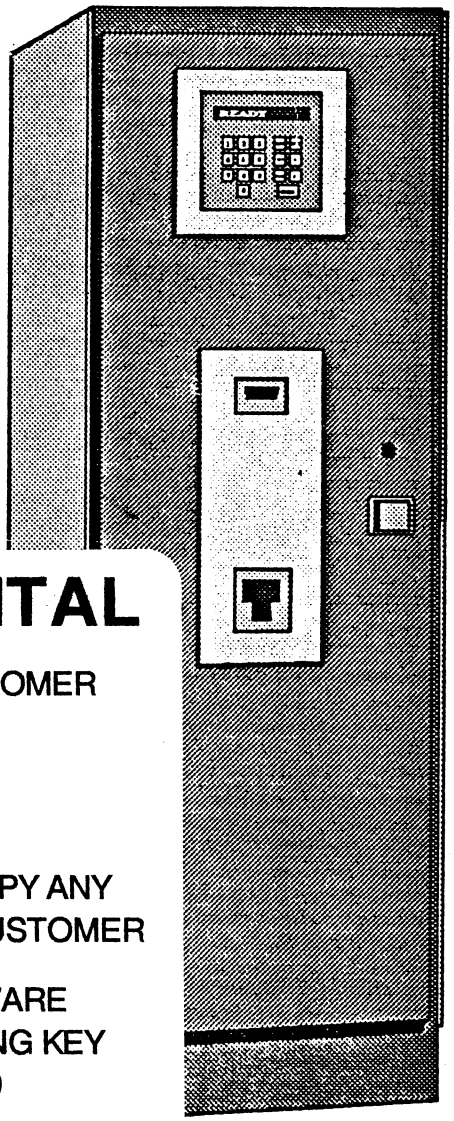
# Key Systems

## Service Information



## ATTENTION: DIGITAL

THESE MANUALS ARE NOT FOR CUSTOMER USE!

THEY ARE FOR DIGITAL **ONLY!!**

PLEASE DO NOT LEAVE OR PHOTOCOPY ANY PORTION OF THIS MANUAL W/THE CUSTOMER

PLEASE KNOW THE VERSION SOFTWARE BEING USED ON SITE BEFORE CALLING KEY SYSTEMS SUPPORT. 800-338-8269

THANK YOU!

**Key Systems**
830 Central Parkway East, 310
Plano, Texas 75074

(214) 422-5079
(800) 343-3807

**WARNING**

**Dangerous voltages are found in the Key Access Machine. Only Trained Technicians Should Troubleshoot in or around power supplies or PCB.**



First Edition, January 1994

Key Access System Patent Number 4,812,985



Printed in the USA

# Table of Contents

# Chapter 1 Basics

# CD 2000 Technical Specifications

## Mechanical

| | | |
|---|---|---|
| Dimensions: | Height: | 68" (Desktop Model 35") |
| | Width: | 24" |
| | Depth: | 32" |
| Weight: | | 382 lbs<br>250 lbs (Desktop Model) |
| Capacity: | | 406 Keys<br>300 Keys (Optional capacity)<br>200 Keys (Optional capacity)<br>140 Keys (Desktop Model) |

## Electrical

| | | |
|---|---|---|
| Voltage: | | 120 VAC +10%, -13% |
| Current: | | 3 Amps |
| Frequency: | | 60 Hz |
| Other:<br>extension<br>equipment | | Must have clean power and no extension cords. Only other computer on same power circuit. |

## Environment

| | | |
|---|---|---|
| Temperature: | Operation: | +10° C to +30° C (50° F to 85° F) |
| | Storage: | -30° C to +60° C (-22° F to 140° F) |
| Humidity: | Operation: | 10% to 80% non condensing |
| | Storage: | 5% to 85% non condensing |
| Shock: | Operation: | None - Must be stable. |
| | Storage: | .5 G within 1ms upright |
| Operation Angle: | | Must be upright and level to operate properly |

# Using the Set Up Menu

To access the Set Up Menu you must be in the Maintenance Menu. Then press either **Shift S, Ctrl E, Ctrl H or 42 password R**, depending on the S/W version. ESC will terminate most of the functions entered.

1) Set Elevator Travel to Top Plate - This is for checking and adjusting the height of the pick pad as it goes into the top of the carrousel. This effects all levels.

2) Set Pick Steps - This is for checking and adjusting the front to rear alignment where the pick pad lifts the Key Box from the input chute.

3) Set Carrousel Sensor - This selection has two functions.
   A. Carrousel Steps - To check and adjust the side to side alignment of the carrousel.
   B. Carrousel Depth - To check and adjust the front to rear alignment of the carrousel.

4) Set Input Chute - This is for checking and adjusting the height when the pick pad is in the home position.

5) Set Stack Height - This is for checking and adjusting the height of the pick pad as it goes into the bottom of the carrousel. This will effect ALL levels of the carrousel.

6) Home All Motors - This should be done before checking alignments, and after any adjustments have been made. Then recheck alignments.

7) Set Elevator to Output Chute - This is to check alignment at the output chute just before the key box is dropped. There is no S/W adjustments for this alignment. If adjustment is needed, it is done by moving the output chute.

8) Move Elevator to Carrousel - This is to check the height, side to side and front to back alignment in the carrousel. No adjustments can be made in this selection. To make adjustments you will need to press #1, #3 or #5.

9) Turn On Chute Motor - This is to check the speed of the input chute motor. To turn motor off re-enter # 9.

A) Read Barcodes - To read barcodes without storing the keys.

B) Check Top Sensor - To check the operation of the top sensor. This should be done after replacing PCB. If the sensor is working properly "ELEV HIT TOP SNSR" will be displayed.

C) Clear Errors - To clear any errors that have occurred.

D) Set Carrousel to Bin - To check alignment of another carrousel bin by turning carrousel to a specific bin.

E) Move Carrousel - To check operation of carrousel by making it spin from right to left.

F) Burn In - Used at the factory after the Key Machine has been assembled.

G) Enter Set Up Values - Used to enter the set up values as a group. Set Up Values may be found on the sticker next to the Input Chute.

H) Maintenance Menu - Exit to maintenance menu.

I) Check Carrousel Warpage - For checking warpage of individual carrousel plates.

M) Map Bins - Do Not Use.

# Using the Key Machine Keypad as the CRT

1. The Key Machine Keypad will function as the CRT while in the Set Up Menu with S/W V2.22 or greater.

2. From the Maintenance Menu, press either Shift S, Ctrl E, Ctrl H or 42 password R to get into the Set Up Menu, depending on S/W Version.

3. Key Pad Function **(While in the Set Up Menu only).**
   1) Set Elevator Travel to Top Plate
   2) Set Pick Sensor
   3) Set Carrousel Sensor
   4) Set Input Chute Sensor
   5) Set Stack Height
   6) Home All Motors
   7) Set Elevator to Output Chute
   8) Move Elevator to Carrousel
   9) Turn On Chute Motor

   Show - Same function as space bar on CRT. Will lift Pick Pad when it is in the Carrousel.

   Move - Same function as ESC on CRT. To Escape from a selection.

   <-- - Same function as the Left Arrow on the CRT. To adjust the Carrousel to the Left.

   * - Same function as the Right Arrow on the CRT. To adjust the Carrousel to the Right.

   Clear- Same function as the Up Arrow on the CRT. To adjust the Elevator assy. up or to adjust the Pick Arm towards the rear of the Key Machine.

   # - Same function as the Down Arrow on the CRT. To adjust the Elevator assy. down or to adjust the Pick Arm towards the front of the Key Machine

   Enter- Same function as Enter from the CRT. Use after making a selection.

4. For any of the other selections in the Set Up Menu, you must enter them at the CRT.

# Software Installation

To Transfer Data Files To Another Disk

IMPORTANT: READ THROUGH THESE INSTRUCTIONS BEFORE ATTEMPTING TO TRANSFER ANY DATA.

1. If the Key Machine is NOT operational, start with Step 5.

2. Go to the Maintenance Menu and enter "92" to "Shutdown System." If the System does not respond to this entry, enter "12) Set Kam Configuration." If it asks for a password, enter the password that allows you in. Then enter "92."

