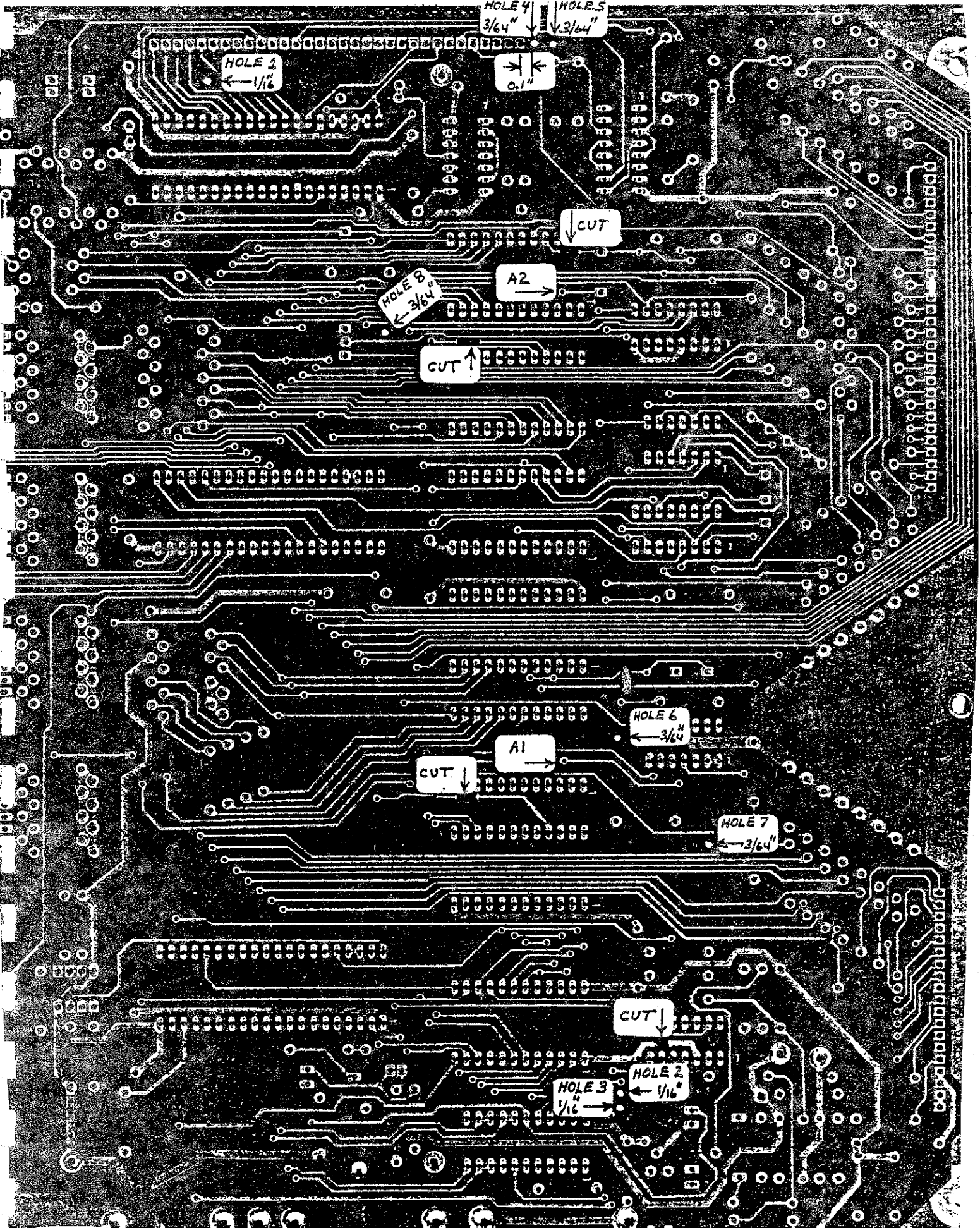


MODIFICATION PROCEDURE FOR AS-2518-17

1. This procedure modifies MPU AS-2518-17, to permit its use in games equipped with an electronic Sound module.
2. Obtain a label, connector, and wire kit from your Bally distributor by ordering Kit #523.
3. Using a razor blade or razor blade knife, cut foil on back of module in the four places shown in Fig. 1.
4. On component side, cut trace running from U5-21 toward U4. Note that this is the fifth small foil away from the large foil that runs near pins 1 and 24 of U5. Cut trace approximately 1/8" from pin 21.
5. Carefully locate and drill three 1/16" holes as shown in Fig. 1. Hold board up to light to locate holes in non-foil areas of board. Hole edge must not touch foil leads and must not break any foil leads. Repeat this procedure for the five 3/64" holes shown in Fig. 1. Note that hole 4 is located on 0.1" centers from pin 32 of J5.
6. Using a heavy pliers, force a three pronged wire terminal into each of the 3/64" holes except the one hole located next to pin 32 of J5. Install the terminal so that the three pronged end is on the back side of the board.
7. Starting at pin 32 of J5, remove the brown or black, plastic like insulating material from pins 29-32, inclusive. This is done by first using a sharp wire cutters to cut the material between pins 32 and 31. Remove this small piece of insulation by sliding it up and off pin 32. Repeat for the remaining three pins. Use solder wick or sucker to remove pins 29-32. Insert five pin connector supplied in label and wire kit. Solder four pins to PCB. Clip off pin 29 close to the connector body. Using uninsulated wire, solder a jumper on the back side between U5-33 and the shank of the adjacent three-pronged terminal. The connection is made between the three-pronged portion and the PCB leaving the pronged portion temporarily free for later connections.
