

TANK II

Operation · Maintenance · Service Manual



KEE GAMES

A Subsidiary of Atari

ATARI, INC · 14600 Winchester Blvd · Los Gatos, CA 95030 · 408/374-2440 · Telex 357-488

TANK II



ASSEMBLY TITLE / TOP ASSEMBLY - TANK II

P/L 003521

PARTS LIST SPECIFICATION

Page 1 of 1

Drawn

Checked

M.J. 5/20/75

Mech. Eng.

Proj. Eng.

P. J. M. C. H.

Elec. Eng.

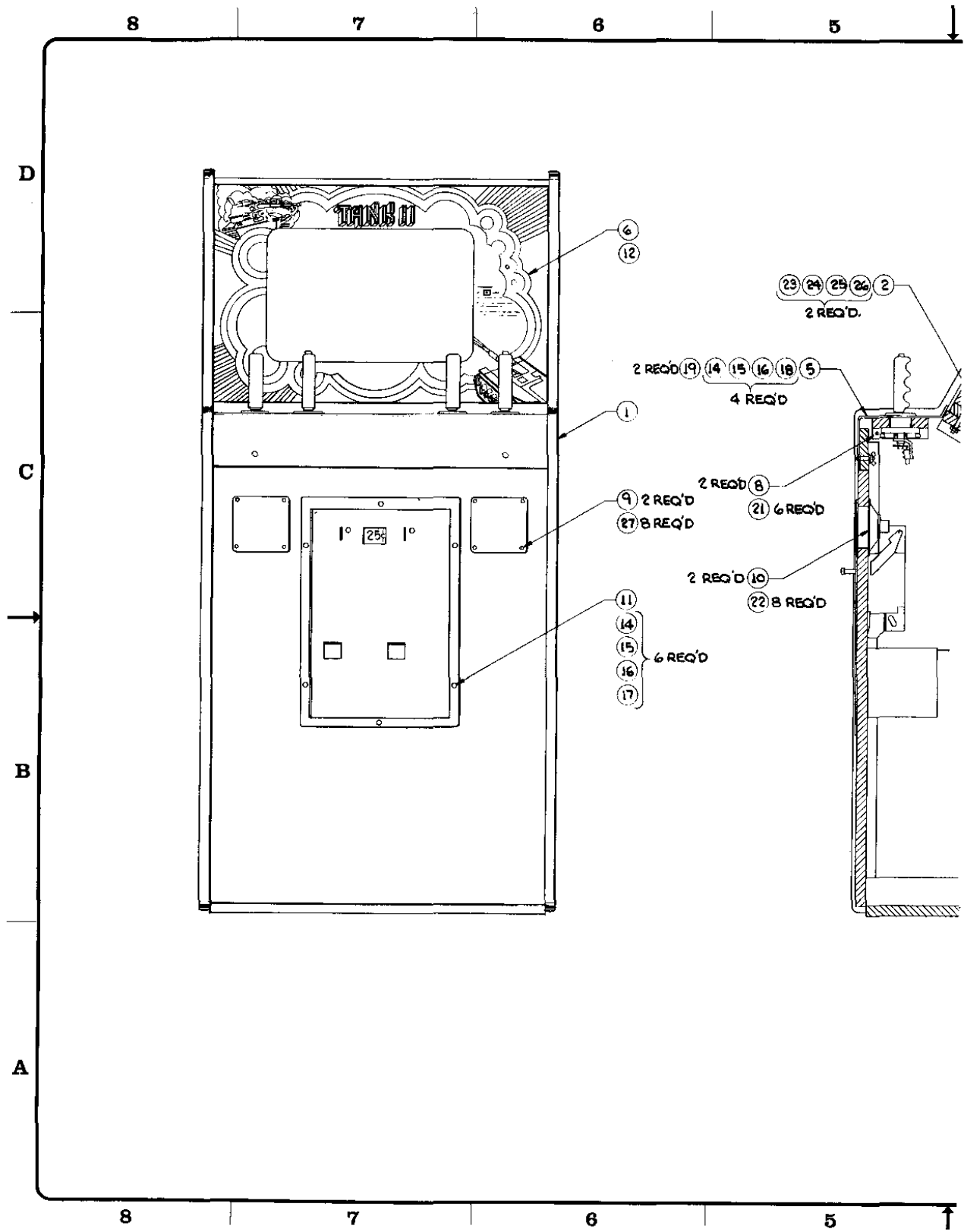
REV.

A

| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|-------------|--------|--------|------|-------------|------|--------|
| A | PROD REL | 5/1/75 | Z. H. | | | | |
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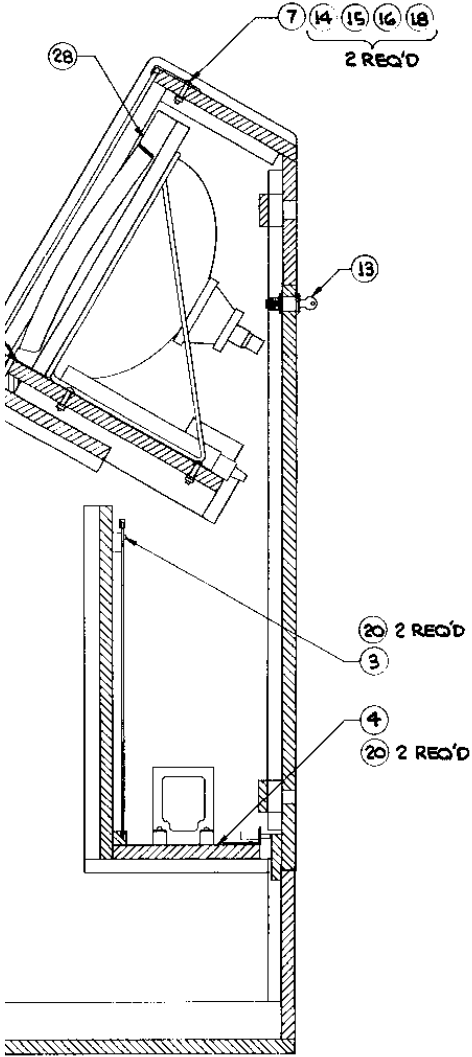
| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|--|
| 1 | A003522 | 1 | Cabinet Assembly |
| 2 | A003544 | 1 | TV Mount Board Assembly |
| 3 | A003534 | 1 | PC Mount Board Assembly |
| 4 | A003538 | 1 | Electronics Tray Assembly |
| 5 | A003540 | 1 | Control Panel Assembly |
| 6 | 003543 | 1 | Plex Screen W/Artwork |
| 7 | 001573 | 1 | Retainer, Upper Plex. |
| 8 | 002728 | 2 | Panel Mtg. Brackets |
| 9 | 000869 | 2 | Speaker, Grill |
| 10 | * 48-004 | 2 | Speaker, 4" |
| 11 | A003637 | 1 | Coin Door Assembly |
| 12 | 003542 | 1 | "Coin" Decal |
| 13 | 71-2112 | 1 | Lock, Mech., Barrel Cartridge |
| 14 | 75-5120N | 12 | Bolt, Carriage, #10-24 x 1.25" Long |
| 15 | 75-010S | 10 | Washer, Flat, #10 |
| 16 | 75-040 | 12 | Washer, Split-Lock, #10 |
| 17 | 75-911S | 6 | Nut, Hex, #10-24 |
| 18 | 75-931 | 6 | Nut, Wing, #10-24 |
| 19 | 75-035S | 2 | Washer, Flat, 1/4" Wide Pattern |
| 20 | 72-6620 | 4 | Screw, SM, Pan Hd., Phil. #6 x 1.25" Lg. |
| 21 | 72-6812 | 6 | Screw, SM, Pan Hd., Phil. #8 x .75" Lg. |
| 22 | 72-6608 | 8 | Screw, SM, Pan Hd., Phil. #6 x .50" Lg. |
| 23 | 75-5844 | 2 | Bolt, Carriage, #4-20 x 2.75" Lg. |
| 24 | 75-015S | 2 | Washer, Flat, 1/4" |
| 25 | 75-045 | 2 | Washer, Split Lock, 1/4" |
| 26 | 75-935 | 2 | Nut, Wing, 1/4-20 |
| 27 | 73-77004 | 8 | Pop Rivet, Alum. 3/16" DIA. x .68 Lg. |
| 28 | 003752 | 1 | Bezel, Cardboard |

* This speaker may be replaced by any speaker previously used on TANK.