3. The System will respond "Shutdown Machine? Are You Sure? (YES/NO)." Type in "YES" and enter.

4. Enter the Password. It is comprised of the three digits that make up the current software version (i.e. V2.34's password is 234, etc.). The System will respond with "Saving Current Kam Conditions" and a list of files it is saving. When completed, it will display "Turn Machine Off" and the Key Machine will display "Disabled."

5. Open the front door and remove the old disk by pressing the ejection button on the disk drive.

   IMPORTANT: You will need this disk in just a moment. MARK it and keep it SEPARATE from any other disks you might have.

6. Insert the Upgrade Disk. Make sure the label is to the left and that the metal cover points towards the disk drive.

7. Press the blue pushbutton on the logic board that says "System Reset." The Key Machine will display "Testing." The CRT screen will display various start-up information, a list of files it has found, and then the following message:

   Some Data Files are Missing

   --Enter 1 to proceed with those files present, or
   --Enter 2 to copy data files from another disk.

8. Enter "2." The System will respond with "Please insert your old disk and hit any key to continue."

9. Swap out the disks. Take the new one out and put the old one back in.

IMPORTANT: DO NOT reset the Key Machine!!!

10. Press any key on the CRT's keyboard. The System will display a list of files as they are copied into the Key Machine's memory.

11. After all your old data files have been loaded into the Key Machine's memory, the System will display "Please insert the Version X.XX Upgrade Disk and hit any key to continue." Swap disks again so that the new disk is in the disk drive.

IMPORTANT: DO NOT reset the Key Machine!!!

12. Press any key on the CRT's keyboard to continue. The System will now display "Saving Data Files to Upgrade Disk - Please Wait."

13. Mark the old disk and write today's date on it. Find a safe place to keep it handy because all your previous weeks data is on it. If you do need to get data off of it, you will need to send this disk to KEY SYSTEMS so that we can extract the data you need from off the disk.

14. When the Menu is up and the Key Machine displays "Ready," access keyboxes in and out of the machine to ensure it is working properly.

15. If the System cannot transfer any files, see the section titled "When Data Files Will Not Transfer."

# Software Installation

## When Data Files Will Not Transfer

IMPORTANT: READ THROUGH THESE INSTRUCTIONS BEFORE ATTEMPTING TO TRANSFER DATA.

1. Open the front door and remove the old disk by pressing the ejection button on the disk drive.

   IMPORTANT: You will need this disk in just a moment. MARK it and keep it SEPARATE from any other disk you might have.

2. Insert the Upgrade Disk. Make sure the label is to the left and that the metal cover points towards the disk drive.

3. Press the blue pushbutton on the logic board that says "System Reset." The Key Machine will display "Testing." The CRT screen will display various start-up information, a list of files it has found, and then the following message:

   Some Data Files are Missing

   --Enter 1 to proceed with those files present, or
   --Enter 2 to copy data files from another disk.

4. Enter "1." The System will respond with "Saving All Data to Disk. Please Wait" and a list of files it is loading. After the motors have aligned themselves, the Report Menu will be displayed.

   IMPORTANT: This procedure only saves Key Locations and Salesmen Codes. Model Codes, Color Codes, Passwords, Title 1 and Title 2 will have to be re-entered by following the procedures outlined in the Users Guide.

5. The set-up values must be re-entered in order for the motors to work properly. The values are written on a white label or decal stuck to the left of the hole in which the key boxes are returned. Write down the values and keep them handy.

6. Enter "99" to go into the Maintenance Menu.

7. This step depends on the version software that the Key Machine is currently running. If the version is less than V2.35, type a capital "S." If the version is equal to or greater than V2.35, note the following chart:

| VERSION | ENTER |
|---|---|
| V2.35 | CTRL E |
| V2.36 | CTRL H |
| V2.37 or > | 42 (Password = "R") |

8. When the * appears, press Enter. You will now be in the Set-Up Menu and the key machine will display "Offline."

9. Enter "C" to "Clear Errors."

10. Enter "G" to "Enter Set-Up Values." Press Enter after each value is inputted.

11. Enter "H" to bring the system back on-line.

12. Mark the old disk as being bad and write today's date on it. Find a safe place to keep it handy because all your previous weeks data is on it. If you do need to get data off of it you will need to send this disk to KEY SYSTEMS so that we can extract the data you need from off the disk.

13. After the Maintenance Menu comes up and the Key Machine displays "Ready," access keys in and out of it to ensure that it is operating properly.

14. Read the notice in Step 4.

# Transferring Files From Another Disk (74)

OVERVIEW: This function will allow reading of any or all the data files from another disk. After reading the files, they will be written to the current disk. The screen will prompt the user when to insert the disk to have the files written.

1. From the Maintenance Menu enter 12 for Set KAM Configuration, then enter "74" to Load Files From Disk.

2. Take the disk that is currently in the disk drive out and mark it. You will need this disk shortly.

3. Insert into the disk drive the disk that is to be copied from.

4. The system will respond with a list of files that you want copied. They are displayed in the following order one at a time:

   Load Salesmen Codes?
   Load Key Locations?
   Load Setup Data?
   Load Sales Records?
   Load Model Codes?
   Load Color Codes?

5. Enter a "Y" to copy any individual data file.

   **NOTE:** IF YOU MISS A FILE THAT YOU WANT TO COPY, YOU <u>CANNOT</u> BACK UP. YOU <u>MUST</u> GO THROUGH STEPS 1 - 7 AND THEN START OVER.

6. Take the disk in the disk drive out and put the first disk (from Step 2) back in. Press any key to continue.

7. The system will respond with "Saving New Files to Disk."

8. Enter "99" to return to the Maintenance Menu or enter the next function.

# Deleting Garbage (75)

OVERVIEW: This function will search all the data files in memory for bad data. Notes will be written to the log file concerning all data changed. When all bad data has been deleted, it will be written to the disk.

1. From the Maintenance Menu enter 12 for Set KAM Configuration, then enter "75" to Fix Up Data Files.

2. Enter "Y" if you want to delete bad data that it finds one at a time. You will be asked if you want that data deleted. Enter a "Y" or a "N." It should be noted that depending on the amount of bad data that it finds in the files, this procedure can take a lot of time to complete. Enter "N" if you want the computer to automatically delete all the bad data that it finds.

3. Enter "99" to return to the Maintenance Menu or enter the next function that you want to do.

# Deleting Bin Locations of Broken Carrousel Plates (77)

OVERVIEW: This function will prompt the user for the level and bin to be marked off. Then it will indicate any key existing in that slot and allow the user to change the stock number. If no key previously existed in that slot, the stock number 9999999 is used to mark the slot off. The salesmen ID 99 is used and the salesmen name for ID 99 is "Bad Slot." Stock number 9999999 is not reported in the Keys Out report. This function may be used to physically put a key in a specific bin or to delete a key from the machine. All actions are written to the log file.

1. Turn the Key Machine off so that the carrousel may free-wheel.

2. Levels and Bins of broken carrousel plates will have to be determined. It should be noted that every broken plate affects two(2) bins. Levels are numbered from top to bottom at Bin 7 and are marked 1 - 29. Bins are numbered around the carrousel at Level 5 and are marked 1 - 14.

3. Turn the Key Machine back on.

4. The stock numbers that occupied those broken slots will have to be determined. This is done by printing a Key Location report sorted by location. Or, if the keyboxes are available, look at the first group of digits on the top left side of the barcode label.

5. The stock numbers will have to be deleted by going into the Maintenance Menu and entering "9" for the "Delete Key" function. Enter a capital "Y" to delete key. If it responds with "Key Has Not Been Removed," access the key out of the Key Machine and then delete it. Press "ESC" when you are through.

6. From the Maintenance Menu enter 12 for Set KAM Configuration, then enter "77" to Mark Bins as Used.

7. Enter the Level number and Bin number. Then enter 9999999 for the default stock number. Repeat as necessary. Press "ESC" when completed and then "99" to return to the Maintenance Menu or enter the next function.

8. Write the deleted slot locations on a blank barcode label and place it next to the set-up decal (located to the left of where the keyboxes are returned) for future reference.

