

1.0 **Specifications**

1.1 Conversion Game Specifications

Power Supply: Switching Power Supply, 200 Watts

Power Consumption: 600 Watts

Monitor: One (1) 46" Rear Projection Color Monitor

1.2 Kit Specifications:

PCB Kit 1 Namco Super System 22 PCBs

Harness 1

Decals, Signs, Labels

1.3 Game Conversion Overview

The Air Combat SS22 upgrade kit consists of the Air Combat SS22 PCB kit, a new wire harness and assorted decals/signs/labels. The kit can be installed in the original Air Combat cabinet.

## 2.0 INTRODUCTION

This manual provides installation instructions for Air Combat SS22 kits. Inspect the kit contents, compare against the (included) parts list and notify the distributor about any damaged/missing parts.

## 3.0 INSTALLATION

### 3.1 Precaution3

1. Before replacing any parts, turn the AC power OFF and unplug the game.
2. The game power supply includes areas of HIGH VOLTAGE. Take care at all times to avoid electrical shock when working on the game.

### 3.2 Game Installation

1. Verify power has been removed from game.
2. Unlock access door on RHS and remove game chassis.
3. Disconnect AMP connector and Ground strap from game chassis.
4. Rather than separating remaining connectors of harness all at once, it would be to your advantage to do them one at a time, replacing the "old" with the "new" as you go.
5. Mount Audio Amp board to Super System 22 chassis using the 3 screws provided. Refer to Card Cage Super System 22 Assembly drawing for correct position.
6. Using AC22 Overall Layout drawing, connect the new cable harness to SS22 Mother PCB and Audio Amp connectors. The new cable harness connectors are labeled to match the board connectors they connect with.
7. Remove the old chassis from the mounting board and place the new SS22 chassis in its place. Position the new chassis so that a side with the ventilation holes faces the fans mounted inside the cabinet. This will help to promote air flow through the chassis. Secure the chassis to one of the mounting holes using an existing screw. Drill new holes for additional mounts if desired.
8. Attach Ground strap to new chassis.
9. Remove cables @ J201, J202 & J203 from 2 Ch Amp PCBs.

10. Match the new harness connectors labeled J202 & J203 with the connectors on either 2 Ch Amp board and verify they mate properly (molex or mate-n-lock). A converter cable is included in the harness for the power lines connecting to J20 1. If the harness connector labeled J201 matches the board connector J201, connect them. If the connectors differ, you'll find the proper connector about 5" back on the orange and black power leads. Remove the (now unnecessary) orange-black converter-cable and connect the connector at J201 .
11. Referring to the AC22 Overall Layout drawing, separate the 12-pos connectors (on the original cable) coming from beneath the seat assy and connect (from the new harness) the 12-pos connector labeled '20'.
12. Separate the other 12-pos connectors (on the original cable, coming from the CRT) and connect the new 12-pos connector labeled '25'.
13. Separate the 15-pos connectors (the ones with 11 -wires) and connect the 15-pos connector labeled '24'.
14. Separate the other 15-pos connectors (the ones with 14-wires) and connect the 15-pos connector labeled ' 17'. For more exact ID, both the connector you are replacing and the new one are unique in that they have 2 orange wires going into the same pin-hole.
15. Separate the 9-pos connectors and connect the (unlabelled) 9-pos connector.
16. Separate the 6-pos connectors and connect the 6-pos connector labeled ' 16'.
17. You should now have totally replaced the original harness with the new harness. Verify there are no open/unused connectors on the new harness.
18. Cut the cable ties fastening the original harness to mounting board and remove.
19. Verify all connectors are joined and that cable/harness routing isn't restricted by chassis edges, etc.
20. With SS22 chassis mounted and cabling complete, slide mounting board into cabinet and re-verify proper positioning of chassis (ventilation holes) in front of fans. Forced-air flow (whether the fans are cabinet-mounted or chassis-mounted) is necessary for proper game operation.
21. Position Card Cage Shield over card cage, aligning mounting holes with 1/4-20 bolts coming from ceiling of cabinet (beneath joystick). Either remove the nuts and fasten the shield in place (using the same nuts) OR simply guide the shield onto the bolts and fasten in place with additional 1/4-20 bolts.