4 3 2 1

| REVISIONS | | | |
|-----------|----------------|-------------------|-------|
| SYM | DESCRIPTION | INITIALS AND DATE | |
| | | DRFTG | CHECK |
| A | PRODUCTION REL | 5-21 | PLJ |



D

C

B

A

1255000
 1/16" DIA
 1/8" DIA
 1/4" DIA

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| | |
|-------------|---------|
| TANK II | |
| NEXT ASSY | USED ON |
| APPLICATION | |

| | | |
|---|---|--|
| INTERPRET THIS DRAWING PER USASI Y145 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/16 X - A ± 1 ANGLES ± 18 XX - A ± .03 SURFACE FINISH ✓ AAA - A ± 1.0 MATERIAL SEE P/L003521 | DRAWN BY PETE DATE 5-21-75 CHECKED DESIGN ENGINEER P. TAKAICHI PROJECT ENGINEER DOCUMENT CONTROL <i>1772</i> APPROVED <i>Frank Apple</i> | ATARI ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030 TITLE TOP ASSEMBLY SIZE D DRAWING NO A003521 REV A |
| APPLICATION | | SCALE SHEET 1 OF 1 |

4 3 2 1



ASSEMBLY TITLE / JOYSTICK ASSY (UP, DOWN & FIRE) P/L 002303-01

PARTS LIST SPECIFICATION Page 1 of 1

| | | | | | |
|------------|--------------|------------|--|------|--|
| Drawn | | Mech. Eng. | | REV. | |
| Checked | M.J. 5/20/75 | | | E | |
| Proj. Eng. | | Elec. Eng. | | | |

| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|------------------|---------|--------|------|-------------|------|--------|
| A | PROD REL | 4-3-75 | | | | | |
| B | Rev per ECN 1285 | 4-3-75 | | | | | |
| C | Rev per ECN 1333 | 4/21/75 | | | | | |
| D | Rev per ECN 1470 | 6/6/75 | | | | | |
| E | Rev per ECN 1503 | | | | | | |

| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|------------------------------------|
| 1 | 002299 | 1 | Button |
| 2 | | | |
| 3 | 002302 | 1 | Spring Return |
| 4 | | | |
| 5 | 002298 | 1 | Rod |
| 6 | 002294 | 1 | Bushing |
| 7 | 002296 | 2 | Washer, Return |
| 8 | 002293 | 1 | Hub |
| 9 | 002297 | 1 | Spacer Ring |
| 10 | 003207 | 1 | Switch Plate 11 |
| 11 | 002301 | 1 | Bracket, Switch |
| 12 | 002300 | 1 | Actuator |
| 13 | A003583-01 | 1 | Handle Assy |
| 14 | 75-2412S | 2 | Screw, Mach, Rd Hd, Phil #4-40x3/4 |
| 15 | 75-044 | 2 | Washer, Split Lock, #4 |
| 16 | 75-914S | 2 | Nut, Hex #4-40 |
| 17 | 75-991202 | 1 | Nut, Hex 1/4-28 |
| 18 | 75-019S | 1 | Washer, Flat, 5/16 |
| 19 | 75-06003 | 2 | Washer, Belleville Spring |
| 20 | 72-6410 | 4 | Screw, Sheet Metal, Phil. #4 x 5/8 |
| 21 | 72-6412 | 4 | Screw, Sheet Metal, Phil. #4 x 3/4 |
| 22 | **65-081A | 3 | Micro Switch |
| 23 | | | |
| 24 | 75-912S | 2 | Nut, Hex, #2-56 |

Notes:
 * Optional Handle Grip See DWG No. 003092
 ** Acceptable Substitutes
 65-091A, 65-101A, 65-111A.

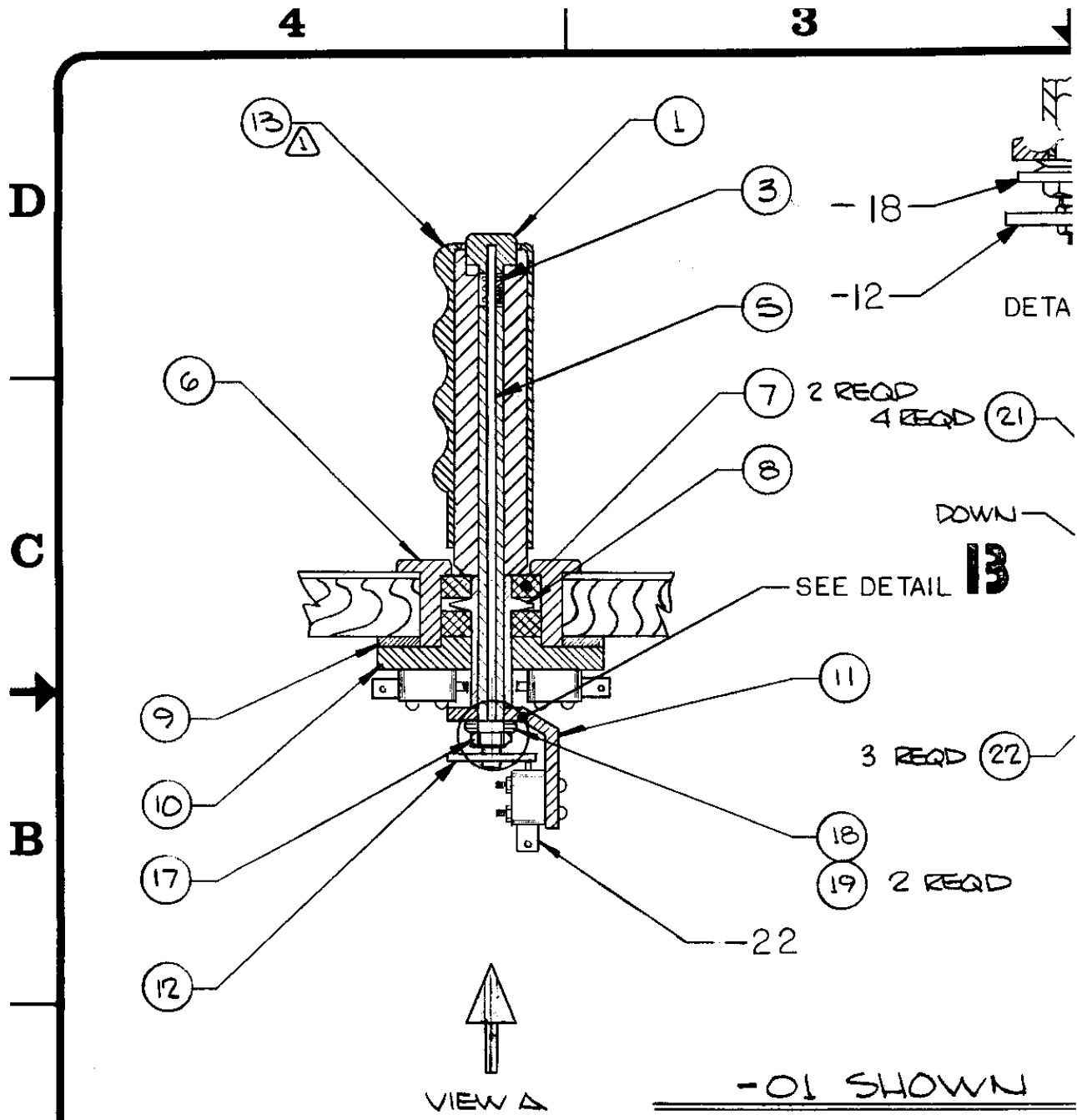


| | | | |
|--------------------------|------------------------------|-------------|-------------|
| ASSEMBLY TITLE | JOYSTICK ASSY (DUMMY BUTTON) | P/L | 002303-02 |
| PARTS LIST SPECIFICATION | | Page 1 of 1 | |
| Drawn | | | |
| Checked | M.J. 5/20/75 | Mech. Eng. | <i>E.R.</i> |
| Proj. Eng. | | Elec. Eng. | |
| | | | REV. E |

| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|-------------------|---------|--------------------|------|-------------|------|--------|
| B | Prod Rel/ECN 1285 | 4-3-75 | <i>[Signature]</i> | | | | |
| C | Rev per ECN 1333 | 4/21/75 | <i>[Signature]</i> | | | | |
| D | Rev per ECN 1470 | 6/6/75 | <i>[Signature]</i> | | | | |
| E | Rev per ECN 1503 | | <i>[Signature]</i> | | | | |
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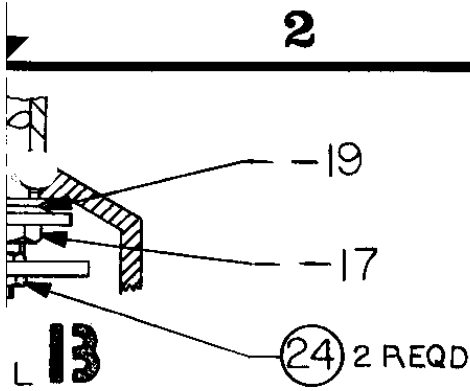
| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|------------------------------------|
| 1 | | 1 | Bushing |
| 2 | 002294 | 2 | Washer, Return |
| 3 | 002296 | 1 | Hub |
| 4 | 002293 | 1 | Spacer Ring |
| 5 | 002297 | 1 | Switch Plate 11 |
| 6 | 003207 | 1 | Handle Assy |
| 7 | A003583-02 | 1 | Nut, Hex, 1/8-28 |
| 8 | 75-991202 | 2 | Washer, Flat, 5/16 |
| 9 | 75-019S | 4 | Screw, Sheet Metal, Phil. #4 x 5/8 |
| 10 | 72-6410 | 4 | Screw, Sheet Metal, Phil. #4 x 3/4 |
| 11 | 72-6412 | 2 | Switch |
| 12 | **65-081A | | |

Notes:
 * Optional Handle Grip See DWG No. 003082
 ** Acceptable Substitutes
 65-091A
 65-110A
 65-111A

