

MANUAL OF PAL ENCODER CARD(B/G/H/I)

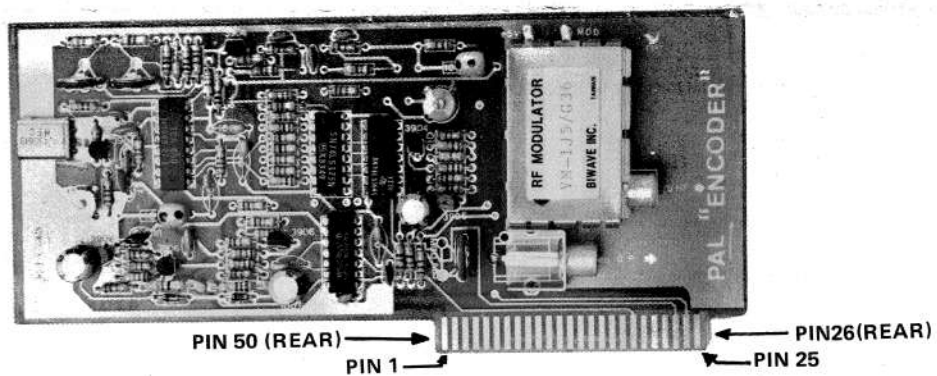


Figure 1. Pin assignment of PAL CARD

A. INTRODUCTION

Have you ever bothered by the color output system of your personal computer that can not match your TV system?

What a luck you have! The BIWAVE ELECTRONICS, INC. has designed the PAL CARD with colorcast to fit your requirements.

There are several kinds of color TV broadcasting standard systems, two of them are NTSC¹ and PAL². For the TV system of NTSC, there are 525 horizontal lines to constitute one frame³, and the frame has to be scanned in every 1/30 second. The NTSC system is used in the United States of America and the neighboring countries. For the TV system of PAL, the 625 lines constitute one frame⁴ which has to be scanned in 1/25 second. The PAL system (including B,G,H,I system) is used in the countries of Europe broadly.

Generally, most of the personal computers have the build-in circuit to fit for the NTSC color system which is the FCC system, but not for the PAL color system which is the European standard.

The main function of the PAL ENCODER CARD of the BIWAVE ELECTRONICS, INC. is to match the personal APPLE II⁵ computers with the TV of PAL color system of the CCIR standard.

By means of the built-in balanced modulation, the BIWAVE ELECTRONICS, INC.'s PAL CARD the best quality in the modulated color signal and is the very thing you can trust.

Note:

1. The regulation of NTSC is made by National Television Standard Committee.
2. PAL is the abbreviation of Phase Alternate Line.
3. One frame of FCC standard type has two fields which means to scan one field within 1/60 second.
4. One frame of European standard type has two fields which means to scan one field within 1/50 second.
5. APPLE II is a registered trademark of APPLE COMPUTER, INC.

B. NOTE IN USE

- a. Insert the PAL CARD into the slot No. 7 of the computer. Please beware of the fragile pins of the PAL CARD.
- b. Additionally, we have to connect some pins of the PAL CARD to some of the computer circuits. The relation between the two is listed below.

NAME OF BOARD	PAL CARD	COMPUTER CIRCUIT BOARD
LOCATIONS	PIN 23	*F14-PIN 4
	PIN 24	*B2-PIN 8
	PIN 28	*B10-PIN 5

- *F14 is the IC 74LS259 which lies in the F column and the 14th location from upside.
- *B2 is the IC 74LS86 which lies in the B column and the 2nd location from upside.
- *B10 is the IC 74LS74 which lies in the B column and the 10th location from upside.

- c. Especially, this PAL CARD has to be used in the PAL B/G/H/I system. Its selected channel number and other information are listed in the specification.
- d. In order not to disturb the signal receiving of the TV set, BIWAVE INC. offer a magnetic ring to avoid the interference from high frequency noise. The way to use it is plotted in Figure 2.

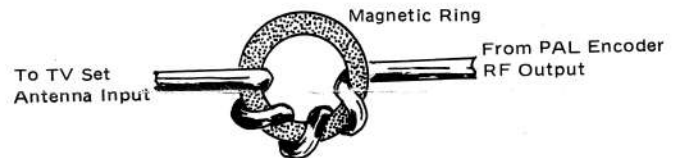


Figure 2.

C. SPECIFICATION

1. Color System
PAL - B (VHF channel), PAL - G,H,I (UHF channel)
2. Color Reference Frequency
4.433619MHz
3. Type of Chrominance Modulation
Supressed AM of R-Y, B-Y in Quadrature
4. Video Modulation
Negative AM
5. Aux. Video Output
1vp-p at 75 ohms load, 2vp-p under open load
6. RF Output Frequency of B System
210.25MHz \pm 2.0MHz (channel 10)
Adjustable Range \pm 2.0MHz
7. RF Output Frequency of G,H,I System
591.25MHz \pm 2.0MHz (channel 36)
Adjustable Range \pm 9.0MHz
8. RF Output Level
75dB μ v \pm 4dB at 75 ohms load. (1.0 μ v = 0dB)
9. Current Consumption
90mA typ.
10. Supply Voltage
+12.0V \pm 0.5V
11. Operation Temperature Range
0°C to +40°C
12. Size
6.97"(L) x 3.15"(W) x 0.98"(H)
13. Weight
106 Grams

APPENDIX. A UHF Channel Frequencies in MHz

For all the European and African system in UHF in channel of 8MHz wide. The nominal vision carrier frequency is situated at 1.25MHz above the lower limit of the channel.

The following table is an adaption of the UHF channel.

In system I,G,H, we only adapt the channels 32 to 39 out of channels from No. 21 to No. 81.

SYSTEM I.G.H.

Channel No.	Lower Limit MHz	Upper Limit MHz
32	558	566
33	566	574
34	574	582
35	582	590
36	590	598
37	598	606
38	606	614
39	614	622

VHF Channel Frequencies in MHz,

SYSTEM

B

Channel	Vision
2	48.25
3	55.25
4	62.25
5	175.25
6	182.25
7	189.25
8	196.25
9	203.25
10	210.25
11	217.25
12	224.25

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