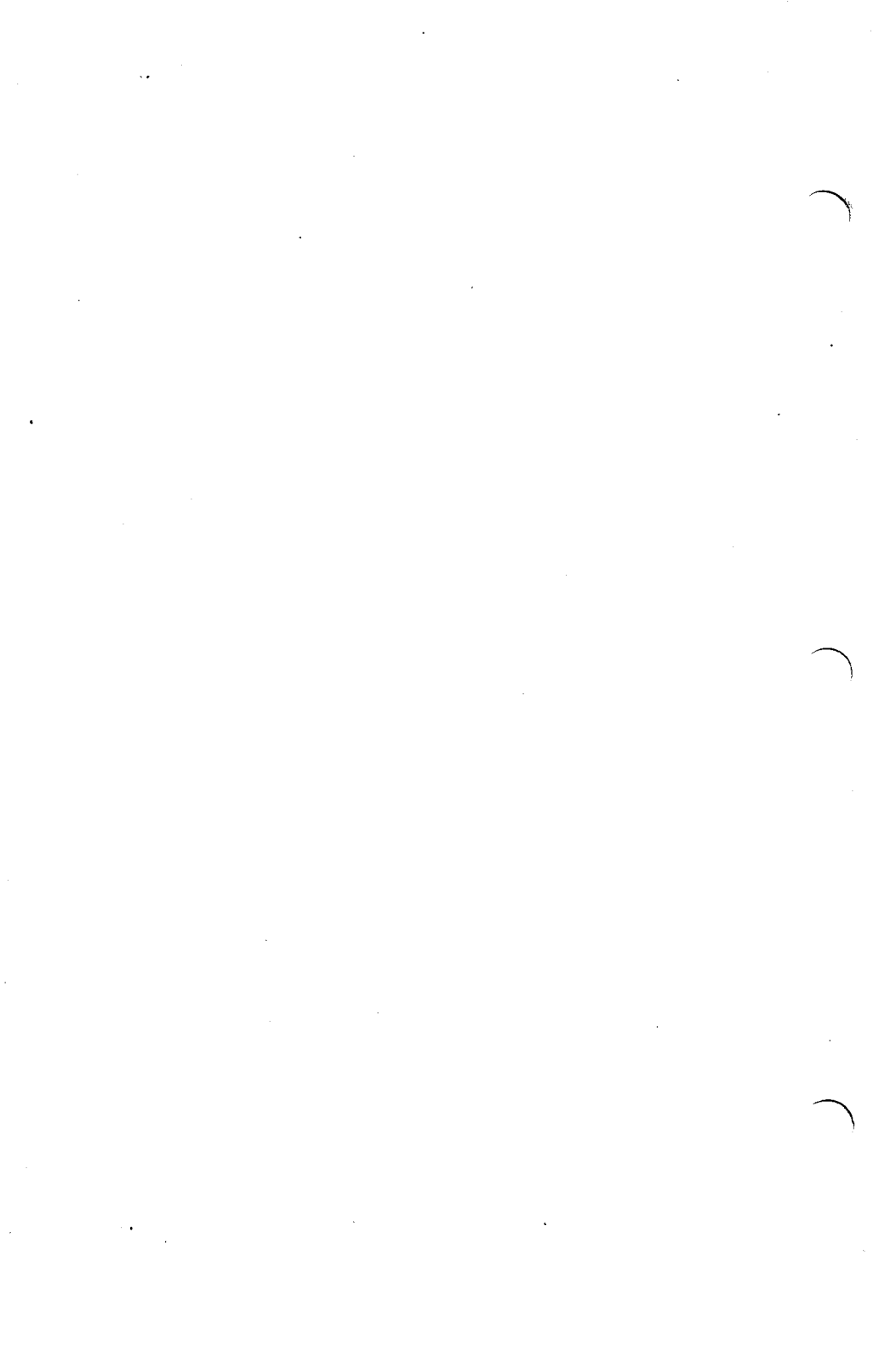


**AVL GENESIS  
BOARD SET  
INSTALLATION GUIDE**

**Audio Visual Laboratories, Inc.**



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## CHAPTER 1

### INTRODUCTION

#### 1.1 GENERAL

Welcome to the world of Audio Visual Programming and Show Control!