# Deleting Files (85)

OVERVIEW: This function will delete all data in the indicated files. It prompts the user for which files to delete and then erases all the data from the file. Then the file is written to the disk. This function does not physically delete the file. It only deletes all the data from the file.

IMPORTANT: Before deleting the **Keys File**, you should first print a Key Location report and a Keys Out report.

1. From the Maintenance Menu enter 12 for Set KAM Configuration, then enter "85" to Delete Files.

2. Type in capitals "QRT" for the password.

3. The files to be deleted are listed in the following order:

   Delete Model File?
   Delete Color File?
   Delete Salesmen File?
   Delete Keys File?
   Delete Sales Record File?
   Delete Setup File?

   Enter a "Y" to delete the file(s) of your choice.

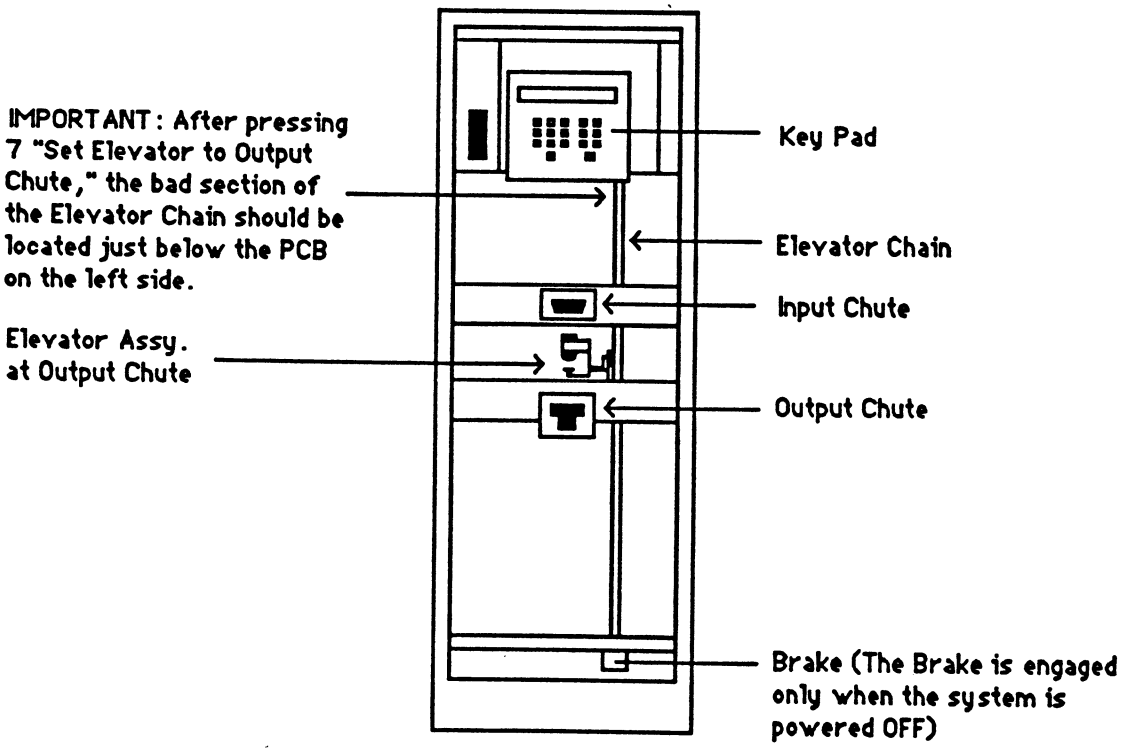
4. Enter "99" to return to the Maintenance Menu or enter the next function.

# Chapter 2 - Troubleshooting - Dropping Boxes

NOTE: Go through these procedures before changing any of the Set Up Values.

# Checking for a Bad Elevator Chain

1. When the Key Machine is in the home position the bad part of the Elevator Chain is usually located at the Elevator Motor (Top of the Key Machine). To get the bad part of the Elevator Chain where it can be checked, press 7 "Set Elevator to Output Chute" then hit enter from the Set Up Menu. The Elevator Assy. will go down to the Output Chute.

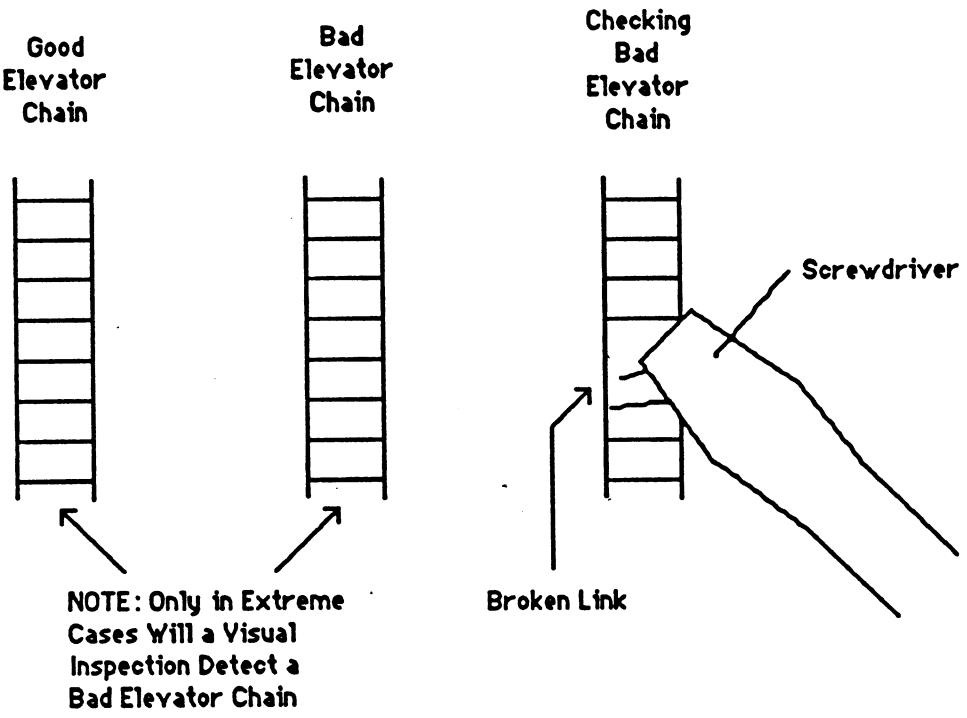



2. When the Pick Assy. is at the Output Chute, the broken part of the Elevator Chain should be located just below the PCB on the left side.

3. Check the entire length of the Chain.

4. To check the chain, you must try to separate the links by dragging a Screwdriver or similar object down the Links. (As shown on next page). Even if one of the Links is broken, the Key Machine can intermittently drop Key Boxes.