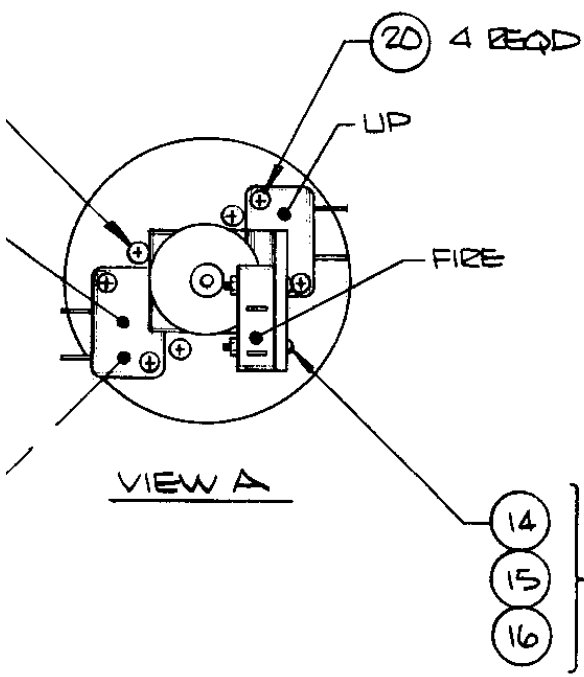


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| A0023 |
| NEXT ASSY |
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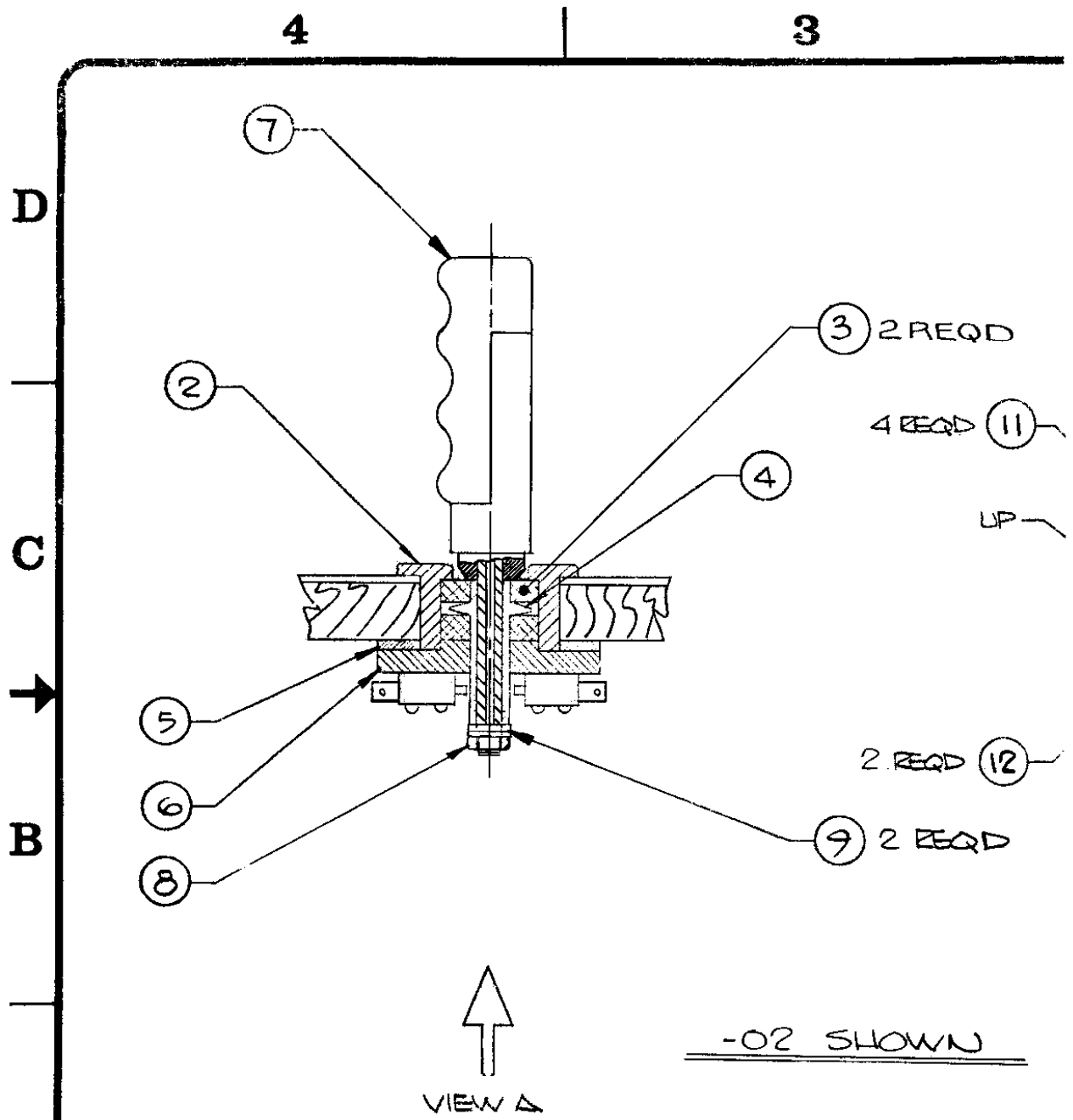
| REVISIONS | | | | |
|-----------|-----------------------|-------------------|-------|--------|
| SYM | DESCRIPTION | INITIALS and DATE | | |
| | | DRFTG. | CHECK | ENGRG. |
| A | PROD REL | 1-14-75 | DL | WS |
| B | REV PER ECN 1285 | 4-3-75 | DL | WS |
| C | REV. PER ECN.1333SH.1 | TEW 4/17/75 | DL | WS |
| D | REV. PER ECN 1470 | 6-6-75 | DL | WS |
| E | REV PER ECN 1503 | 6-19-75 | DL | WS |



NOTES:
 ⚠ HANDLE ASSY IS NOT TO BE TIGHT AFTER TOTAL ASSY. HANDLE ASSY SHOULD ROTATE.

| | | | | |
|---|--|---------------------------------------|---|--|
| INTERPRET THIS DRAWING PER USAS1 Y14.5 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS = ±1/16 .x = ±.1 ANGLES = ±1° .xx = ±.03 SURFACE FINISH ✓ .xxx = ±.010 MATERIAL: SEE PL 002303-01 | DRAWN BY ZOOK | DATE 1-14-75 | ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030 | |
| | CHECKED | DESIGN ENGINEER <i>[Signature]</i> | | TITLE ASSY, JOYSTICK (UP, DOWN & FIRE) |
| | PROJECT ENGINEER <i>[Signature]</i> | DOCUMENT CONTROL M-2 | SIZE B | DRAWING NO. Δ002303-01 |
| | APPROVED <i>[Signature]</i> | REV E | SCALE | SHEET 1 OF |

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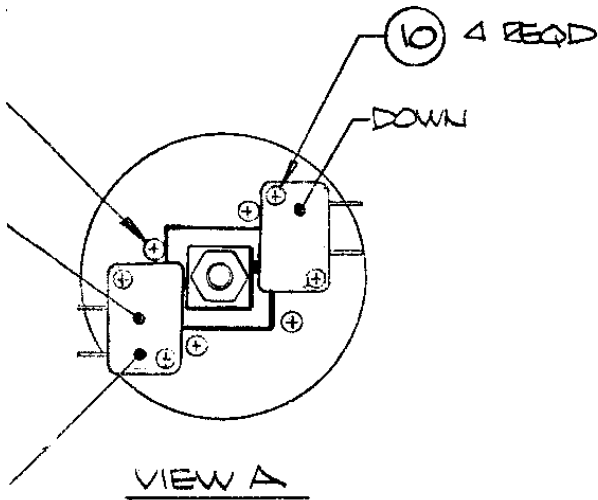


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| 10025 |
| NEXT ASS |
| APP. |

2 1

| REVISIONS | | | | |
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| SYM | DESCRIPTION | INITIALS and DATE | | |
| | | DRFTG. | CHECK | ENGL'S |
| B | SEE SUT 1 | - | - | - |
| C | REV. PER ECN.1333 SH.2 | TEW. | 9/21/75 | EX. |
| D | REV. PER EC N 1470 | 66-75 | XXX | WS |
| E | REV PER ECN 1503 | 6-19-75 | XX | DC |

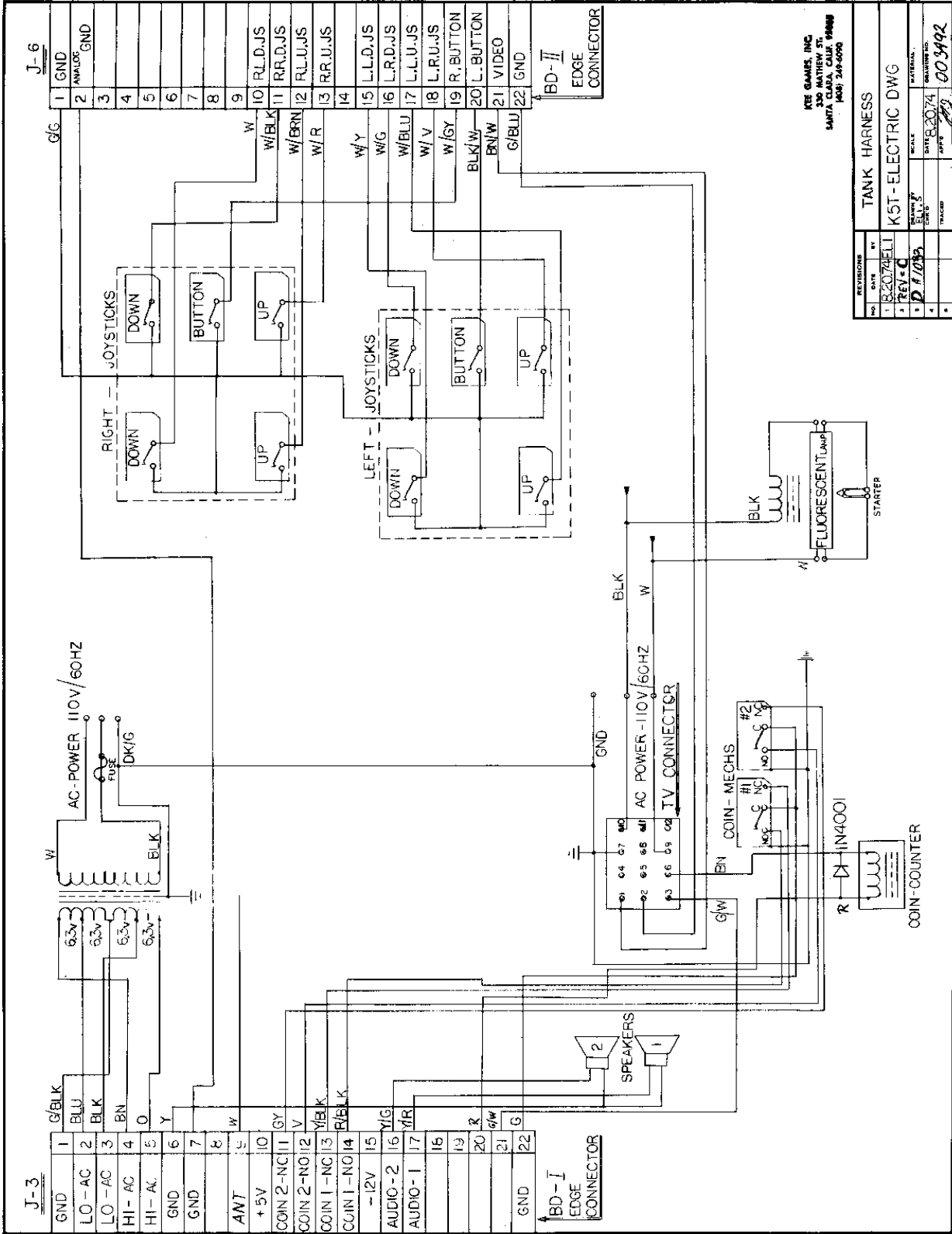


NOTES:

- ⚠ HANDLE ASSY IS NOT TO BE TIGHT AFTER TOTAL ASSY. HANDLE ASSY SHOULD ROTATE.

| | | | | | | | | | | | |
|--|---|--|------|-------------|-----|---|------------|---|-------|------------|--|
| INTERPRET THIS DRAWING PER USASI Y14.5 | DRAWN BY <u>ZOOK</u> DATE <u>1-14-75</u> | <p>ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030</p> | | | | | | | | | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS = +1/16 .X = +.J ANGLES = ±1° .XX = ±.03 SURFACE FINISH ✓ .XXX = ±.010 | CHECKED DESIGN ENGINEER <u>[Signature]</u> PROJECT ENGINEER | TITLE <p style="font-size: 1.2em; font-weight: bold;">ASSY, JOYSTICK (DUMMY BUTTON)</p> | | | | | | | | | |
| MATERIAL: <p style="font-size: 1.2em; font-weight: bold;">SEE PL 002303-02</p> | DOCUMENT CONTROL <u>MJ</u> APPROVED <u>[Signature]</u> | <table style="width: 100%; border: none;"> <tr> <td style="border: none;">SIZE</td> <td style="border: none;">DRAWING NO.</td> <td style="border: none;">REV</td> </tr> <tr> <td style="border: none; font-size: 1.5em; font-weight: bold;">B</td> <td style="border: none; font-size: 1.5em; font-weight: bold;">A002303-02</td> <td style="border: none; font-size: 1.5em; font-weight: bold;">E</td> </tr> <tr> <td style="border: none;">SCALE</td> <td style="border: none;">SHEET 2 OF</td> <td style="border: none;"></td> </tr> </table> | SIZE | DRAWING NO. | REV | B | A002303-02 | E | SCALE | SHEET 2 OF | |
| SIZE | DRAWING NO. | REV | | | | | | | | | |
| B | A002303-02 | E | | | | | | | | | |
| SCALE | SHEET 2 OF | | | | | | | | | | |

2 1



THE GAUGE, INC.
 5500 MARKET STREET
 SANTA CLARA, CALIF. 95050
 (408) 246-0090

| REVISIONS | | BY | | DATE | | TANK HARNESS | |
|-----------|---------|----|---------|------|---------|--------------|---------|
| 1 | REV - C | 1 | REV - C | 1 | REV - C | 1 | REV - C |
| 2 | REV - D | 2 | REV - D | 2 | REV - D | 2 | REV - D |

| | | | | |
|-----|----------|----|-------|------------------|
| NO. | DATE | BY | SCALE | MATERIAL |
| 1 | 12/27/81 | 1 | 1/8" | K5T-ELECTRIC DWG |
| 2 | 1/10/83 | 2 | 1/8" | REVISED |
| 3 | | 3 | | |
| 4 | | 4 | | |
| 5 | | 5 | | |

TANK II



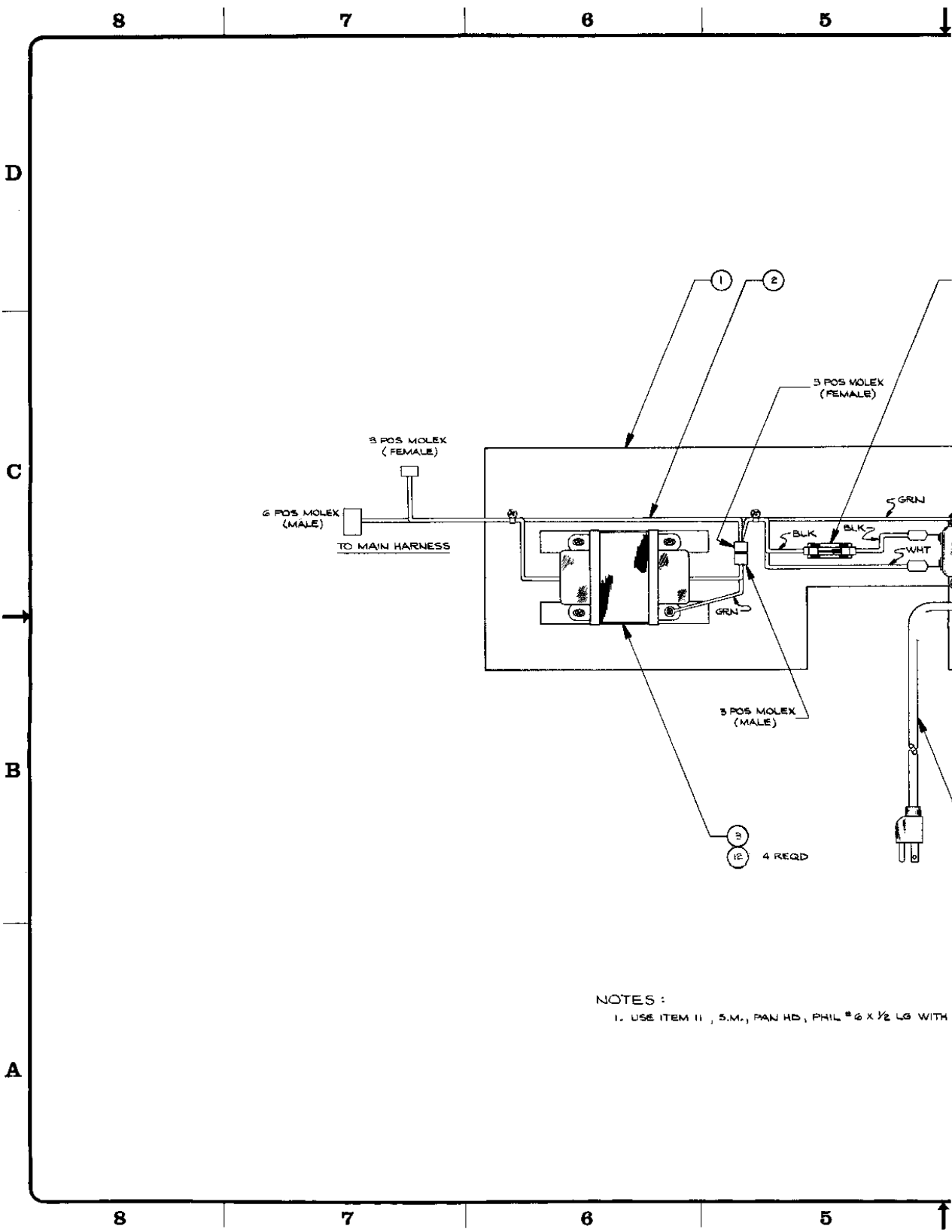
ASSEMBLY TITLE / ELECTRONICS TRAY ASSEMBLY P/L 003538

PARTS LIST SPECIFICATION Page 1 of 1

Drawn
 Checked *M.J. 9/11/75* Mech. Eng. *Burr*
 Proj. Eng. *[Signature]* Elec. Eng. *[Signature]* REV. B

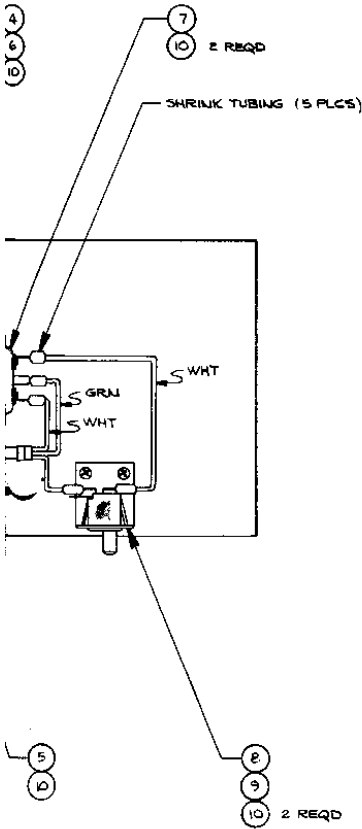
| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|------------------|---------|--------------------|------|-------------|------|--------|
| A | PROD REL | 5-1-75 | <i>[Signature]</i> | | | | |
| B | Rev per ECN 1616 | 9-11-75 | <i>[Signature]</i> | | | | |
| | | | | | | | |
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| | | | | | | | |

| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|---|
| 1 | 003539 | 1 | Electronics Tray |
| 2 | A003492 | 1 | Main Harness Assy. (K5-T) |
| 3 | A003560-01 | 1 | Transformer Assy. |
| 4 | A003460 | 1 | AC Power Harness Assy. |
| 5 | A004244 | 1 | 8" Power Cord Assy |
| 6 | 46-202202 | 1 | Fuse |
| 7 | 90-3001 | 1 | Filter, Power Line |
| 8 | 68-001 | 1 | A.C. Power Interlock Switch |
| 9 | 000268 | 1 | Bracket, Switch MTG. |
| 10 | 78-25002 | 2 | Screw Down, Tie Wrap |
| 11 | 72-6608 | 8 | Screw, SM, Pan Hd, Phil #6 x 1/2" Lg. |
| 12 | 72-6824 | 4 | Screw, SM, Pan Hd, Phil #8 x 1 1/2" Lg. |