8. In the following instructions the three-pronged terminals will be referred to based upon the hole in which they were installed. For example, T5 is the terminal installed in hole 5. (See Fig. 1).

8. (Continued)
Using a piece of black insulated wire threaded thru Hole 1, solder a jumper from U9-24 (back side of PCB) to terminal T5 (top side). Make all terminal solder connections, both backside and component side, close to the surface of the PCB to help secure the terminal into the board. The pronged portion of the terminal is left vacant until step 12.
9. In the same way, make the following jumper connections:
 - T5 (top) to T6 (top)
 - T8 (top) to T7 (top)
 - T7 (top) to U14-2 (backside), thread thru hole 2
 - T6 (top) to U14-3 (backside), thread thru hole 3
 - T7 (backside) to U6-21 (backside)
 - T6 (backside) to U5-21 (backside)
 - U5-22 (backside) to A1 (backside - See Fig. 1)
 - U1-22 (backside) to A2 (backside - See Fig. 2)
10. Place the six "E" tie point labels on the backside of the MPU, locating them in the EXACT location shown in Fig. 2. Place the label "AS-2518-17 MODIFIED PER F.O. 597", on the topside between R39-R42 and the board edge.
11. Using a side cutter, clip off the excess top and bottom of each terminal EXCEPT the terminals designated E13 and E11. Clip off only the component side of these two terminals.
12. The basic modification is now complete. Add the jumpers required for the specific memory combination as shown in Fig. 3. It is suggested that these jumpers be some color other than black to distinguish them from the permanent modification jumpers. Also, where they connect to a terminal, they should be soldered near the three-pronged end, not next to the PCB.