# Enlarged View of Elevator Chain

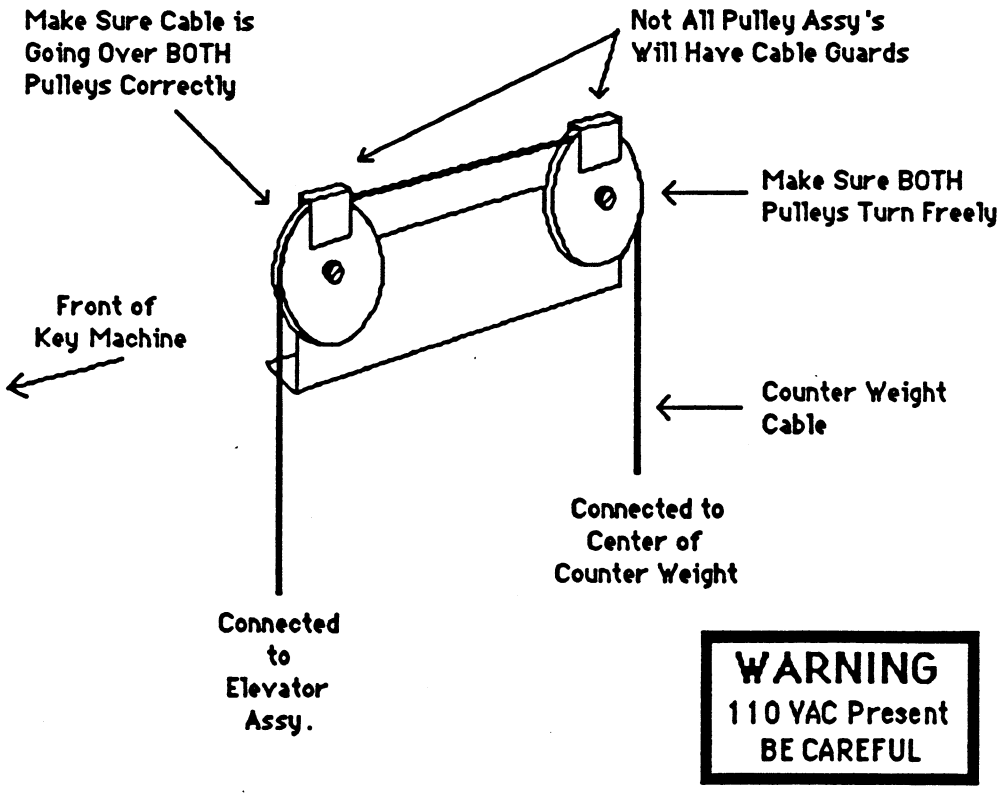


# Checking the Counter Weight Cable

1. To check the Counter Weight Cable, take the Top off of the Key Machine. Make sure the Counter Weight Cable is going over both Pulleys properly.

2. To check the operation of the Pulleys, pull down on the Counter Weight Cable that is connected to the Elevator Assy.. Both Pulleys should turn freely.

3. If the Pulleys don't turn freely, remove the screws that are going through the center of the Pulleys. Clean both the screw and the pulley, and then Lube the screws lightly with Oil or Grease. Re-assemble and check operation.



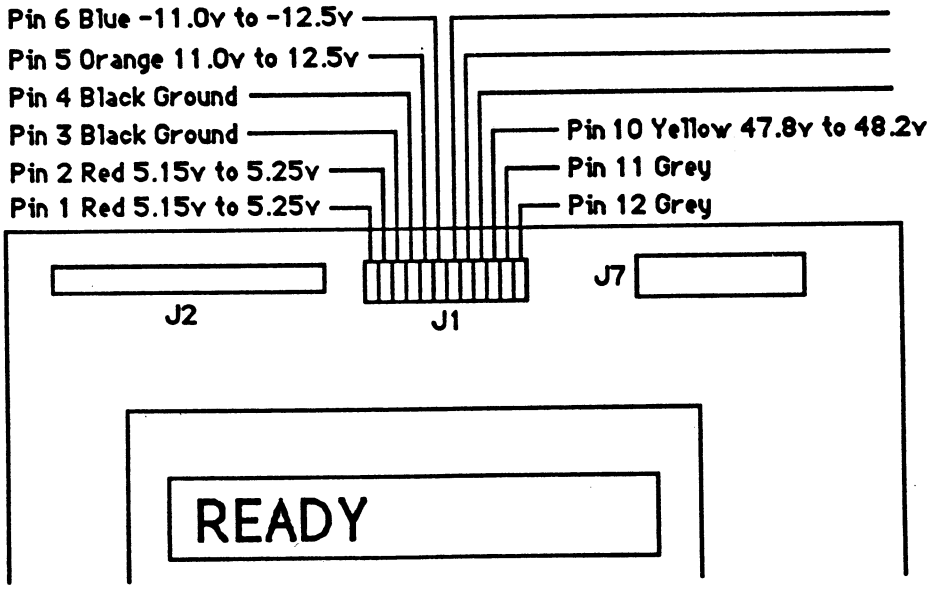
# Checking Voltages: 5V & 48V

1. Check voltages at the J1 connector located at the top center of the PCB.

2. Ground on either Black Wire, Pin 3 or 4.

3. Red - Pin 1 and 2 : 5.15V to 5.25V. If needed, adjust to **5.20V.**
   Orange - Pin 5 : 11.0V to 12.5V. Non-adjustable.
   Blue - Pin 6 : -11.0V to -12.5V. Non-adjustable.
   Yellow - Pin 10 : 47.8V to 48.2V. If needed, adjust to **48.0V.**

Voltage Readings



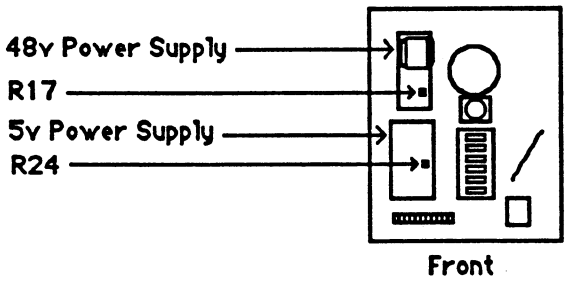
# Adjusting Voltages: 5V & 48V

1. To adjust the voltages, remove the Top of the Key Machine. (When making adjustments continue to take the readings at the J1 connector).

2. 5V - The 5V Power Supply is located towards the front of the Key Machine. Using a small screwdriver, turn R24 SLOWLY to adjust to **5.20V.**

   48V - The 48V Power Supply is located towards the rear of the Key Machine. Using a small screwdriver, turn R17 SLOWLY to adjust to **48.0V.**

Top View of Key Machine




**WARNING**
110 VAC Present
BE CAREFUL

# Checking Voltages: Transistors & Optic Couplers

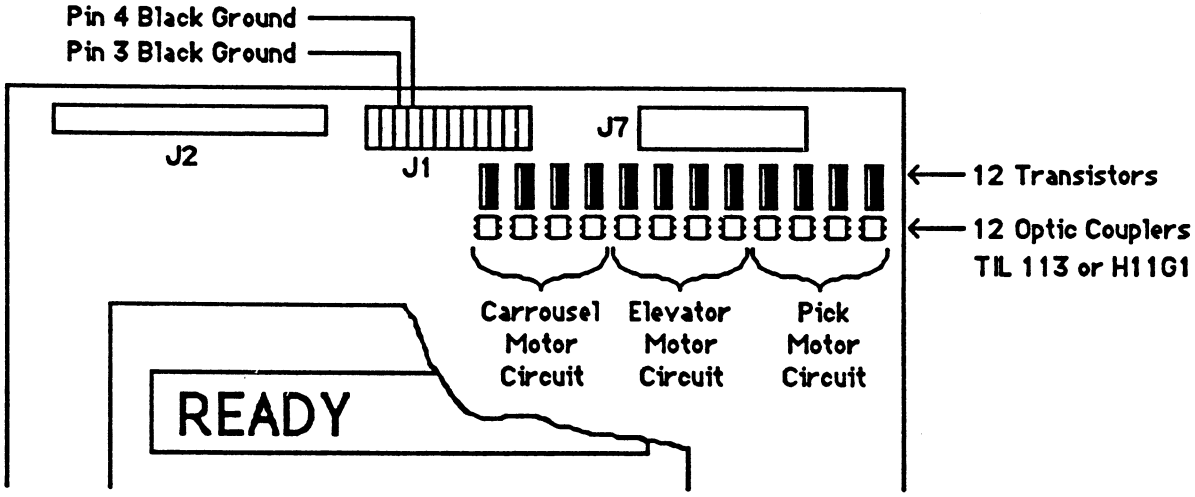
This is for checking the PCB for a Vibrating Motors / Dropping Box problem.

The first four Transistors and Optic Couplers (Counting from left to right) control the Carrousel Motor, the middle four control the Elevator Motor and the last four control the Pick Motor.

Each circuit will have 2 sets of readings (High Side **6V to 15V** and the Low Side **.8V** or less).

If any of the Low Side voltage readings are over **.8V** the PCB will need to be replaced.

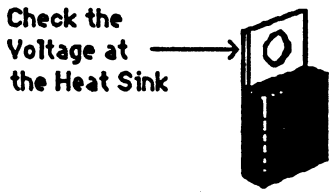
If any of the voltage readings are over **15V** there is possibly a broken wire or bad connection in that circuit.




1. Where to check Voltages.
   a. Ground on either of the Black Wires at the J1 connector, Pins 3 or 4.

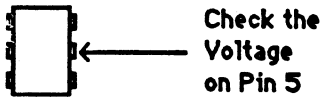
   b. Check the Voltage of the Transistor at the Heat Sink.