The AVL GENESIS BOARD SET is a complete package that adds all of the capability and sophistication of the AVL GENESIS Programmer to your IBM PC or compatible computer.

The BOARD SET puts Audio Visual Programming in the hands of anyone with access to an IBM PC. Once the board is installed, your IBM PC has become the finest Audio Visual Programming System in the world, with an incredible array of effects and capabilities. The only limit is your imagination!

#### 1.2 BOARD SET CONTENTS

The Board Set package contains the following hardware components.

- \* The Circuit Board itself
- \* A Circuit Board Support Bracket
- \* An Adapter Cable - 9-Pin to Kodak EBY Plug.

The package also contains the following software:

- \* AVL Genesis User's Guide
- \* Master PROCALL Diskette
- \* Multi-Image Board Test Diskette.

Check the package to make certain you received all of the items listed above. (The two diskettes are inside the back cover of the user guide.) If anything is missing, call AVL.

### 1.3 TOOLS NEEDED

The only tools you will need to install the Circuit Board are:

- \* A 1/4-inch Nut Driver for removing the Cover
- \* A 3/16-inch Nut Driver for securing the Circuit Board
- \* A Medium Screw Driver for attaching the Adapter Cable

## CHAPTER 2

### INSTALLATION AND DIAGNOSTICS

#### 2.1 GENERAL

Installing the Genesis Board Set in your IBM PC is not a complicated, arduous task. Simply perform each step carefully and the installation will be completed in a matter of minutes.

We recommend that the installation be performed in as STATIC-FREE an environment as possible. Preferably in a room with no carpets, and, you should touch a ground point to neutralize any charge that may have accumulated on you or your clothing.

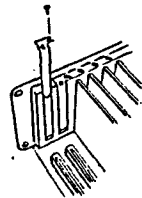
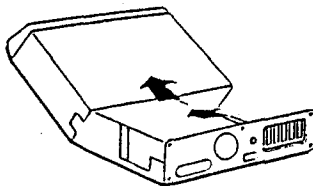
#### 2.2 BEFORE INSTALLATION

Check your PC with the IBM Diagnostic Program before you start to be certain the PC is in good working condition prior to the installation.

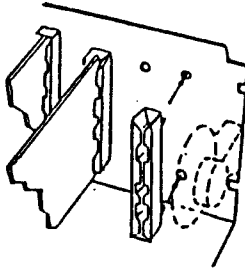
## 2.3 DURING INSTALLATION

To install the Circuit Board into the host computer, follow the procedure outlined below.

1. Turn the power OFF.
2. Disconnect all electrical connections, the Keyboard, and the Monitor.
3. Place the Monitor to one side to allow access to the Cover.
4. Using the 1/4-inch Nut Driver, remove the five screws indicated in the illustration. Put them in a safe place - don't lose them.
5. With the unit facing you, slide the Case toward you. It will only go so far - don't force it. Simply raise the front end and lift slightly and the cover will come free.



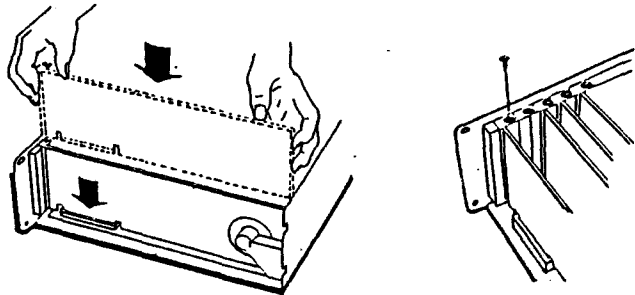
6. At the rear of the unit, the existing Circuit Boards are plainly visible as are the empty Slots. Any available full length Board Slot may be used. Remove the Slot Cover from one Slot with the 3/16-inch Nut Driver. Keep the screw, we'll use it to secure the Board.



7. At the other end of the Slot, insert the Support Bracket in the holes provided, by first locating it and then snapping it in with a push.
8. Remove the anti-static covering from the Circuit Board carefully!

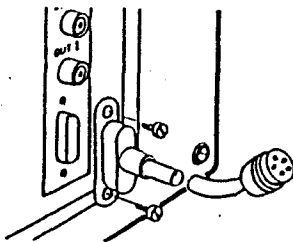
9. Slide the Circuit Board carefully into the Slot and align the contact strip, then press it firmly into position.