**3.3 Cabinet Graphics**

1. Install the cabinet graphics provided. Float the graphics on by applying a spray of ammonia cleaner to each surface. Smooth out the bubbles and liquid with a paint squeegee. Wipe the decal dry with a soft cloth.
2. Install the marquee overlay and panel in place of the existing marquee.
3. Install the game play instructions provided with the kit on top of the marquee.
4. For help in correctly positioning decals, etc., refer to Air Combat 22 flier.

**3.4 Set Up and Test**

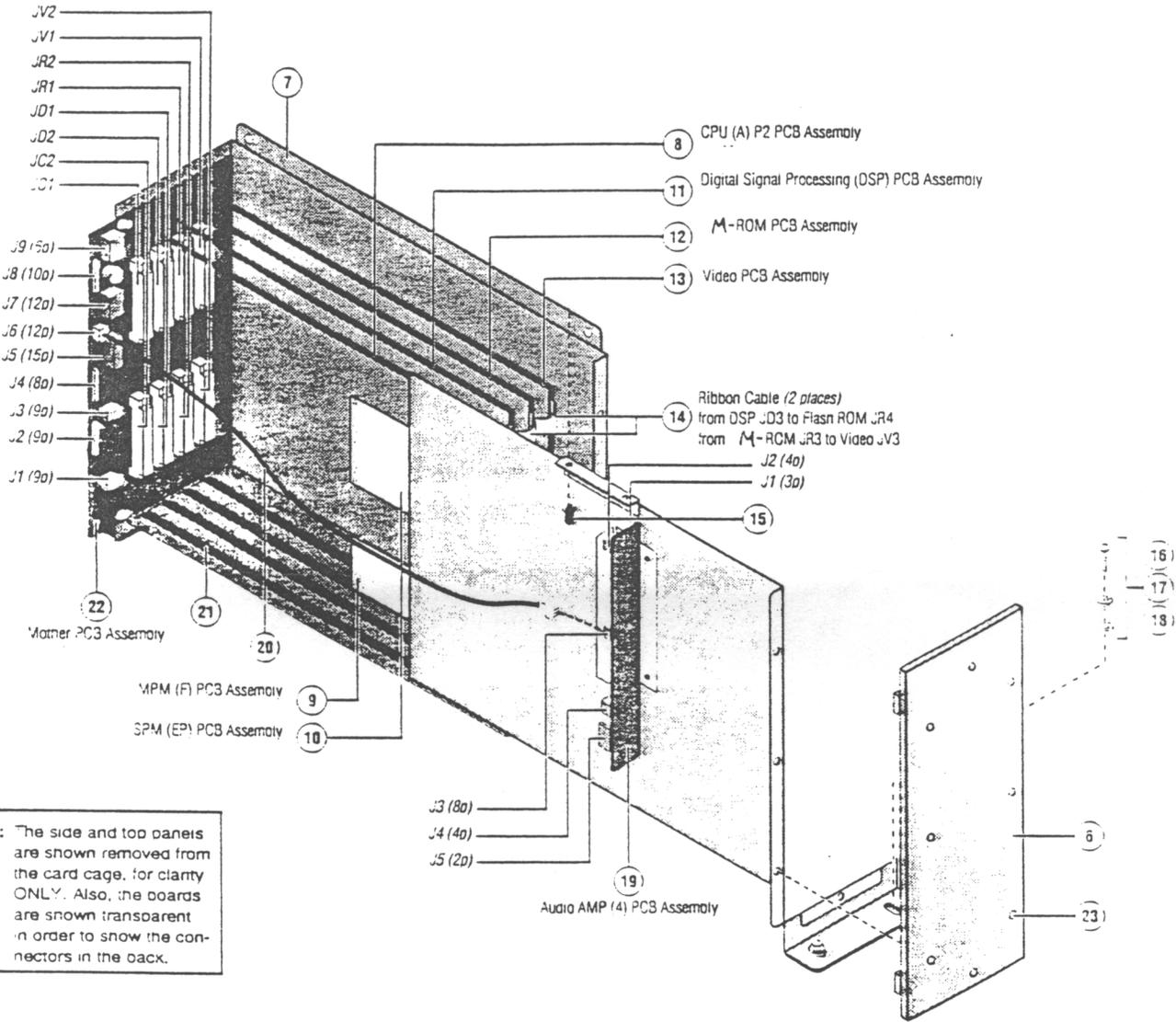
1. Refer to sections 5 & 6 in the Air Combat Operators manual for Adjustments and How to Play instructions. Be sure to check the factory game and coin settings.