4 3 2 1

| REVISIONS | | | | |
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| SYM | DESCRIPTION | DETAILS and DATE | | |
| | | DRAFT | CHECK | ENGRG |
| B. | REVISED PER ECH 1616 | ME | B-20-75 | [Signature] |



D
C
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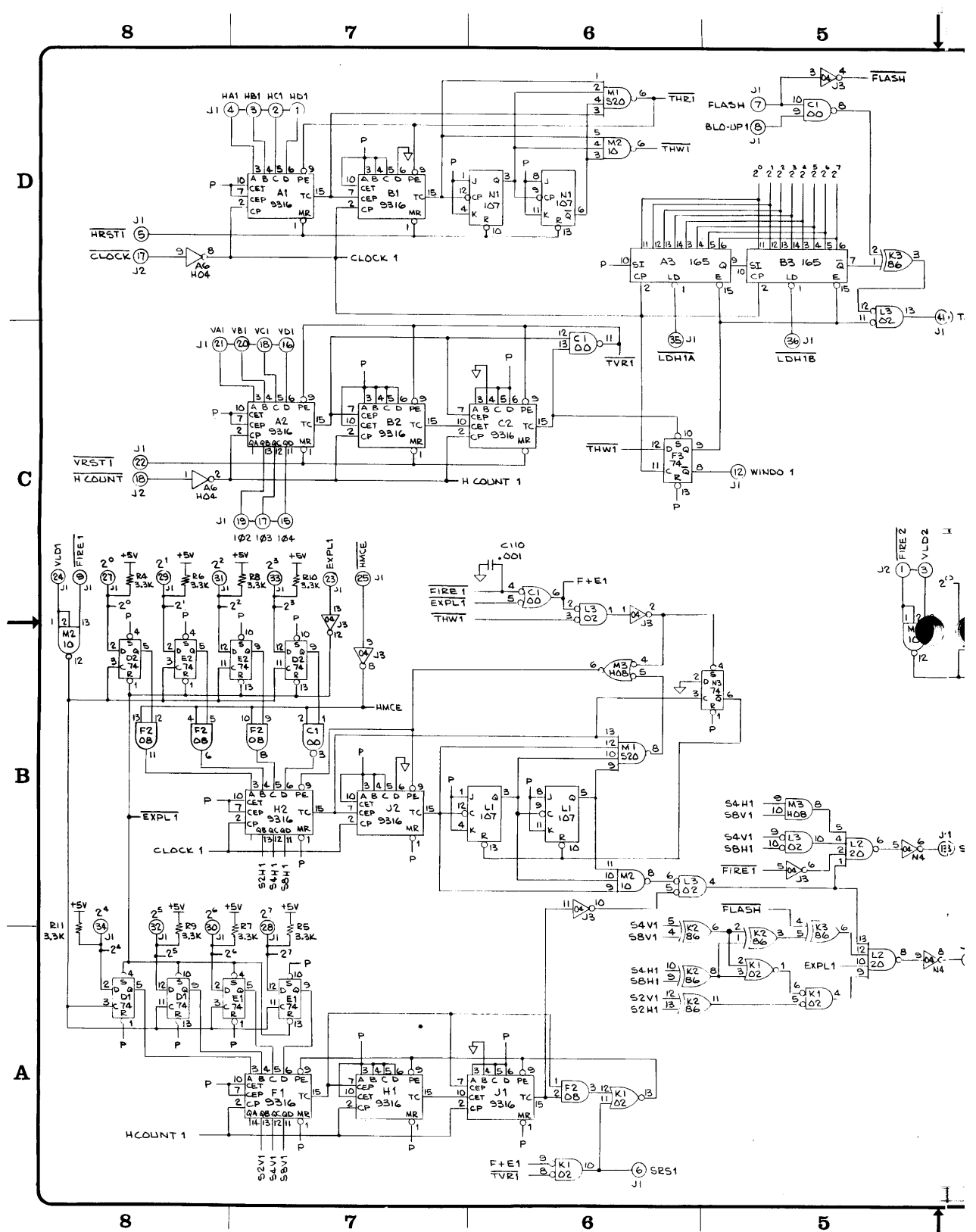
ARNESS TIE DOWNS

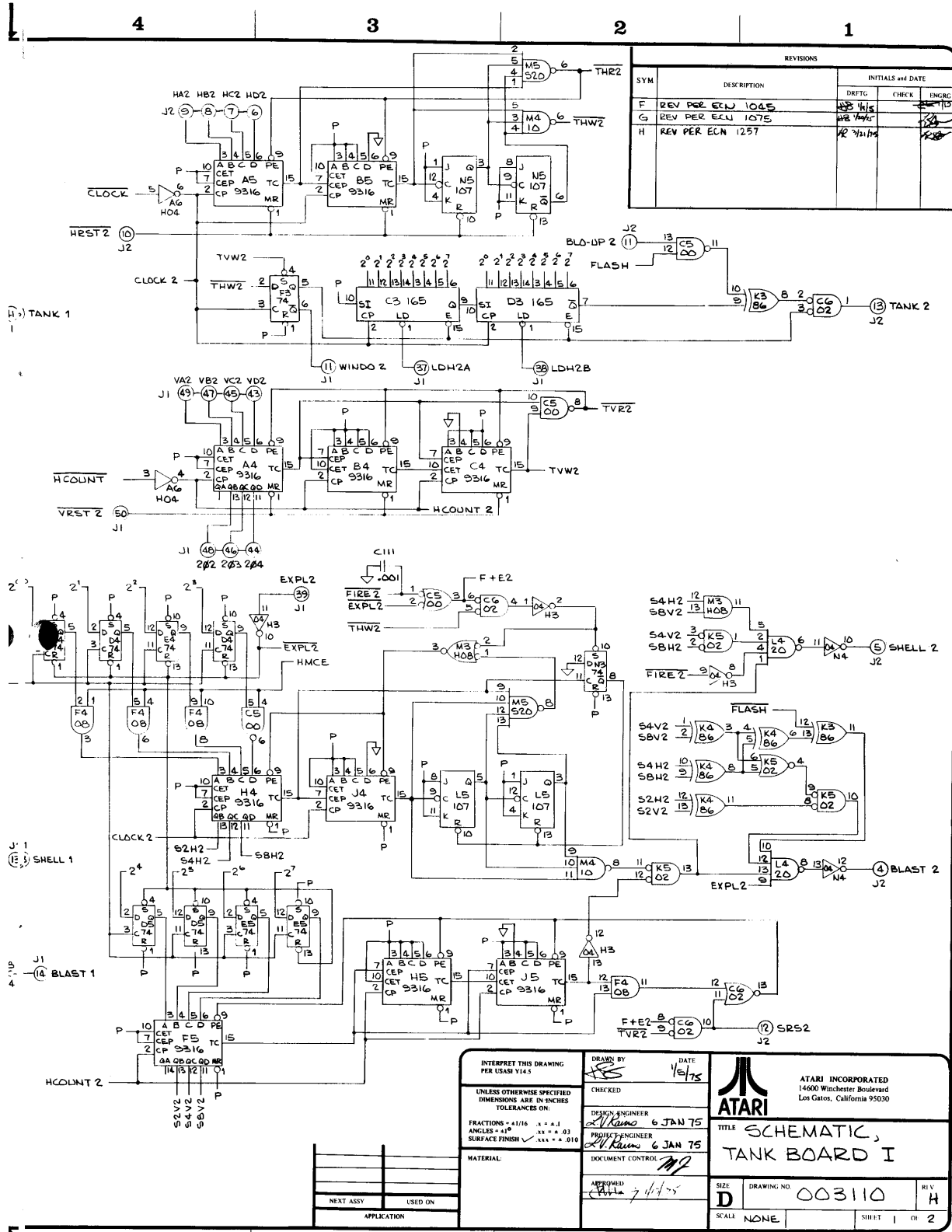
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|-------------|---------|
| A003538 | TANK II |
| NEXT ASST | USED ON |
| APPLICATION | |

| | | | |
|--|--------------------------------|--------------------|--|
| INTERPRET THIS DRAWING PER USAM Y14.5 | DRAWN BY AUSTIN | DATE AUG 20, 75 | <p>ATARI INCORPORATED 14500 Winchester Boulevard Los Gatos, California 95030</p> |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: | CHECKED | | |
| FRACTIONS = 1/16 x = +.1 | DESIGN ENGINEER [Signature] | | |
| ANGLES = 30° | PROJECT ENGINEER | | |
| SURFACE FINISH ✓ .xxx = +.018 | DOCUMENT CONTROL | | TITLE ASSEMBLY, ELECTRONICS TRAY - TANK II |
| MATERIAL SEE P/L 003538 | APPROVED [Signature] | | SIZE D |
| | | | DRAWING NO. A003538 |
| | | | REV B |
| | | | SCALE 1:2 |
| | | | SHEET 1 OF 1 |