The contact edge of the Board (printed circuit board gold fingers) must be firmly inserted in its female counter-part, the card edge connector.



10. Find the screw from the Slot Cover and replace it, being certain the Board is lined up properly.

11. Attach the Adapter Cable to the 9-pin connector at the bottom of the Circuit Board with the Medium Screw Driver.

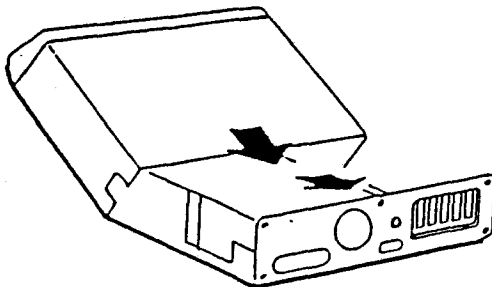


Installation is complete. You are ready to test the Genesis Board Set.

## 2.4 AFTER INSTALLATION

After the GENESIS Board Set is installed into the computer, test it for proper operation.

1. For testing, the case must be returned to its normal position but not necessarily fastened with the screws. The screws may be inserted after testing. Simply reverse the procedure for removing the case - tilt it, then slide it into position.



2. Reconnect the Keyboard and Monitor, then the power cord in the AC Outlet.
3. Insert your PC/DOS Diskette in the "A" Drive.

4. Turn the power On.
5. Type in the Date-Return, and Time-Return. "A>" Prompt should appear.
6. Insert the BOARD TEST Diskette into the "A" Drive.
7. Type TEST - Return. This action loads the Test Program. If the Circuit Board has been correctly installed, the Monitor will read:

INSTALL AN RCA PHONO  
CABLE FROM OUT 1 TO DATA  
IN ON THE CONTROL BOARD  
PRESS ANY KEY WHEN READY.

8. Press any key. The Monitor will read:

NOW TESTING OUT 1 AND  
DATA IN  
PRESS ANY KEY TO STOP.

Allow approximately 5 seconds then proceed to 9.

9. Press any key to stop the test. The Monitor will read:

TEST COMPLETED PERFECTLY  
ON OUT 1 AND DATA IN  
REMOVE THE RCA PHONO  
CABLE FROM OUT 1 AND  
MOVE TO OUT 2  
PRESS ANY KEY WHEN READY.

10. Move the RCA phono cable to OUT 2.

11. Press any key. The Monitor will read:

NOW TESTING OUT 2 AND  
DATA IN  
PRESS ANY KEY TO STOP.

Allow approximately 5 seconds then proceed to 12.

12. Press any key to stop the test. The Monitor will read:

TEST COMPLETED PERFECTLY  
ON OUT 2 AND DATA IN

Should any response other than "Test Completed Perfectly" appear on the Monitor, go to Paragraph 2.5 below.

## 2.5 PROBLEMS

If there is a problem with the Board Installation, the Program will indicate it on the Monitor. Check the installation once more to be certain the Board is firmly in place. If the problem persists, insert your IBM Diagnostic Diskette and follow the IBM Manual Procedures for testing your System.

If your System checks properly, there may be a problem with the Genesis Circuit Board just installed.

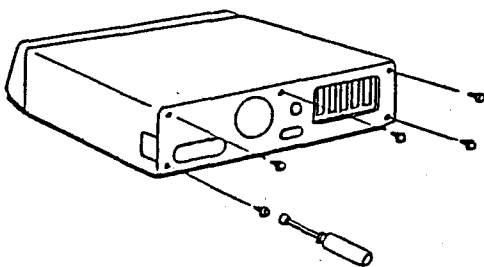
If the System does NOT check properly, remove the Genesis Circuit Board and repeat the System Diagnostic check once more. If all is well, the problem is with the Genesis Circuit Board. Call AVL.

If the same System problem persists after the board is removed, the problem is with the System. Have your Computer serviced.

When the difficulty has been resolved, reassemble the System.

1. Once more disconnect the power source, Keyboard, and Monitor.

2. Replace the Cover if necessary, as you did before testing, by tilting it and carefully slide it into position being careful not to crimp or pinch any cables.
3. Replace the five Cover Screws with the 1/4 inch Nut Driver.



4. Reconnect the Monitor and Keyboard in their appropriate places.
5. Plug the unit into its AC Outlet.

Your Installation is now completed.