## 4.0 PARTS LIST

	NAMCO P/N	Description	Qty	U/M
	A205-03684-00	PCB Kit, Air Combat SS22	1	ea
	A210-03593-00	Shield, Card Cage	1	ea
	A210-04089-00	Sign Bracket	1	ea
	A240-03540-00	decal, bottom, rear panel	1	ea
	A240-03853-00	decal, side panel, cockpit, right	1	ea
	A240-03855-00	decal, side panel, cockpit, left	1	ea
	A240-04013-00	decal, marquee acry, sc, w/50" mon	1	ea
	A240-04037-00	decal, mon, side cabinet, top left	1	ea
	A240-04037-01	decal, mon, side cabinet, top right	1	ea
	A240-04038-00	decal, mon, side cabinet, center	2	ea
	A240-04039-00	decal, mon, side cabinet, bottom	2	ea
	A240-04044-00	decal, side panel, bottom st, rt PCB door	1	ea
	A240-04045-00	decal, bottom side panel, left front	1	ea
	A240-04045-01	decal, bottom side panel, left back	1	ea
	A240-04045-02	decal, bottom side panel, right w/cash box	1	ea
	A240-04045-03	decal, bottom side panel, right w/PCB door	1	ea
		NOTE: comes with A240-04044-00		
	A240-04054-00	decal, Eagle Squad 2, View Chg 1	1	ea
	A240-04056-00	Sign, Instruction	1	ea
	A245-04493-00	Manual, Instructions	1	ea
	A250-03996-00	cable	1	ea
	A250-03997-00	cable	1	ea
	A250-04015-00	cable	1	ea
	A250-04016-00	cable	1	ea
	A295-04475-00	Acrylic, Marquee Cover, kit	1	ea

