The HANKIN video cabinet contains the following harnesses. (Refer to Figure 1 - Interconnection diagram).

1. Main Harness (A & B)
2. Transformer Board Harness
3. Control Panel Harness (2 off for cocktail)
4. Logic Board Adaptor Harness

The Main Harness interfaces the control panels, monitor and all standard components such as START 1 & 2 buttons, coin mechanism, coin counter, etc. to the logic board via two 24-way Molex plugs (P1 and P2). P2 is dedicated to control panel signals while P1 carries all other signals to and from the logic board. The Main Harness also provides miscellaneous power to the TV monitor and fan from the transformer board via a third 24-way connector (J3).

The Transformer Board Harness is a custom design for each game. It supplies power to the logic board via P7 and miscellaneous power for the monitor, fan and cabinet via J3. In order to allow for an audio amplifier external to the logic board, the speaker circuit is wired to P3 in the Main Harness, as is the audio O/P from the logic board. When no external amplifier is required, links between corresponding pins of J3 are inserted in the Transformer Board Harness, to complete the audio circuit. Transformer Board wiring is shown in Figure 2.

The control Panel Harnesses are wired directly to the switches and LEDs used on each control panel. They interface to the Main Harness via Molex plugs and then via P2/J2 to the Logic Board. Control Panel wiring is shown in Figure 3.

The Logic Board Adaptor Harness interfaces the Transformer Board Harness and the Main Harness to the logic board via J7 and J1 respectively.

Wiring Diagrams for the Main Harness and the Logic Adaptor Harness are provided in the Drawing Supplement.
The cocktail Defence Command uses a K214E monitor for which circuits are provided and used a 240V input switching regulator to supply +5V, +12V, -5V. A 240:110V transformer powers the monitor and fan only.

OPTION SETTINGS

Three switches are provided on the Audio/Test bracket mounted above the cash box. Layout of this bracket is as below.

![Switches Layout](image)

The option setting mode is entered by pressing ADVANCE with AUTO switch pressed. Pressing the ADVANCE switch (with AUTO down) steps through 28 functions which display housekeeping information and allow options to be set. The more important of these are listed below. Changes are made to option settings using the HIGH SCORE/RESET switch. With AUTO/MANUAL switch in AUTO, HIGH SCORE switch counts up. With AUTO/MANUAL switch in MANUAL, HIGH SCORE switch counts down.

Function 01 : Displays number of coins through coin mechanism

Function 08 : Allows point score, for which a bonus ship is awarded, to be selected. Recommended setting is 10 000.

Function 09 : Allows number of ships per game to be selected. Recommended setting is 03.

Function 10 : Must be set to 00 if credit selection other than 1 coin 1 play is required
Function 11 : Left coin multiplier.
             Recommended set to 01

Function 14 : Allows number of coins for credit to be selected

Function 15 : Allows number of coins for bonus to be selected

Function 16 : Allows minimum number of coins to be set
               (Set to 0)

Function 17 : Free Play (Set to 0)

Settings for 20c, 30c, 40c play are as follows:

<table>
<thead>
<tr>
<th>FUNCTION</th>
<th>10</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>20c play</td>
<td>03</td>
<td>01</td>
<td>00</td>
</tr>
<tr>
<td>30c play</td>
<td>00</td>
<td>03</td>
<td>03</td>
</tr>
<tr>
<td>40c play</td>
<td>00</td>
<td>02</td>
<td>00</td>
</tr>
</tbody>
</table>
FIGURE 1: INTERCONNECTION DIAGRAM
DEFENCE COMMAND COCKTAIL MODEL WITH 14" MONITOR
FIGURE 2: TRANSFORMER WIRING DIAGRAM (STK-MC022A)