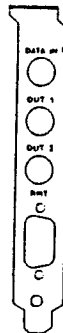
## 2.6 BOARD SET HOOK UPS

The AVL Genesis Board Set has the following Data In, Data Out, and Remote connectors.

**DATA IN** The top RCA jack, DATA IN, is used to input all incoming data and sync pulses.

**DATA OUT** The middle and bottom RCA jacks, DATA OUTs, are used to send programming data to the dissolve unit or other interfacing equipment.

**RMT** The 9-pin RS-232C connector at the very bottom of the board may be hooked to a remote hand control by using the supplied 9-pin to Kodak EBY adapter cable.



**NOTES:**

## CHAPTER 3

### CREATING AND BACKING UP SYSTEM DISKETTES

#### 3.1 GENERAL

The master PROCALL diskette inserted in the back of the AVL Genesis User's Guide is not to be used to boot up your computer. It should not be used for operational purposes. It should only be used as a master for creating bootable working PROCALL diskettes. After creating the working diskettes, the master should be stored away in a safe place.

#### 3.2 CREATING BOOTABLE SYSTEM DISKETTES.

In the continuing quest for simplification of processes and techniques, this section will detail for you the process of preparing blank Diskettes for Automatic Booting of the Genesis Programming System. This new Diskette eliminates the need for a multiple-step process of booting up the Genesis.

We will explain in detail three separate procedures:

- \* Formatting blank Diskettes
- \* Copying PROCALL Diskettes for each of two Programs
- \* Backing up any Diskette.

For the process you will need a PC/DOS Diskette with no programs, and at least 4 blank Diskettes, 2 for each of the two PROCALL Programs.

### 3.2.1 FORMATTING BLANK DISKETTES

It is imperative for your protection that you use HIGH QUALITY, 5-1/4 inch, Double-Sided, Double-Density, Diskettes.

Follow the steps carefully and type in exactly what is required.

**IMPORTANT:** For Genesis to function properly, PC/DOS Version 2.0 or higher must be used.

1. Place your protected PC/DOS Diskette in Drive "A".
2. Power up your IBM PC.
3. Go through the standard log-on procedure - Time and Date.

4. At this point you should have the A> on the Monitor.

5. Type in this order:

```
FORMAT  
(Space Bar)  
B  
:  
(Space Bar)  
/  
S  
<Ret>
```

The Monitor will show -  
A>FORMAT B: /S

6. At this point the program is being loaded. After loading, the Monitor will instruct you to place a blank Diskette in Drive "B", and to Press any key when you are ready. DO NOT REMOVE DISKETTE IN DRIVE "A".
7. Insert a blank Diskette in Drive "B".
8. Press any key. The process is taking place.
9. At the end of the process the Monitor will ask if you wish to Format another Diskette? Yes or No?

10. Type Y and repeat steps 7 thru 9 three more times.
11. After Formatting the Diskettes you need, simply type N (No) in answer to the question to end the process.

Proceed to Paragraph 3.2.2 below.

### 3.2.2 COPYING PROCALL SYSTEM DISKETTES

You will need two of the four diskettes you formatted in Paragraph 3.2.1 above.

1. Remove the PC/DOS Diskette from the "A" Drive.
2. Retrieve the Master PROCALL Diskette from the back of the Genesis Manual.
3. Insert the PROCALL Diskette in the "A" Drive.
4. Type PROCOPY
5. Press Return.
6. The Monitor instructs you to insert a Formatted Diskette in the "B" Drive.

7. Press any key when ready.  
The process takes place.
8. When the process is completed,  
remove the Diskette from  
the "B" Drive and label it -  
PROCALL-X.  
DO NOT WRITE ON THE DISKETTE.  
Enter Data on the Label PRIOR  
TO applying it to the  
diskette.
9. Insert a blank Formatted  
Diskette in Drive "B".
10. Type V5
11. Press Return.
12. When the process is completed,  
remove the Diskette from  
Drive "B" and label it -  
PROCALL-5.
13. You now have one Diskette for  
each of the two PROCALL  
programs. Remove the Master  
PROCALL Diskette from the "A"  
Drive and return it to the  
back of the Genesis Manual.