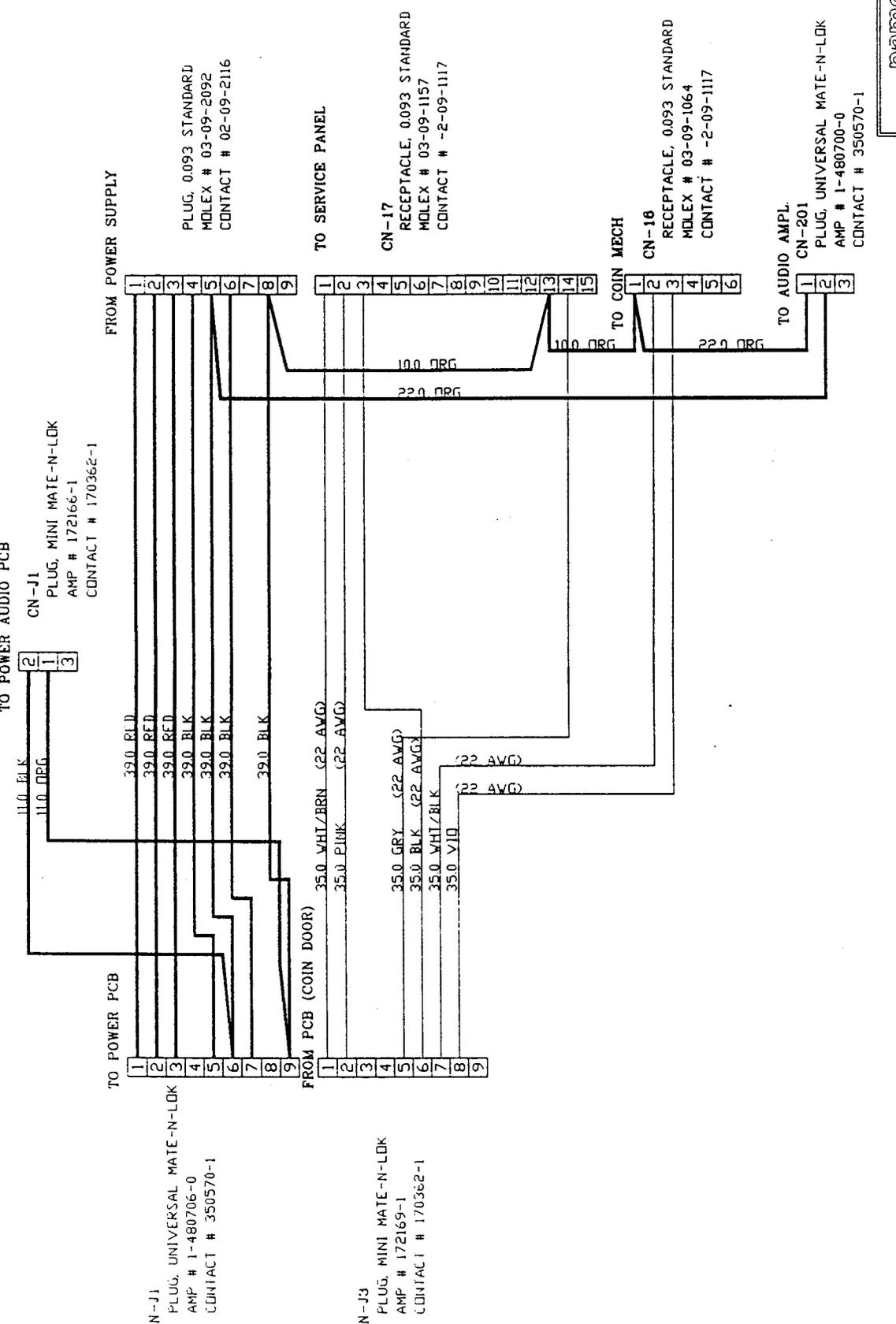
# Card Cage Super System 22 Assembly

**WARNING: DO NOT** separate board set.



REV	DESCRIPTION	DATE	APPROVAL
A	PROD. RELEASE	7/7/95	

NOTES:  
 1. All wires are 18 awg, 1007 style, unless specified.  
 2. Cable tie each group every 8".  
 3. Legibly identify connector with correct designator, using permanent marker.



TO POWER PCB  
 1 2 3 4 5 6 7 8 9

FROM POWER SUPPLY  
 1 2 3 4 5 6 7 8 9

TO SERVICE PANEL  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

TO COIN MECH  
 1 2 3 4 5 6

TO AUDIO AMPL.  
 1 2 3

CN-J1  
 PLUG, MINI MATE-N-LDK  
 AMP # 172166-1  
 CONTACT # 170362-1

CN-17  
 RECEPTACLE, 0.093 STANDARD  
 MOLEX # 03-09-1157  
 CONTACT # -2-09-1117

CN-16  
 RECEPTACLE, 0.093 STANDARD  
 MOLEX # 03-09-1064  
 CONTACT # -2-09-1117

CN-201  
 PLUG, UNIVERSAL MATE-N-LDK  
 AMP # 1-480700-0  
 CONTACT # 350570-1

CN-J3  
 PLUG, MINI MATE-N-LDK  
 AMP # 172169-1  
 CONTACT # 170362-1

		150 Charcol Avenue San Jose, CA 95131	
TITLE <b>HARNES, KIT</b> <b>MAIN 2</b>		REV <b>A</b>	
DRAWN BY APPROVED CHECKED		DATE <b>7/7/95</b>	
TOLERANCES UNLESS OTHERWISE SPECIFIED: X.XX ± 0.01 X.XXX ± 0.005 USED ON		SIZE <b>C</b>	
DO NOT SCALE		DRAWING NO. <b>A250-03997-00</b>	
SHEET 1 OF 1		CONTACT # 350570-1	

NOTES

1. All wires are 22 awg, 1007 style
2. Label tie each group every 8".
3. Legibly identify connector with correct designator, using permanent marker

REVISION

REV	DESCRIPTION	DATE	APPROVAL
A	PROD. RELEASE	7/7/95	
B	REVISE CN-J203, J4	7/17/95	TN

From Main Pcb (RGB)

- 1 30.0. BLK
- 2 30.0. GRN
- 3 30.0. BLU
- 4 30.0. BRN
- 5 30.0. BLK
- 6

To Front Spk & RGB

- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

CN-J9  
PLUG, MINI MATE-N-LCK  
AMP # 172168-1  
CONTACT # 170362-1

From Audio Pcb (JPN Ver.)