Transistor




c. Check the Voltage of the Optic Coupler at the center pin on the right.

Optic Coupler
TIL 113 or H11G1




**2. Checking the Carrousel Circuit:**

a. First write down the Voltage readings on the first 4 Transistors and Optic Couplers. From the left.

Transistors - _____ _____ _____ _____
Optic Couplers - _____ _____ _____ _____

b. From the Set Up Menu, **make a note of the current Carrousel Steps.** Press 3 and hit enter. Then press the left arrow key twice, the Carrousel Steps should change by two and the Voltage Readings of both the Transistors and Optic Couplers should toggle.

Recheck Transistors - _____ _____ _____ _____
Recheck Optic Couplers - _____ _____ _____ _____

You should now have a High and Low Voltage reading for each Transistor and Optic Coupler.

**IMPORTANT:** Change the Carrousel Steps back to the original setting, then press ESC to return to the Set Up Menu.

**3. Checking the Elevator Circuit:**

a. First write down the Voltage readings on the middle 4 Transistors and Optic Couplers.

Transistors - _____ _____ _____ _____
Optic Couplers - _____ _____ _____ _____

b. From the Set Up Menu, **make a note of the current Elevator Steps.** Press 1 and hit enter. Then press the up arrow key twice, the Elevator Steps should change by two and the Voltage Readings of both the Transistors and Optic Couplers should toggle.

Recheck Transistors - _____ _____ _____ _____
Recheck Optic Couplers - _____ _____ _____ _____

You should now have a High and Low Voltage reading for each Transistor and Optic Coupler.

**IMPORTANT:** Change the Elevator Steps back to the original setting, then press ESC to return to the Set Up Menu.

**2. Checking the Pick Circuit:**

a. First write down the Voltage readings on the last 4 Transistors and Optic Couplers. From the left.

Transistors - _____ _____ _____ _____
Optic Couplers - _____ _____ _____ _____

b. From the Set Up Menu, **make a note of the current Pick Steps.** Press 2 and hit enter. Then press the up arrow key twice, the Pick Steps should change by two and the Voltage Readings of both the Transistors and Optic Couplers should toggle.

Recheck Transistors - _____ _____ _____ _____
Recheck Optic Couplers - _____ _____ _____ _____

You should now have a High and Low Voltage reading for each Transistor and Optic Coupler.

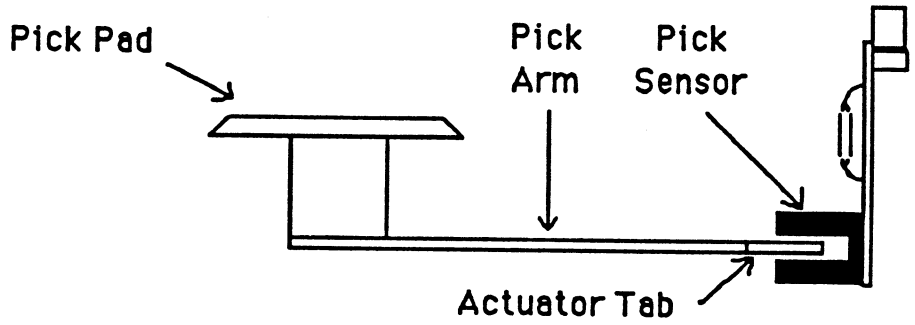
**IMPORTANT:** Change the Pick Steps back to the original setting, then press ESC to return to the Set Up Menu.

# Checking for a Bent Pick Arm

1. Before changing any Set Up Values, you should first make sure that the Pick Arm and Pick Pad are level.

2. Press 8 and hit enter to Move Elevator to Carrousel, then press 6 and enter again to select level 6. This will put the pick arm in a good position to check for straightness.

3. If either the pick pad or pick arm are bent, align them as straight as possible by bending them, making sure the actuator tab goes through the center of the sensor.




Front View

# Chapter 3 - Alignment Procedures

NOTE: Before making any changes to the Set Up Values, it is important to check all sections in chapter 2.

**IMPORTANT**

**Before checking any Set Up Values, press 6 to Home All Motors. After you have checked all the alignments, Home All Moters again. Then recheck alignments.**



**IMPORTANT**

**If any Set Up Values are changed, the new Values must be written on the Decal located to the left of where the Keyboxes are returned.**

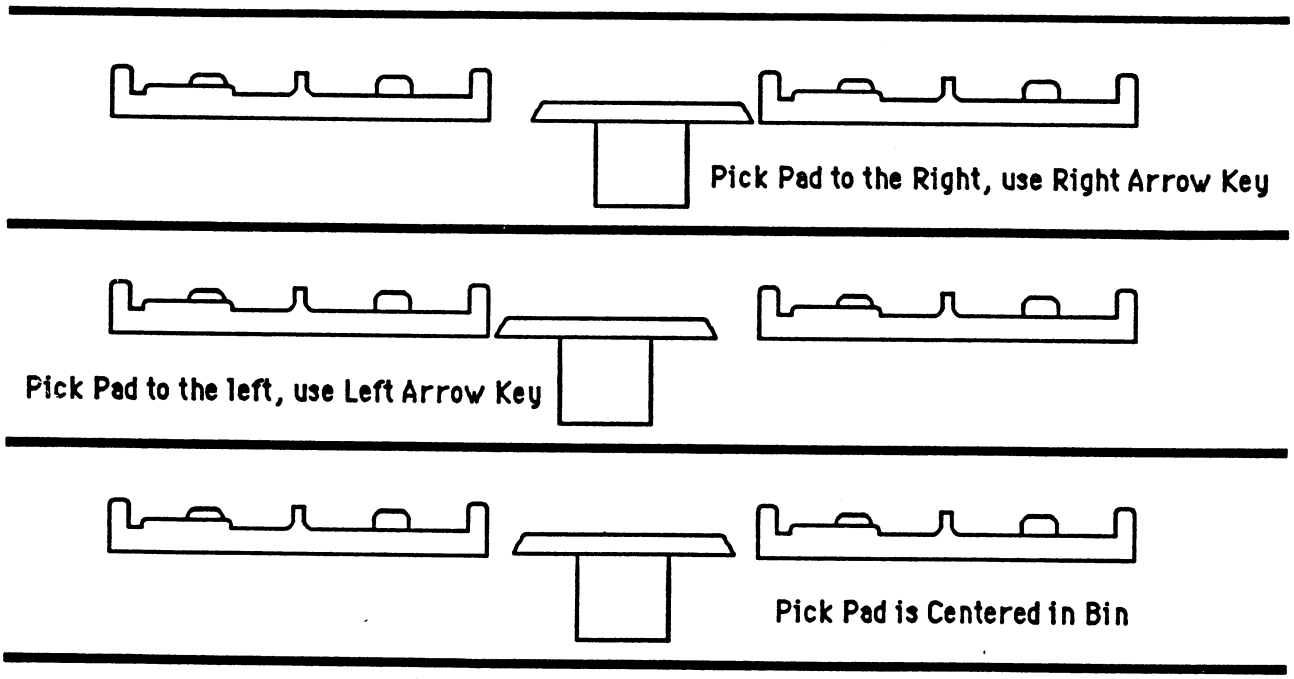
# Checking and Adjusting Carrousel Steps (3)

Side to Side Adjustment
Effects All Levels of the Carrousel

1. From the Setup Menu, press 3 and hit enter to adjust the carrousel sensor setting. The Pick Arm will go to level 6. Check the side to side adjustment of the Pick Pad in the carrousel plate opening.

2. The Pick Pad should be centered in the opening as shown below. Use the arrow keys on the CRT keyboard, as indicated, to adjust the Carrousel to the left or right.

3. When you have centered the Pick Pad, hit the ESC key to return to the Setup Menu.




## For a More Accurate Carrousel Alignment

4. From the set up menu, Press 1 and hit enter. The Pick Pad will go to level one. Check the side to side alignment and note whether the pick pad is centered, closer to the left or to the right.

5. Press 5 and hit enter. The Pick Pad will go to level 29. Note the alignment again.

6. Press 8 and hit enter. Press the desired level you wish to check. Usually you will choose level 15 as it is in the center of the carrousel. Note the alignment again.