FIGURE 3: DEFENCE COMMAND CONTROL PANEL WIRING

TO SUIT: COCKTAIL CABINET WITH 14" MONITOR
PLA 44 WAY EDGE CONNECTOR

- **Pin Source**
  - A1: P7-1
  - A2: P7-3
  - C1: PLB-7
  - D1: PLB-11
  - E: NIU
  - F: J2-12: SPEAKER
  - G: J2-23: SPEAKER
  - H: NIU
  - J: J2-15: PLAYER 2 FIRE
  - K: J2-18: PLAY 2 THRUST
  - L: J2-19: PLAYER 2 DOWN
  - M: J2-21: PL 2 HYPER SP
  - N: J2-27: PL 2 REVERSE
  - O: J2-28: PLAYER 2 UP
  - P: J2-29: PL 1 HYPER SP
  - Q: J2-35: PL 1 REVERSE
  - R: J2-37: PLAYER 1 DOWN
  - S: J2-38: PLAYER 1 UP
  - T: J2-16: 2 PLAYERS
  - U: J2-15: 1 PLAYER
  - V: NIU
  - Y: J2-20: MANUAL DIUP
  - Z: J2-13: ADVANCE
  - Y: J1-16: HIGH SCORE
  - Z: J1-17: CON 1
  - Z: NIU
  - Z: NIU

- **Function**
  - B: SWITCH COMMON
  - S: +5V
  - Q: -5V
  - R: BK
  - W: OR
  - L: BL

- **Colour**
  - 1: BK
  - 2: OR
  - 3: BL

PLB 20 WAY EDGE CONNECTOR

- **Pin Source**
  - 1: P7-7
  - 3: P7-8
  - 5: P7-14
  - 6: PLB-3
  - 8: PLB-4
  - 9: NIU
  - 10: NIU
  - 11: NIU
  - 12: PLB-12

- **Function**
  - 1: SWITCH COMMON
  - 2: +5V
  - 3: -5V
  - 4: BK
  - 5: OR
  - 6: BL

- **Colour**
  - 1: BK
  - 2: OR
  - 3: BL

J2 24 PIN LINE PLUG

- **Pin Source**
  - 1: J2-1
  - 2: J2-13
  - 3: PLB-11
  - 4: PLB-12
  - 5: PLB-13
  - 6: PLB-14
  - 7: PLB-15
  - 8: PLB-16
  - 9: PLB-17
  - 10: PLB-18
  - 11: PLB-19
  - 12: Term A

- **Function**
  - 1: SWITCH COMMON
  - 2: +5V
  - 3: -5V
  - 4: BK
  - 5: OR
  - 6: BL

- **Colour**
  - 1: BK
  - 2: OR
  - 3: BL

J1 24 PIN LINE PLUG

- **Pin Source**
  - 1: PLB-13
  - 2: NIU
  - 3: NIU
  - 4: NIU
  - 5: NIU
  - 6: NIU
  - 7: NIU
  - 8: NIU
  - 9: NIU
  - 10: NIU
  - 11: NIU
  - 12: NIU

- **Function**
  - 1: VIDEO DV
  - 2: NIU
  - 3: NIU
  - 4: NIU
  - 5: NIU
  - 6: NIU
  - 7: NIU
  - 8: NIU
  - 9: NIU
  - 10: NIU
  - 11: NIU
  - 12: NIU

- **Colour**
  - 1: BK
  - 2: OR
  - 3: BL

P7 12 PIN LINE PLUG

- **Pin Source**
  - 1: PLA-1
  - 2: NIU
  - 3: PLA-2
  - 4: PLA-5
  - 5: NIU
  - 6: PLA-8
  - 7: PLA-2
  - 8: PLA-4
  - 9: NIU
  - 10: NIU
  - 11: NIU
  - 12: NIU

- **Function**
  - 1: SWITCH COMMON
  - 2: +5V
  - 3: -5V
  - 4: BK
  - 5: OR
  - 6: BL

- **Colour**
  - 1: BK
  - 2: OR
  - 3: BL

**Notes:**
1. 1 PLAYER & 2 PLAYERS ARE TERMINATED AT J1 FOR CABARET, UPRIGHT & MONITOR COCKTAIL MODELS & AT J2 FOR 20 PLAY COCKTAILS.
2. THIS DIAGRAM APPLIES TO KABA DENSHI PCB'S ONLY.
3. FOR UPRIGHT & CABARET MODELS, J2-24 & TERMINAL A ARE NOT USED.
DEFENCE COMMAND MKI
SHEET 2 OF 2