### 3.2.3 BACKING UP YOUR DISKETTES

Once you have created your PROCALL Operating System diskettes, back them up. It is also a good idea, after backing them up, to put a protective tab or piece of tape over the notch in the disk so you cannot accidentally erase or write over the data on the diskettes.

1. Insert your PC/DOS diskette in the "A" Drive.
2. Power up the System.
3. Log on - Time and Date.
4. Remove PC/DOS from the "A" Drive.
5. Insert one of the PROCALL Diskettes you have prepared into the "A" Drive.
6. Insert a Formatted Diskette in the "B" Drive.
7. Type in this order -

COPY (Space Bar)

\*

.

\* (Space Bar)

B

:

The Monitor will show -  
A>COPY \*.\* B:

8. Press Return.
9. Place the PROCALL-5 Operating System diskette in the "B" drive and repeat steps 5 through 8 above.

### 3.3 BOOTING UP THE SYSTEM WITH PROCALL

Starting, or Booting, up PROCALL is simplicity itself.

Insert your PROCALL Diskette in the "A" Drive of your computer. Turn the computer On.

GENESIS says, Hello and asks you your Name.

Enter your Name or press Return to ignore the question.

GENESIS then gives you three choices for your Format:

- (1) CONTINUE WITH STANDARD FORMAT
- (2) CREATE YOUR OWN FORMAT
- (3) USE A FORMAT PREVIOUSLY CREATED

For our purposes, we will use No. 1, the Standard Format that is based on the Procall-X program.

Should you inadvertently press the wrong selection, press ESCAPE and you will be returned to the Menu.

As you get into more sophisticated Programming, 2 & 3 will be used.

GENESIS then asks you to name your program.

Enter a Program Name or press Return. The Program Name must be in Alpha- numerics with no spaces or extra symbols.

If you choose not to enter a Program Name, the System will name the show - DEMO 1.

**CAUTION:** If you accept the default name Demo 1, and Save the Program under that name, it will be overwritten by any other data saved under the same name.

That wasn't so difficult, was it? Let's go to programming shows.

**APPENDIX A**  
**AVL GENESIS BOARD SET**  
**TECHNICAL SPECIFICATIONS**

**A.1 GENERAL**

The paragraphs that follow outline the technical specifications that apply to the AVL Genesis Board Set.

**A.2 COMPATIBILITY**

IBM PC/XT/AT I/O Expansion Bus

**A.3 DIMENSIONS**

Width: 13.25 inches (33.65 cm)

Height: 4.215 inches (10.71 cm)

Profile: 0.60 inches ( 1.92 cm)

Weight: 8 oz.

**A.4 ENVIRONMENTAL REQUIREMENTS**

Humidity: 90% Maximum

## **A.5 HARDWARE**

**Processor: Dedicated Slave  
CPU Z80B @ 6 MHz.**

**I/O Address: 250 and 251 Hex.**

**Interrupts: Not interrupt driven.**

## **A.6 MAG TAPE INPUT**

**RCA jack is used for all incoming data. Compatible with all AVL Computer Equipment. Input impedance is 22K Ohms.**

## **A.7 MAG TAPE OUTPUT**

**RCA jack is used for communicating with DOVE's. Two outputs are provided for Mag Tape labeled Out 1 and Out 2, each control 15 projectors, 5 DOVES with optional CX-120, which can control 60 projectors and 100 auxiliaries.**

**The output is a Time Division Multiplex Digital Signal that has multiple passes with CRC and Posi-trak for reliability. The output is a line level, 1K Ohm impedance unbalanced, 1 Volt peak-to-peak signals.**

## A.8 ORIGIN

The AVL GENESIS BOARD SET was designed and manufactured in the U.S.A.

## A.9 PIN OUT INFORMATION

Pin Out information for hand control is:

KODAK CONN.	9 PIN D CONN.	DESCRIPTION
1	3	FUTURE
2	5	REMOTE CUE
3	1	REMOTE REVERSE CUE
4	N/C	
5	9	GROUND

## A.10 POWER REQUIREMENTS

Requires: +5 Volts @ 1.2 Amps.

## A.11 REMOTE CUE

Kodak remote hand control is used to advance or reverse cues in the AVL Genesis Board Set memory from a remote location.

**A.12 SOFTWARE**

**Requires PC-DOS/MS-DOS 2.0 or higher.**