7. Now you can press 3 to adjust carrousel, as outlined above.

# Checking and Adjusting Carrousel Depth (3)

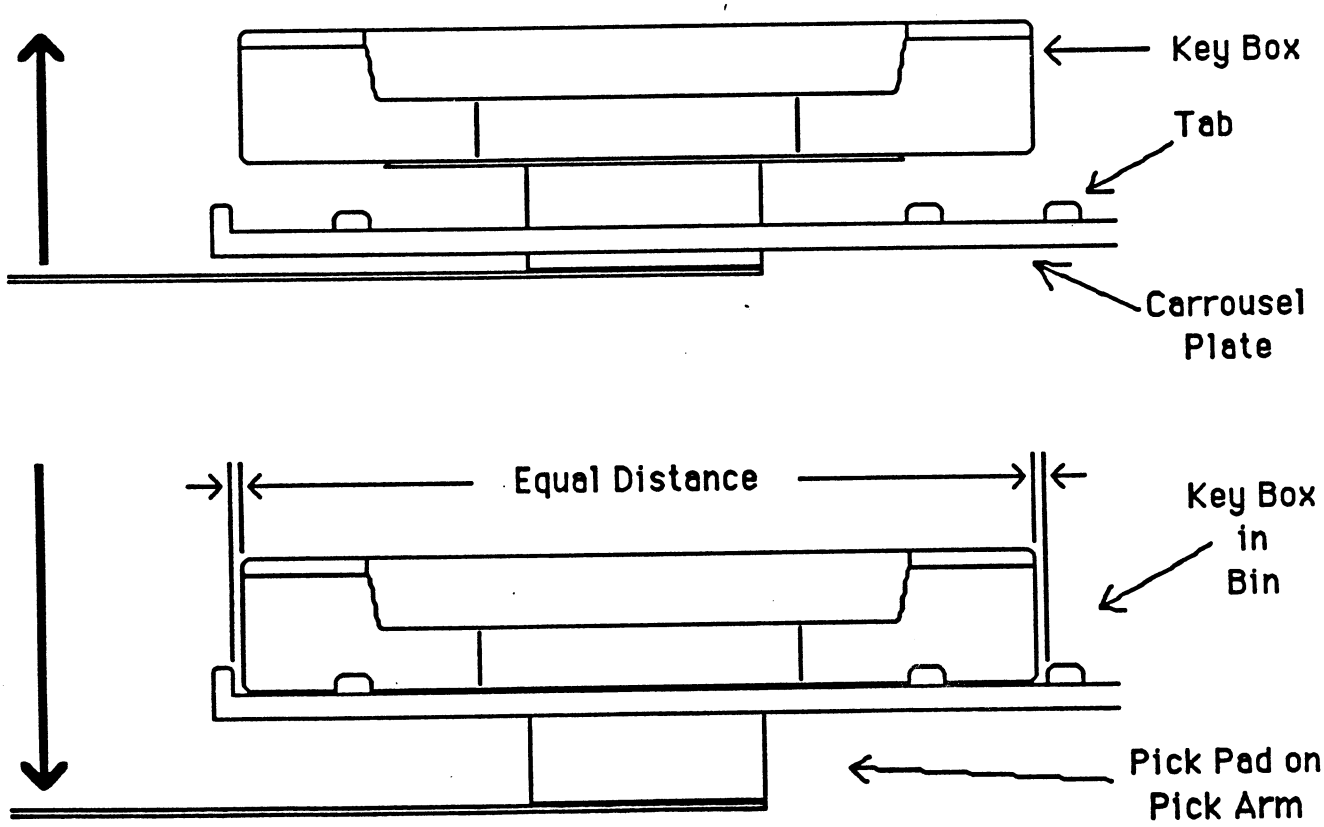
Front to Back Adjustment
Effects All Levels of the Carrousel

1. From the Setup Menu, press 3 and hit enter to adjust the carrousel sensor setting. The Pick Arm will go to level 6. Check the front to back adjustment of the Pick Pad in the carrousel plate opening.

2. Put a Keybox in the Carrousel Bin where the Pick Pad is. Press the spacebar on the CRT keyboard to move the Pick Pad up. Press the spacebar again to move the Pick Pad down. The Keybox should be centered between the tabs as shown below.

3. Use the Up arrow key on the CRT keyboard to move the Pick Pad deeper into the carrousel and the Down arrow key to move the Pick Pad closer to the front of the Key Machine.

4. When you have centered the Keybox, hit the ESC key to return to the Setup Menu.




Side View

# Checking and Adjusting
# Elevator Steps (1) & Stack Height (5)
Height Adjustment

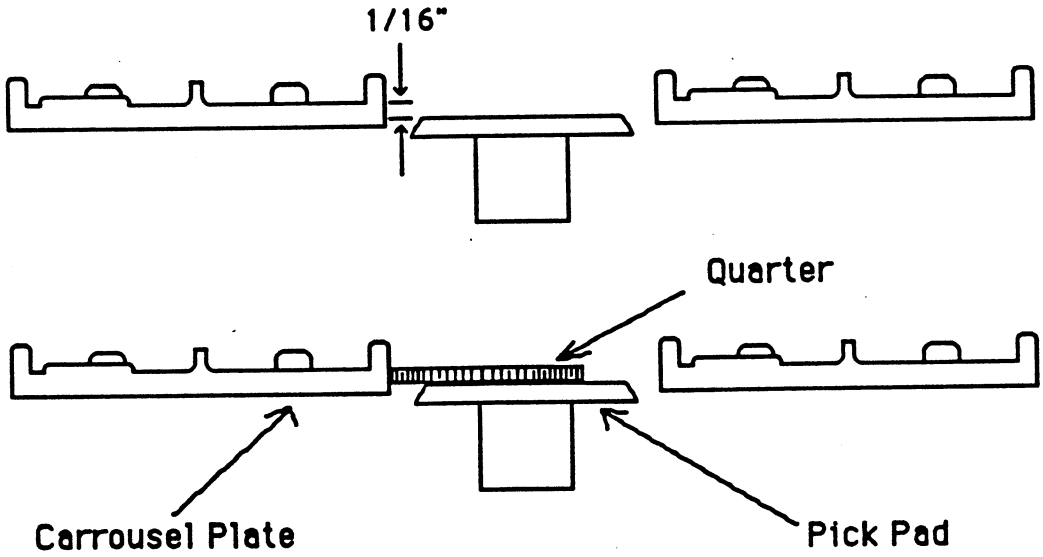
**Checking and Adjusting Elevator Steps (1)**( Effects All Levels of the Carrousel

1. From the Setup Menu, press 1 and hit enter to adjust the Elevator sensor setting. The Pick Arm will go to level 1. Adjust the height of the Pick Pad in the carrousel plate opening.

2. Place a Quarter on top of the Pick Pad. The top of the Quarter should be even with the top of the Carrousel Plate.

3. Use the up and down arrow keys on the CRT keyboard to adjust the Pick Pad up or down in the opening so that the top of the Pick Pad is the correct distance below the top of the carrousel plate as shown below.

   NOTE: It is usually better for the Quarter to be slightly lower than the Carrousel Plate than it is to be slightly higher than the Carrousel Plate.




**Checking and Adjusting Stack Height** (Effects All levels of the Carrousel )

1. From the Setup Menu, press 5 and hit enter to adjust the stack size computation. The Pick Arm will go to level 29. Adjust the height of the Pick Pad in the carrousel plate opening in the same manner as adjusting Elevator steps.