- 1 32.0. GRN
- 2 32.0. ORG
- 3 32.0. YEL
- 4 32.0. PINK

CN-J2  
PLUG, MINI MATE-N-LCK  
AMP # 172167-1  
CONTACT # 170362-1

To Seat Assy.

- 1 32.0. GRN
- 2 32.0. ORG
- 3 32.0. YEL
- 4 32.0. PINK
- 5 11.0. RED/BLK
- 6 11.0. BLK
- 10
- 11
- 12

CN-J203 (Audio pcb)  
HOUSING, E1 SERIES  
AMP # 171822-4  
CONTACT # 170262-1

From Main PCB

- 15
- 14
- 13
- 12
- 11
- 10
- 9
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

CN-J5  
PLUG, MINI MATE-N-LCK  
AMP # 172171-1  
CONTACT # 170362-1

From Main PCB (Controller & Throttle)

- 6 31.0. WHI
- 5 31.0. WHI/YEL
- 8 31.0. WHI/BLK
- 7
- 9
- 10
- 11
- 12

CN-J7  
PLUG, MINI MATE-N-LCK  
AMP # 172170-1  
CONTACT # 170362-1

To Controller & Start btn

- 9
- 15
- 14
- 4
- 1
- 2
- 3
- 5
- 12
- 13
- 6
- 7
- 10
- 8
- 11

CN-J4  
HOUSING, E1 SERIES  
AMP # 171822-2  
CONTACT # 170262-1

From Audio Pcb

- 2 7.0. VIO
- 1 33.0. ORG
- 1 33.0. BLU

From Main PCB (Gun)

- 1 34.0. WHI/GRY
- 2 34.0. WHI/BRN
- 3 34.0. WHI/GRN
- 7 34.0. BLK
- 8 34.0. VIO
- 4
- 5
- 6

CN-J4  
HOUSING, E1 SERIES  
AMP # 171822-8  
CONTACT # 170262-1

CN-25  
RECEPTACLE, 0093 STANDARD  
MOLEX # 03-09-1126  
CONTACT # -2-09-1117

CN-20  
RECEPTACLE, 0093 STANDARD  
MOLEX #03-09-1126  
CONTACT # 02-09-1117

CN-24  
RECEPTACLE, 0093 STANDARD  
MOLEX #03-09-1157  
CONTACT # 02-09-1117

**namco**  
150 Charcol Avenue  
Sun Jose, CA 95131

TITLE  
**HARNES, KIT**  
MAIN 1

DATE 7/7/95  
CHECKED  
TOLERANCES UNLESS OTHERWISE SPECIFIED:  
XXX ± 0.01  
XX ± 0.005  
USED ON

DRAWN BY  
APPROVED  
CHECKED

SIZE C  
DRAWING NO. A250-03996-00  
REV B  
DO NOT SCALE  
SHT 1 OF 1

REVISION		
REV	DESCRIPTION	DATE
A	PRODUCTION RELEASE	7/7/95
B	REVISED P/N ON J6	8/7/95

- NOTES:
- All wires are 22 awg. 1007 style
  - Cable tie each group every 8"
  - Legibly identify connector with correct designation, using permanent marker

**From Main Pcb**

1	5.0_WHT/GRN
2	5.0_GRN
3	5.0_WHT/BLU
4	5.0_BLU
5	21.0_WHT/BRN
6	21.0_WHT/BLK
7	
8	
9	
10	
11	
12	

**CN-J6**  
HOUSING, E1 SERIES  
AMP # 171822-2  
CONTACT # 170263-1

**To Audio Pcb**

1	
2	
3	
4	
5	
6	
7	
8	

**CN-J3**  
HOUSING, E1 SERIES  
AMP # 171822-8  
CONTACT # 170263-1

**To Audio pcb**

1	
2	
3	
4	
5	

**CN-J202**  
HOUSING, E1 SERIES  
AMP # 171822-5  
CONTACT # 170263-1

**malenco**  
150 Charcot Avenue  
San Jose, CA 95131

**HARNES, KIT**  
MAIN 3

DATE: 7/7/95  
JOB # 170263-1  
SHEET 1 OF 1

SIZE: C A250-04015-00  
DO NOT SCALE

DRAWN BY: \_\_\_\_\_  
APPROVED: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
DATE: 7/7/95  
JOB # 170263-1  
SHEET 1 OF 1