FIGURE 1 CUT AND HOLE LOCATIONS



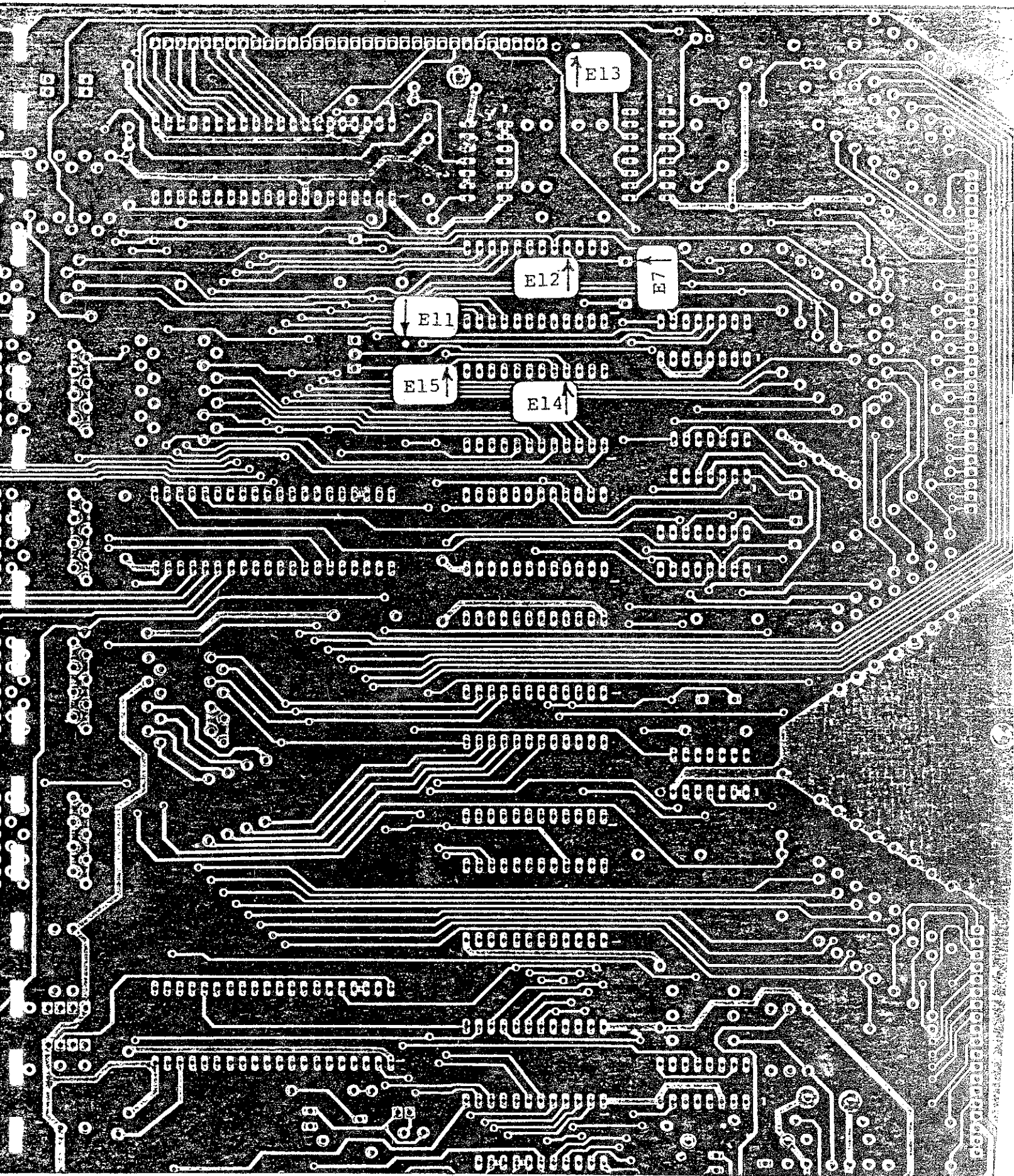


FIGURE 2
FO-597

HH

FIGURE 3
MEMORY COMBINATIONS AND JUMPERS
FOR USE WITH

MPU AS-2518-17 (F.O. 597 MODIFIED)

GAME NAME, NUMBER	U1	U2	U3	U4	U5	U6	JUMPERS REQUIRED
FREEDOM #1066-E	E-720-8	E-720-10				E-720-7	E1-E2, E3-E4, E12-E7, E14-E15
NIGHT RIDER #1074-E	E-721-12	E-721-13				E-720-20	SAME AS FREEDOM
EVEL KNIFFEL #1094-E		E-722-17				E-720-20	E1-E2, E3-E4, E12-E13, E14-E11, E7-E6
FIGHT BALL #1118-E		E-723-17				E-720-20	SAME AS EVEL KNIFFEL
POWER PLAY #1120-E		E-724-25				E-720-20	SAME AS EVEL KNIFFEL
MATA HARI #1104-E		E-725-21				E-720-20	SAME AS EVEL KNIFFEL
STRIKES & SPARES #1135-E		E-740-16				E-720-20	SAME AS EVEL KNIFFEL
BLACKJACK #1092-E		E-728-32				E-720-20	SAME AS EVEL KNIFFEL
LOST WORLD #1119-E	E-729-39	E-729-40				E-720-28	SAME AS EVEL KNIFFEL
SIX MILLION DOLLAR MAN #1138-E	E-742-5	E-742-6				E-720-30	SAME AS EVEL KNIFFEL

NOTES: 1) Jumpers between E- tie points not specifically listed for a given game should be disconnect thru Blackjack with a modified MPU, add E12-E7 and E14-E15 to required jumpers. Combinations using U5 not permitted.

First Use: 1119-E

Date Issued: AUG 15 1978
Last Revision:

K-523

LABEL & WIRE KIT K-523

FOR USE WITH FO-597, MPU MODIFICATION

<u>Quantity</u>	<u>Description</u>	<u>Supplier</u>
6	Terminal, 3 pronged	Vector T49
4 Ft.	Insulated Wire, Black, #22	Dearborn 252207
1 Ft.	Insulated Wire, Yellow, #22	Dearborn 252207
0.5 Ft.	Uninsulated Wire, #24	Liberty
1	Packing Envelope, Manila	
1	Connector, Wafer, 5 Pin	Molex 22-03-2051
1	Labels as follows:	

AS-2518-17
MODIFIED PER
FO-597

DO NOT REMOVE
BLACK LEADS

E7↑ , E14↑ , E15↑ , ↓E11, E12↑ , ↑E13