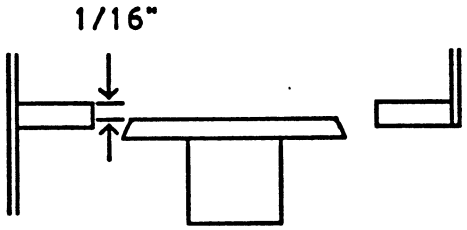
# Checking and Adjusting Input Steps (4)

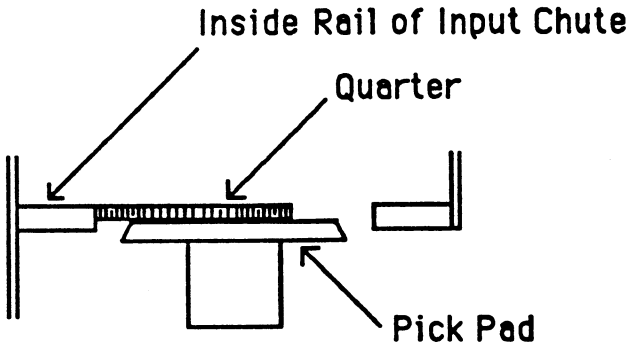
Height Adjustment in the Home Position Only

1. From the Setup Menu, press 4 and hit enter to adjust the input chute sensor setting. The Pick Pad will remain in the Home position.

2. Place a Quarter on top of the Pick Pad, the top of the Quarter should be even with the top of the Inside Rail of Input Chute.

3. Use the up and down arrow keys on the CRT keyboard to adjust the Pick Pad up or down in the opening so that the top of the Pick Pad is the correct distance below the top of the Inside Rail of Input Chute.




**IMPORTANT**

**Before checking any Set Up Values, press 6 to Home All Motors. After you have checked all the alignments, Home All Moters again. Then recheck alignments.**

**IMPORTANT**

**If any Set Up Values are changed, the new Values must be written on the Decal located to the left of where the Keyboxes are returned.**

# Checking and Adjusting Pick Steps (2)

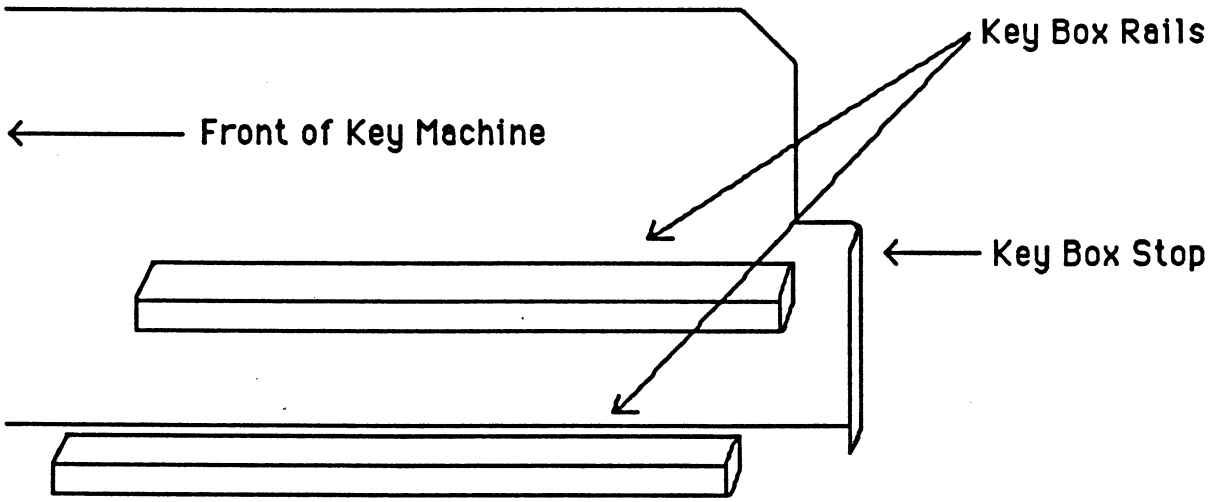
Front to Back Adjustment

( Effects Where the Key Box is Lifted From the Input Chute )

1. From the Setup Menu, press 2 and hit enter to adjust the Pick steps. The Pick Pad will lift up from the home position. Place a key box on the pad and hit the ESC key on the CRT keyboard to set the key box down on the input chute rails. There should be a small gap not to exceed 1/32" between the back of the Key Box and the Box Stop.( Located at the back of the Input Chute).

2. To adjust, press 2 and hit enter to pick the key box up again. Use the up arrow key to adjust toward the Carrousel and the down arrow key to adjust toward the front of Key Machine.

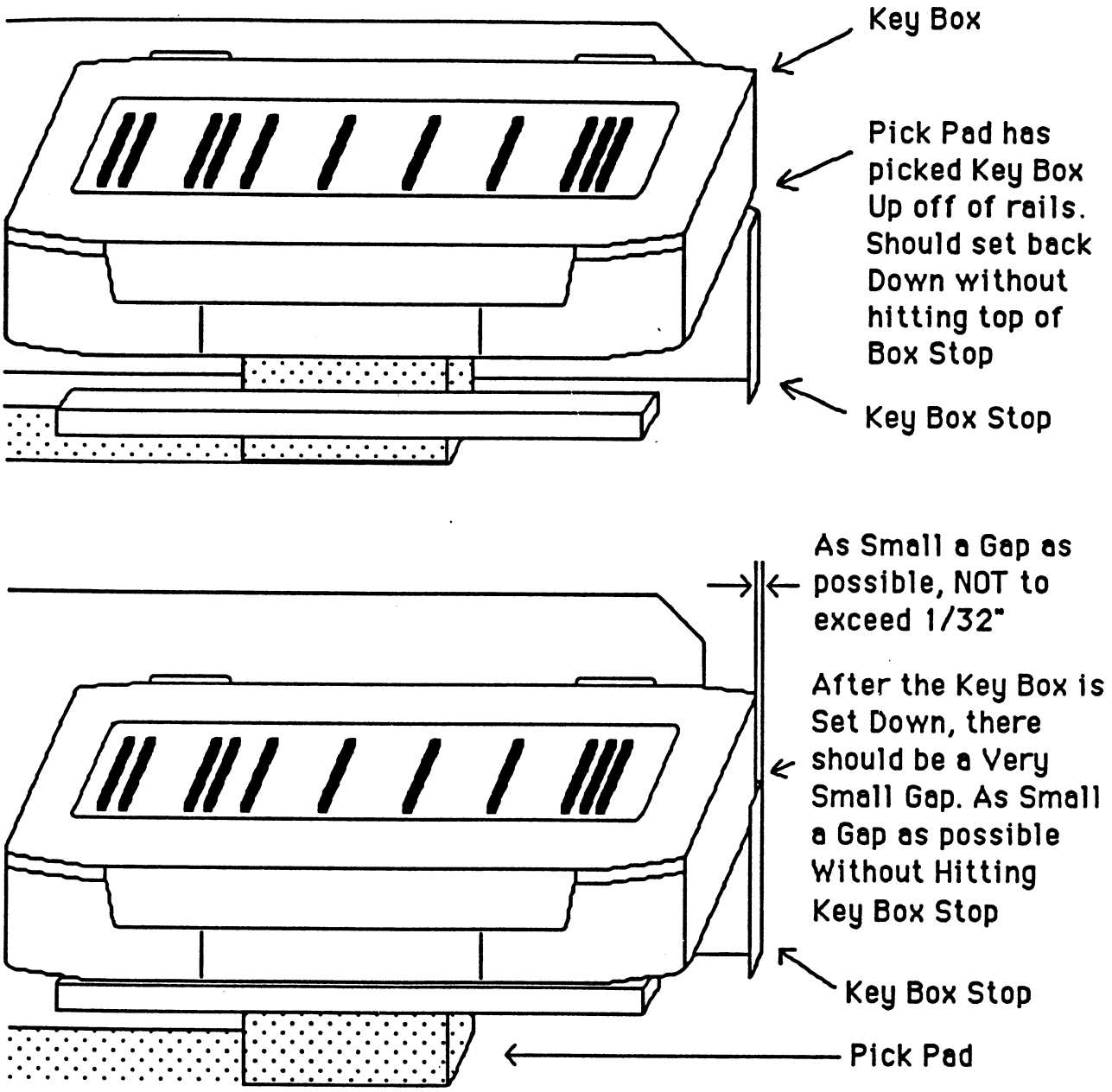
3. Press 6 to Home All Motors, and recheck alignment.