NOTES:

1. All wires are 18 awg, 1007 style
2. Cable tie each group every 9".
3. Legibly identify connector with correct designator, using permanent marker



HOUSING, 2139 SERIES  
 MOLEX # 09-50-7031  
 CONTACT # 08-50-0105 (Chem)  
 DR # 08-50-0106 (Louise)

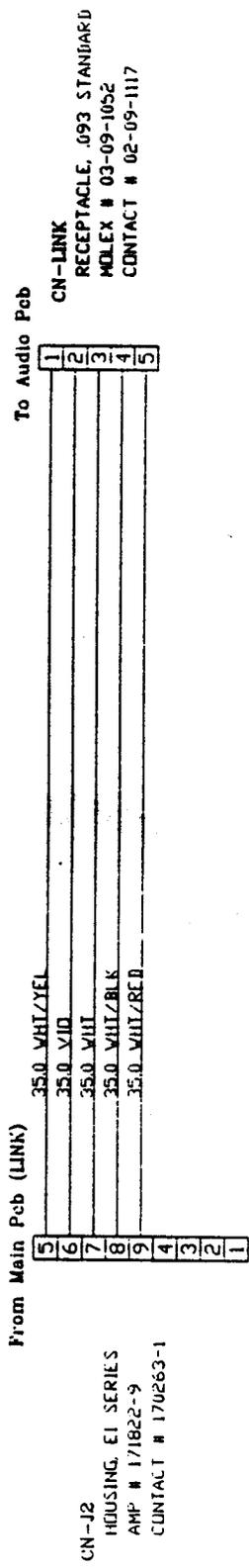
CAP, UNIVERSAL MATE-N-LOK  
 AMP # 1-480701-0  
 CONTACT # 350561-1

REVISION		DESCRIPTION	DATE	APPROVAL
REV	A	PROD. RELEASE	7/795	

		150 Charcot Avenue San Jose, CA 95131	
<b>TITLE</b> HARNESS, KIT MAIN - 4			
DRAWN BY APPROVED CHECKED DATE 7/7/95	SIZE C	DRAWING NO. A250-04016-00	REV A
1 X X 1 2 001 1 X X 1 2 005		ANGLES ± 1° USED ON . . . . . DO NOT SCALE	

