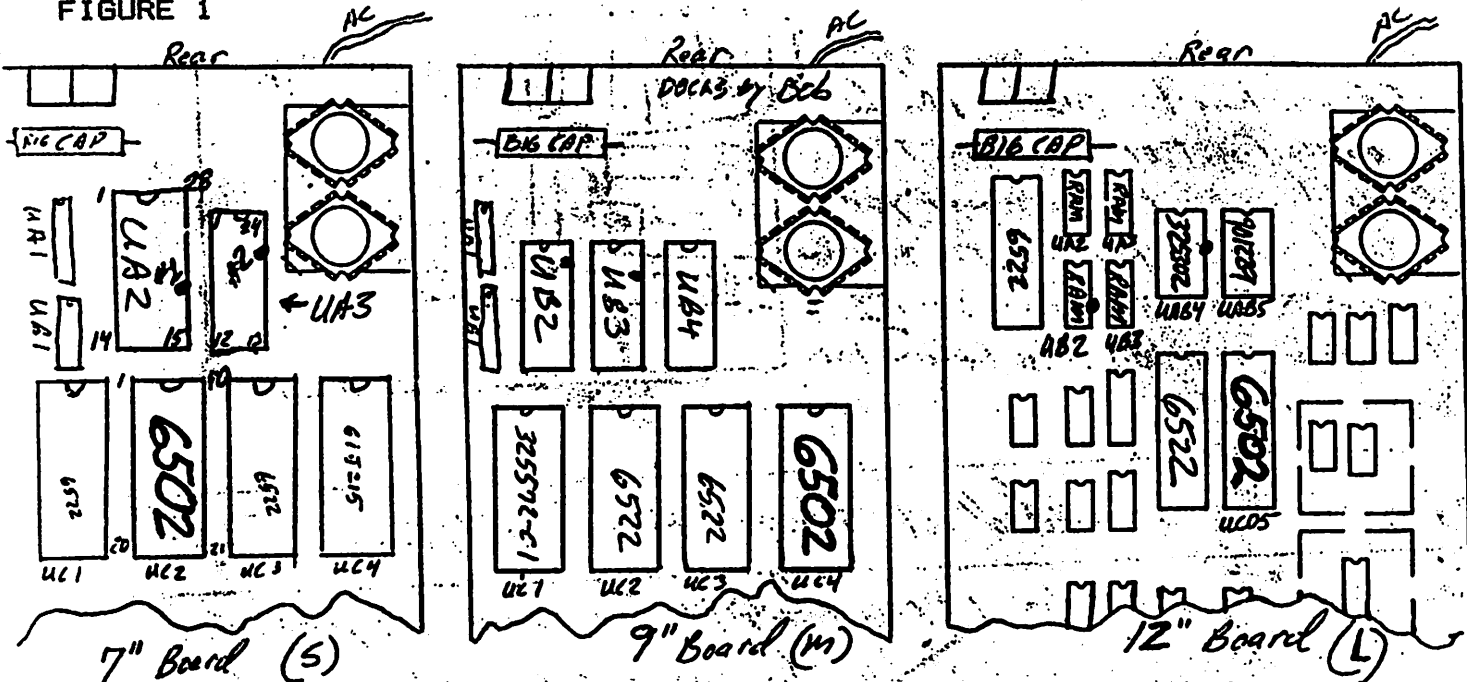


FIGURE 1A

	LEAD #1	CHIP	LEAD #2	CHIP
7"	PIN 20	UA2	PIN 21	UA3
9"	PIN 20	UB3	PIN 21	UB2
12"	PIN 20	UAB4	PIN 10	UB2

TO COUNT ON PINS, COUNT COUNTER CLOCKWISE DIRECTION FROM THE KEYWAY.

FIGURE 2 SUPER CARD TOP VIEW

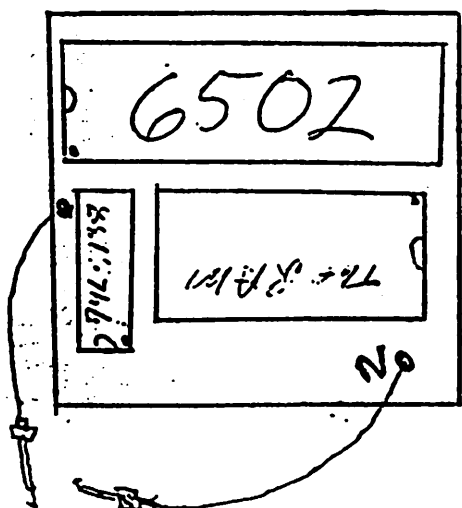


FIGURE 2A SUPER CARD INSTALLED IN A 9" BOARD

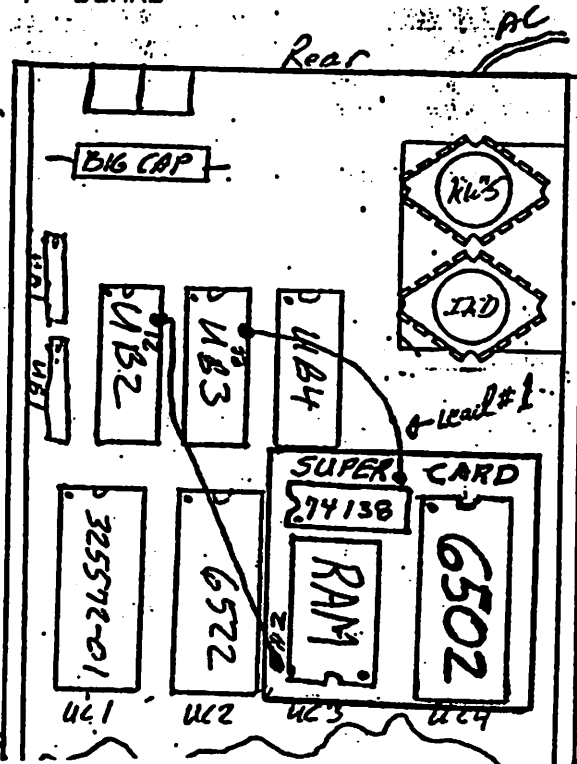


FIGURE 3 SPEED ADJUSTMENT

THE 7" AND 9" BOARD HAVE THE SAME TYPE OF ADJUSTMENT, IF YOU HAVE THE OLD TOATER TYPE DOOR THEN THE SPEED BOARD IS ON THE BOTTOM OF YOUR DRIVE. YOU WILL NEED TO REMOVE THE BOTTOM COVER AND TURN THE DRIVE ON IT'S SIDE. THERE IS A SMALL HOLE ON THE BOTTOM FOR ADJUSTMENT.

IF ANY PROBLEMS, CALL THURSDAYS AND FRIDAYS BETWEEN 10:00 AM AND 3:00 PM PST (206)254-0324.