4 3 2

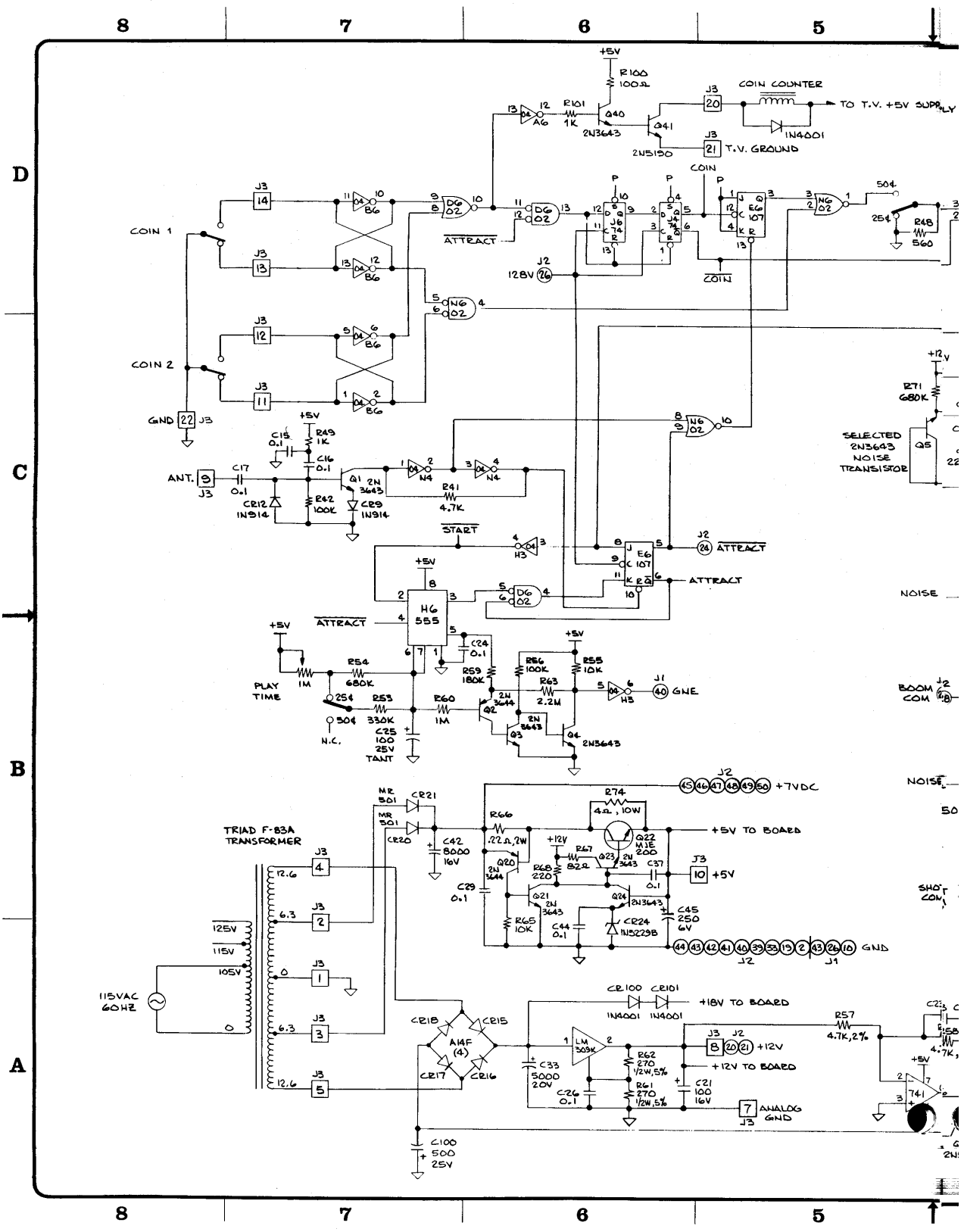




| REVISIONS | | | |
|-----------|------------------|-------------------|-----|
| SYM | DESCRIPTION | INITIALS and DATE | |
| F | REV PER ECU 1045 | WHS 1/5 | CHK |
| G | REV PER ECU 1075 | WHS 1/5 | CHK |
| H | REV PER ECU 1257 | WHS 1/5 | CHK |

| | | | |
|--|---|---|--|
| INTERPRET THIS DRAWING PER USASI Y14.5 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: FRACTIONS - ±.116 . . . ±.1 ANGLES - ±1° . . . ±.01 SURFACE FINISH - . . . ±.010 MATERIAL: | DRAWN BY: <i>WHS</i> DATE: 1/5/75 CHECKED: _____ DESIGN ENGINEER: <i>W. Rains</i> 6 JAN 75 PROJECT ENGINEER: <i>W. Rains</i> 6 JAN 75 DOCUMENT CONTROL: <i>W. Rains</i> | ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030 | TITLE: SCHEMATIC, TANK BOARD I SIZE: D DRAWING NO: 003110 SCALE: NONE SHEET 1 OF 2 |
| | APPROVED: <i>W. Rains</i> 7/1/75 | | |