REVISION		
REV	DESCRIPTION	DATE
1	PREL. RELEASE	7/7/95

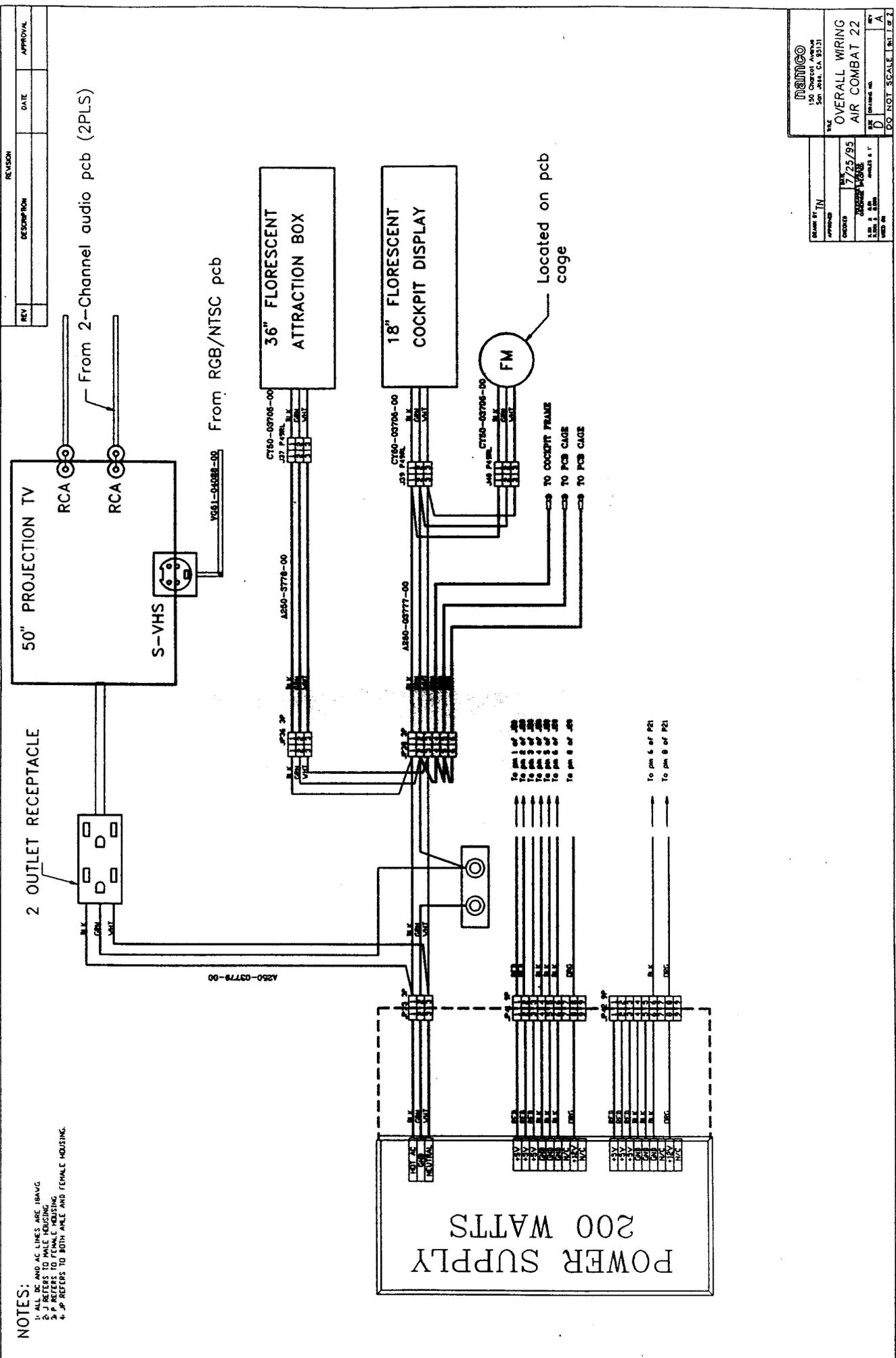
- NOTES
- All wires are 22 awg, 1007 style
  - Cable tie each group every 8"
  - Legibly identify connector with correct designator, using permanent marker



CN-J2  
HOUSING, E1 SERIES  
AMP # 171B22-9  
CONTACT # 170263-1

		150 Charcot Avenue San Jose, CA 95131	
DATE		7/7/95	
DRAWN BY		CHECKED	
APPROVED		DATE	
USED ON		ANGLE 3 1'	
SIZE		A250-	
DO NOT SCALE		SH 1 OF 1	

HAINNESS, KIT  
MAIN 5



NOTES:  
 1. ALL DC AND AC LINES ARE IBANG  
 2. J REFERS TO MALE HOUSING  
 3. P REFERS TO FEMALE HOUSING  
 4. P REFERS TO BOTH MALE AND FEMALE HOUSING.

REV	DESCRIPTION	DATE	APPROVAL

130 Chevrolet Avenue San Jose, CA 95131	
<b>OVERALL WIRING</b> <b>AIR COMBAT 22</b>	
DATE: 07/25/95 DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN PARTS BY: J. B. BROWN USED IN:	REV: 0 SHEETS: 1 of 1 SCALE: 1:1

**NOTES:**

- 1. ALL DC AND AC LINES ARE ISAWG.
- 2. J, P REFERS TO MALE HOUSING.
- 3. F REFERS TO FEMALE HOUSING.
- 4. F REFERS TO BOTH MALE AND FEMALE HOUSING.