Right Side View Of Input Chute

**IMPORTANT**

**If any Set Up Values are changed, the new Values must be written on the Decal located to the left of where the Keyboxes are returned.**




**IMPORTANT**

**Before checking any Set Up Values, press 6 to Home All Motors. After you have checked all the alignments, Home All Moters again. Then recheck alignments.**

# Output Chute Alignment (7)

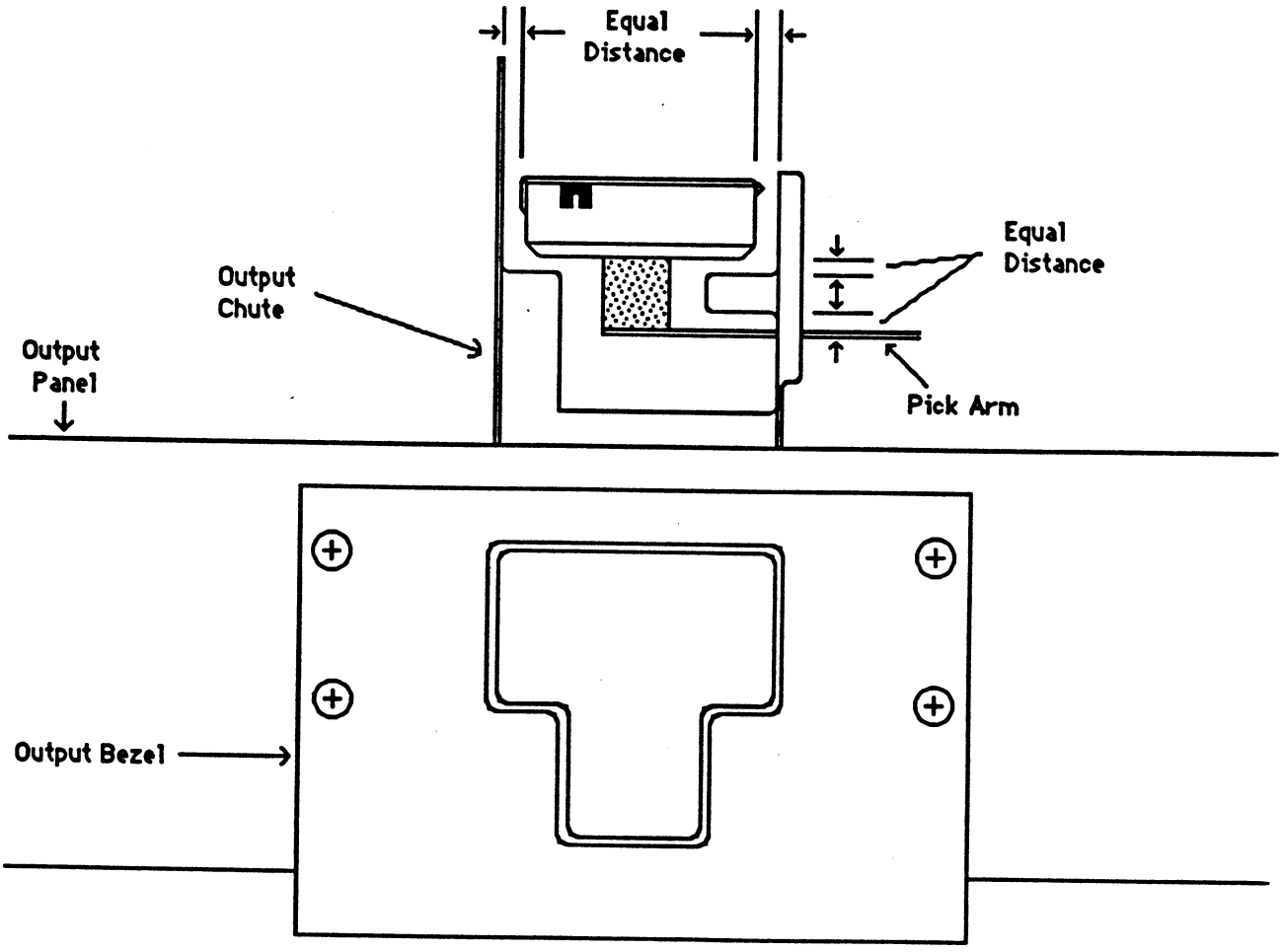
1. Press 7 and hit enter. The pick arm will move down to the output chute.

2. The key box should be centered side to side in the output chute. Also check for clearance below key box and above pick arm.

3. If adjustments need to be made, usually the output chute can be bent for proper clearance.

4. If the Output Chute is too bent to be properly aligned, the 4 mounting screws on the front bezel will need to be loosened, then the output chute can be adjusted.

5. Also check for clearance between the top of the barcode scanner and the lower part of the Input Chute while the pick arm is at the output chute (Not pictured).



t chute.

# Basic Troubleshooting

| Symptom | Possible Cause | Probable Solution |
|---|---|---|
| Dropping Boxes | Keys not being installed in keybox correctly. | Make sure nothing is sticking out of the keybox and that the top is tightly closed.<br><br>Beaded ties should be cut as close to the tie fastener as possible.<br><br>The tie should have just enough slack to get the key in and out of the box easily.<br><br>There should not be any metal key rings or key tags with the keys in the box. |
| | Two keys on one side of the keybox (keybox will not balance properly on pick-up arm). | There should be no more than two keys per keybox, one tied on each end. |
| | Multiple barcode labels on keybox. The thickness of the labels could be causing key boxes to get jammed in input chute. | Peel off old labels before attaching new ones to keybox. |
| Bad Barcode Reads | Barcode label not centered on keybox. | Center label on keybox. |
| | Barcode not centered on label. | It is <u>very important</u> to adjust the printer to print the barcode in the center of the label. |
| | Placing one label on top of another. | Peel off old labels before attaching new ones to keybox. |
| | Using wrong barcode labels. | Purchase barcode labels only from Key Systems, the printer ribbon should be of the same make as the printer. |

| Symptom | Possible Cause | Probable Solution |
|---|---|---|
| Bad Barcode Reads | Label is not printed dark enough. | There is a printhead adjustment lever on the left under top cover. Adjust the printhead closer to the paper to darken the print. |
| | Label is printed too dark. | Adjust printhead lever away from paper. |
| | Barcode is smeared on label. | Let the ink dry on labels before applying them to keyboxes, or only press around edges of the label when applying. |
| | Printer setting is incorrect. | Set printer to standard print on Panasonic printers or draft print on an Epson. |
| | Printer cartridge is old or not correct type. | Buy a new printer cartridge from Key Systems. The ribbon must be the same as the printer. |
| CRT Screen is blank and the power indicator is on. | System has blanked the screen due to inactivity. | Press the ESC key or press the CTRL key and the letter "O".<br><br>Make sure brightness control is turned up. |
| | The CRT has experienced a time-out. | Power the CRT off for 30 seconds and then retry the ESC or CTRL O command.<br><br>Reset the Key Machine by pressing the blue reset button on the main circuit board. |
| | The cable has come loose. | Check cable connections from Key Machine to CRT. Cable should connect to the "EIA" or modem port on the CRT. |

| Symptom | Possible Cause | Probable Solution |
|---|---|---|
| RT Screen is blank nd there is No power indicator. | No power to CRT.<br><br>Blown Fuse | Check the A/C outlet and power cord.<br><br>Replace fuse with 250V 1A (if fuse is accessible). |
| Stripped Printer Knob | Printer Knob is being turned while power is on. | Turn off printer before turning printer knob. |
| Description on label too large. | Printer not on correct setting. | Press the draft and/or condensed print button. |
| Barcode labels stuck in printer. | Rolling barcode paper backwards through printer.<br><br>Advancing labels too quickly. | Be very careful rolling barcode paper backwards through the printer. It is better to tear the paper off behind the printer and roll the remainder through the right way.<br><br>Do not use the load/eject button on the printer to advance label paper. |

# PARTS LIST

| | |
|---|---|
| ELEVATOR BELT | 405-0004-001 |
| POSITIOM SENSOR | 300-0009-001 |
| CARROUSEL SENSOR | 300-0004-001 |
| INTERLOCK SWITCH | 225-0001-001 |
| FUSE | 211-0001-030 |
| EMITTER | 300-0007-001 |
| DETECTOR | 300-0008-001 |
| CAPACITOR | 124-0013-227 |