D
 C
 B
 A
 DRAWING NO
 SHEET
 REV



8

7

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5

COIN COUNTER
TO T.V. +5V SUPPLY
T.V. GROUND

SELECTED
2N3643
NOISE
TRANSISTOR

NOISE
BOOM COM

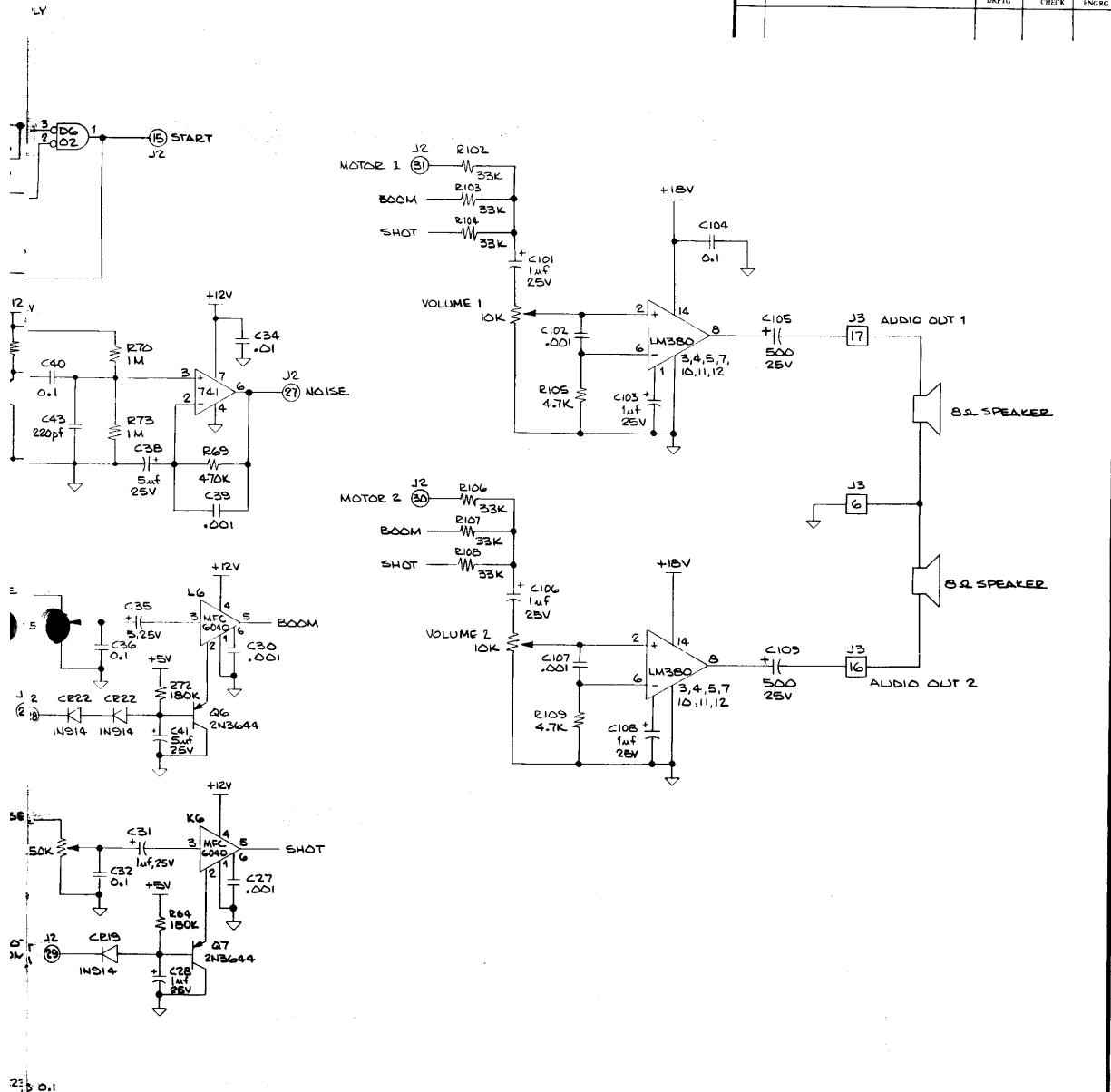
NOISE

SHOT
COM

+18V TO BOARD
+12V TO BOARD
ANALOG GND

4 3 2 1

| REVISIONS | | | | |
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| SYM | DESCRIPTION | INITIALS and DATE | | |
| | | DRFTG | CHECK | ENGRG |
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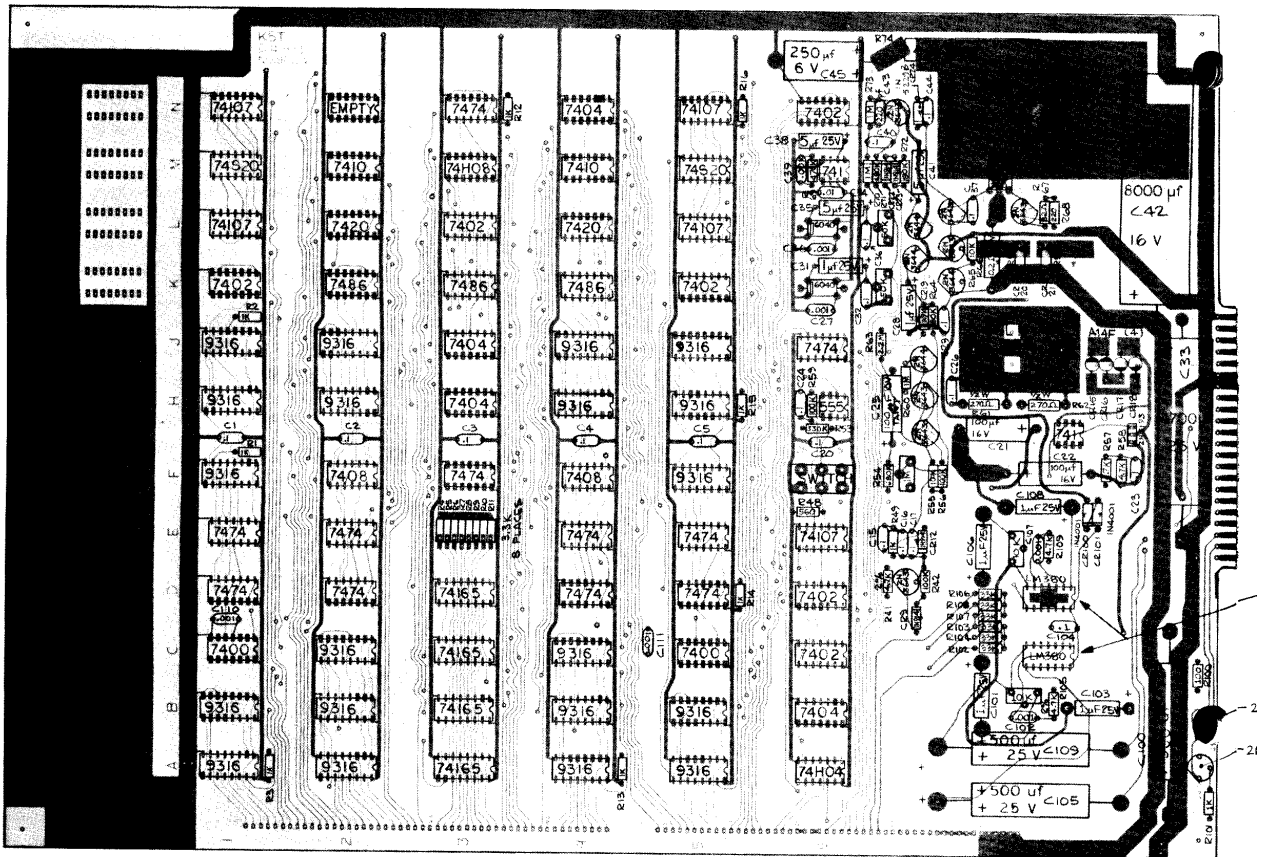


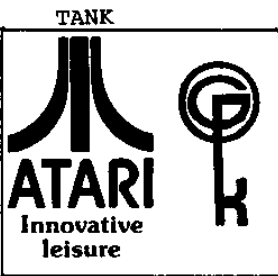
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| DRAWING NO. | |
| SHEET | |
| REV | |

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|--|---|---|--|--|
| <p>INTERPRET THIS DRAWING PER USASI Y14.5</p> <p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:</p> <p>FRACTIONS $\pm 1/16$ $\times \pm .1$</p> <p>ANGLES $\pm 15'$ $\times \pm .03$</p> <p>SURFACE FINISH \checkmark $\times \pm .010$</p> <p>MATERIAL:</p> | <p>DRAWN BY <i>[Signature]</i> DATE 1/9/75</p> <p>CHECKED</p> | <p>ATARI ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030</p> | <p>TITLE SCHMATIC, TANK BOARD I</p> | |
| | <p>DESIGN ENGINEER <i>[Signature]</i> 10 JAN 75</p> <p>PROJECT ENGINEER <i>[Signature]</i> 10 JAN 75</p> <p>DOCUMENT CONTROL <i>[Signature]</i></p> | | | <p>APPROVED <i>[Signature]</i> 1/10/75</p> |
| | <p>NEXT ASSY</p> <p>USED ON</p> <p>APPLICATION</p> | <p>SIZE D DRAWING NO. 003110 R1V H</p> <p>SCALE SHEET 2 OF 2</p> | <p>ATARI</p> | <p>A</p> |

4 3 2 1





| | | |
|-------------------------------------|-------------------------------------|-------------|
| ASSEMBLY TITLE | TANK - BOARD 1 | P/L003110 |
| PARTS LIST SPECIFICATION | | Page 1 of 2 |
| Drawn | | |
| Checked <i>MJ. A-15-75</i> | Mech. Eng. | |
| Proj. Eng. <i>L. Rains</i> 3 JAN 75 | Elec. Eng. <i>L. Rains</i> 3 JAN 75 | REV. H |

| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|-------------------------|---------|-----------|------|-------------|------|--------|
| D | PROD RE | 11-22 | <i>AK</i> | | | | |
| D | Incorporates ECN 74-120 | 11-26 | <i>AK</i> | | | | |
| D | Incorporates ECN 74-124 | 12-14 | <i>AK</i> | | | | |
| F | REV PER ECN 1045 | 1/13/75 | <i>AK</i> | | | | |
| G | REV PER ECN 1075 | 1/20/75 | <i>AK</i> | | | | |
| H | Rev per ECN 1257 | 3/21/75 | <i>AK</i> | | | | |

| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|---|
| 1 | 37-7400 | 2 | Integrated Circuit, 7400 |
| 2 | 37-7402 | 6 | " " 7402 |
| 3 | 37-7404 | 4 | " " 7404 |
| 4 | 37-74H04 | 1 | " " 74H04 |
| 5 | 37-7408 | 2 | " " 7408 |
| 6 | 37-74H08 | 1 | " " 74H08 |
| 7 | 37-7410 | 2 | " " 7410 |
| 8 | 37-7420 | 2 | " " 7420 |
| 9 | 37-74S20 | 2 | " " 74S20 |
| 10 | 37-7474 | 11 | " " 7474 |
| 11 | 37-7486 | 3 | " " 7486 |
| 12 | 37-74107 | 5 | " " 74107 |
| 13 | 37-74165 | 4 | " " 74165 |
| 14 | 37-9316 | 20 | " " 9316 |
| 15 | 37-555 | 1 | " " 555 |
| 16 | 37-741 | 2 | " " 741 |
| 17 | 37-LM380 | 2 | " " LM380 |
| 18 | 37-MFC6040 | 2 | " " MFC 6040 |
| 19 | 37-LM309 | 1 | LM 309 K, Voltage Regulator |
| 20 | 10-5101 | 1 | Resistor, Carbon, 5%, 1/4 Watt, 100 ohm |
| 21 | 10-5102 | 10 | " " " " 1K ohm |
| 22 | 10-5103 | 2 | " " " " 10K ohm |
| 23 | 10-5104 | 3 | " " " " 100K ohm |
| 24 | 10-5105 | 3 | " " " " 1Meg ohm |
| 25 | 10-5221 | 1 | " " " " 220 ohm |
| 26 | 10-5225 | 1 | " " " " 2.2M ohm |
| 27 | 10-5333 | 6 | " " " " 33K ohm |
| 28 | 10-5472 | 3 | " " " " 4.7K ohm |
| 29 | | | |
| 30 | 10-5474 | 1 | " " " " 470K ohm |
| 31 | 10-5561 | 1 | " " " " 560 ohm |
| 32 | | | |
| 33 | | | |
| 34 | 10-5684 | 2 | " " " " 680K ohm |
| 35 | 10-5820 | 1 | " " " " 82 ohm |
| 36 | | | |
| 37 | 10-5334 | 1 | " " " " 330K ohm |
| 38 | 14-2472 | 2 | " " 2% " 4.7K ohm |
| 39 | 11-5271 | 2 | Resistor, Carbon, 5%, 1/2 Watt, 270 ohm |

ASSEMBLY TITLE TANK - BOARD 1

P/L 003110

PARTS LIST SPECIFICATION

Page 2 of 2

| Item | Part Number | Qty. | DESCRIPTION | Rev | H |
|------|-------------|------|---|-----|---|
| 40 | | | | | |
| 41 | 13-5P22 | 1 | Resistor, Carbon, 5%, ½ Watt, .22 ohm | | |
| 42 | 19-808W4PO | 1 | Resistor, Wirewound, 20%, 10 Watt, 4 ohm | | |
| 43 | 31-1N914 | 5 | Diodes, 1N 914 | | |
| 44 | 31-1N4001 | 2 | Diodes, 1N 4001 | | |
| 45 | 32-1N5229 | 1 | Diodes, Zener, 1N 5229B, 4.3V, 5%, Motorola | | |
| 46 | 31-MR501 | 2 | Diodes, MR 501 | | |
| 47 | 34-2N3643 | 8 | Transistor, 2N 3643 | | |
| 48 | 33-2N3644 | 4 | Transistor, 2N 3644 | | |
| 49 | 34-2N5190 | 1 | Transistor, 2N 5190 | | |
| 50 | 34-2N5193 | 1 | Transistor, 2N 5193 | | |
| 51 | 34-MJE200 | 1 | Transistor, MJE 200 | | |
| 52 | 19-311503 | 2 | Trimpot, 50K | | |
| 53 | 19-311103 | 2 | Trimpot, 10K | | |
| 54 | 19-311105 | 1 | Trimpot, 1 Meg | | |
| 55 | 27-120104 | 19 | Capacitor, Ceramic Disc Bypass, .1 uf | | |
| 56 | 27-101102 | 7 | " " " .001 uf | | |
| 57 | 24-250105 | 6 | " Electrolytic, 1 uf, 25V | | |
| 58 | 24-250505 | 3 | " " 5 uf, 25V | | |
| 59 | 24-160107 | 2 | " " 100 uf, 16V | | |
| 60 | 24-060257 | 1 | " " 250 uf, 6V | | |
| 61 | 24-250478 | 1 | " " 4700 uf, 25V | | |
| 62 | 24-200808 | 1 | " " 8000 uf, 16V | | |
| 63 | 28-101221 | 1 | " Dipped Mica, 220 pf | | |
| 64 | 29-001 | 1 | " Tantalum, 100 uf, 10V | | |
| 65 | 69-001 | 1 | Switch, DPDT | | |
| 66 | 78-06002 | 1 | Heatsink, Thermalloy #6111B-66 | | |
| 67 | 78-06003 | 2 | HEATSINK, THERMALLOY #6011B | | |
| 68 | 72-1610S | 2 | Screw, Machine, , Pan Hd., Phil., 6-32 x 5/8" | | |
| 69 | 75-056 | 2 | Washer, Lock, Internal Star, #6 | | |
| 70 | 75-916S | 2 | Nut, Machine, Hex, 6-32 | | |
| 71 | 72-1412S | 2 | Screw, Machine, , Pan Hd., Phil., 4-40 x 3/4" | | |
| 72 | 75-044 | 2 | Washer, Split Lock, #4 | | |
| 73 | 75-914S | 2 | Nut, Hex, 4-40 | | |
| 74 | 003111 | 1 | Printed Circuit Board, #90124 | | |
| 75 | 10-5184 | 2 | Resistor, Carbon, 5%, ¼W, 180K ohm | | |
| 76 | 27-101103 | 1 | Capacitor, Ceramic Disc, .01 uf | | |
| 77 | 24-250507 | 3 | Capacitor, Electrolytic, 500uf, 25V | | |
| 78 | 10-5332 | 8 | RESISTOR CARBON, 5%, ¼W, 3.3K OHM | | |
| 79 | 31-A14F | 4 | Diode, G.E. Type A14F | | |

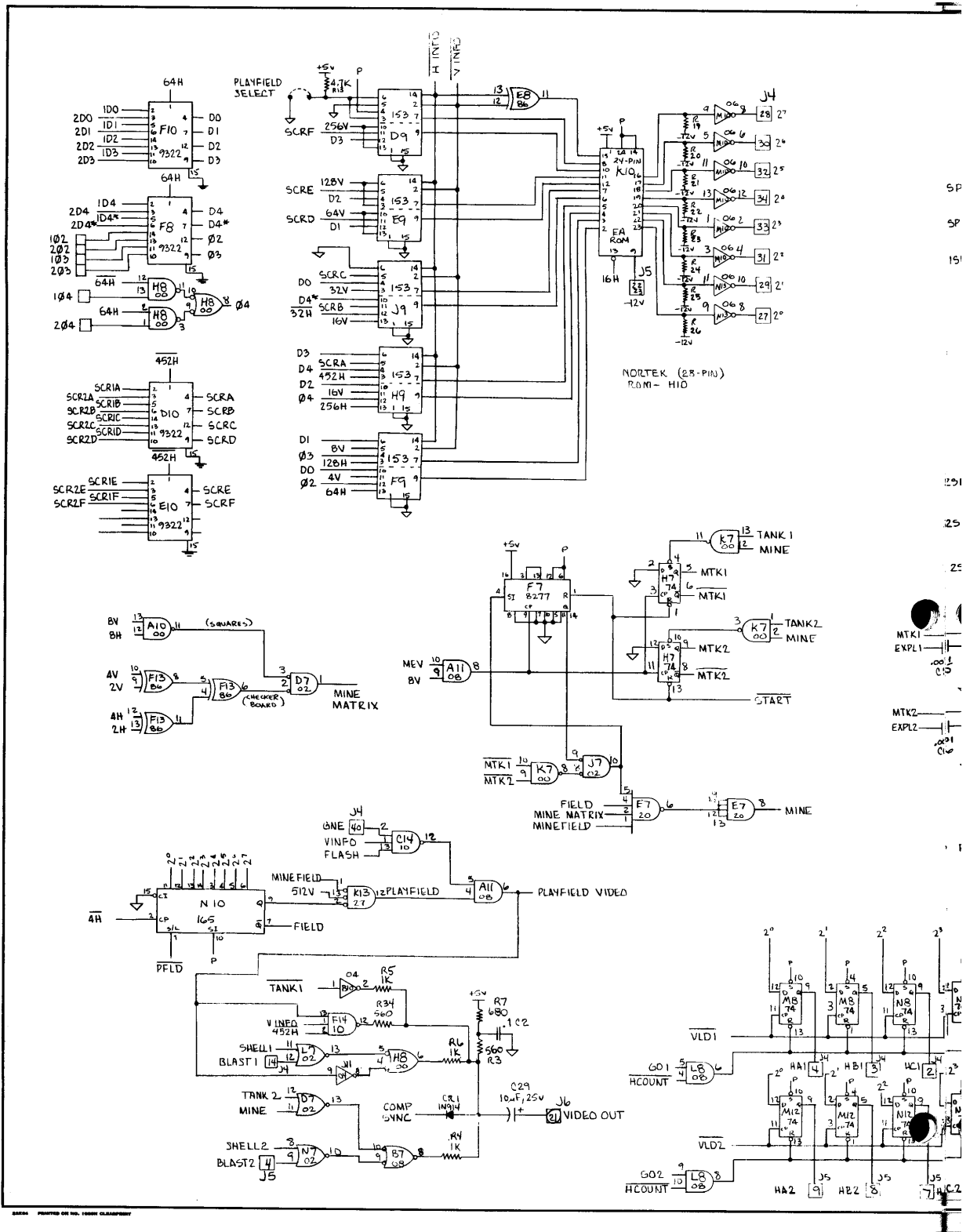
TANK



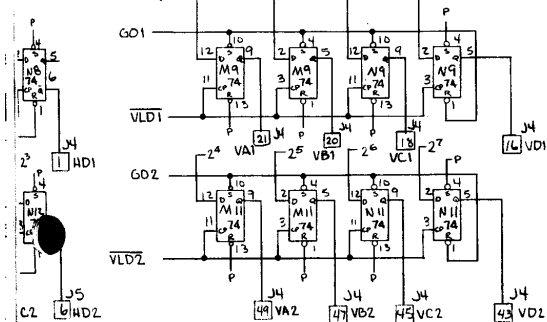
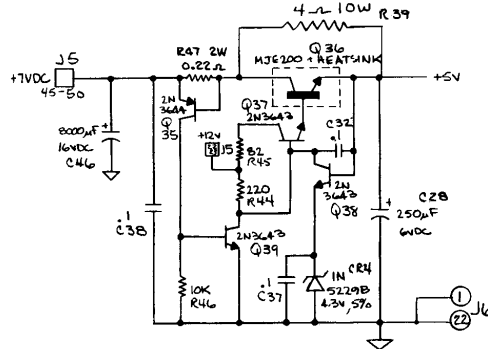
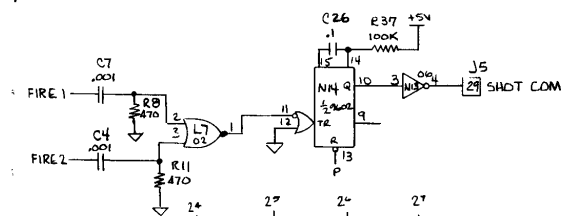
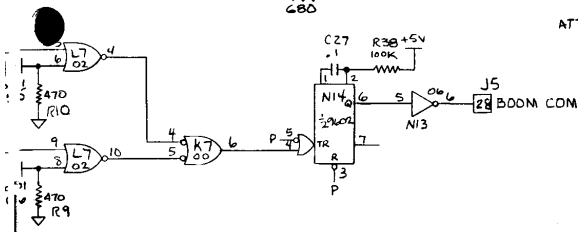
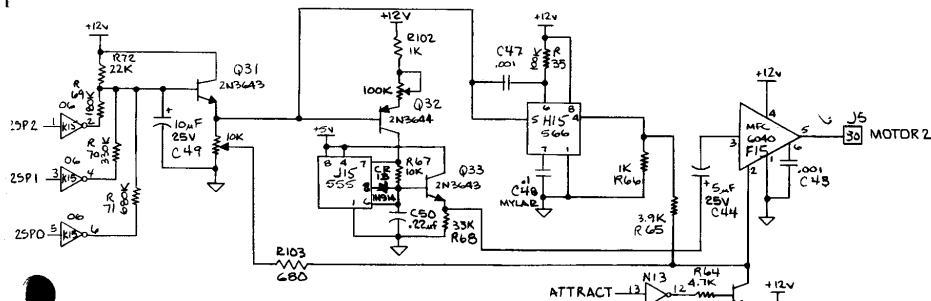
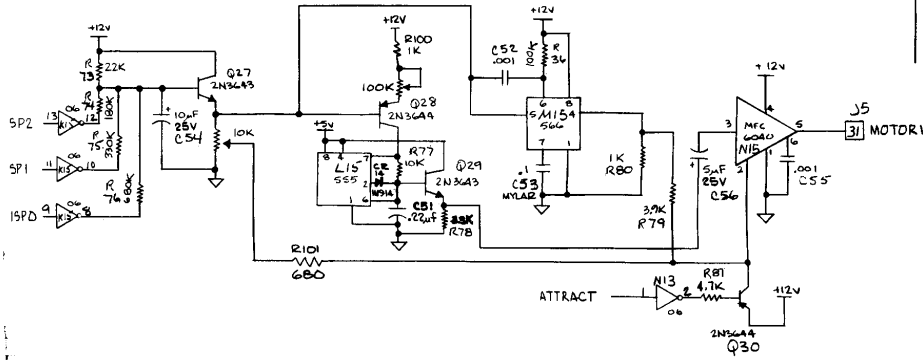
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|--------------------------|------------------|-----------------------------|
| ASSEMBLY TITLE | TANK - BOARD 2 | P/L 003112 |
| PARTS LIST SPECIFICATION | | Page 1 of 2 |
| Drawn | | |
| Checked | M.J. 8/25/75 | Mech. Eng. |
| Proj. Eng. | A. Rain 3 JAN 75 | Elec. Eng. A. Rain 3 JAN 75 |
| | | REV. G |

| Rev. | Description | Date | Apprv. | Rev. | Description | Date | Apprv. |
|------|-------------------------|---------|--------|------|-------------|------|--------|
| D | PROD REF | 11-22 | AR | | | | |
| D | Incorporates ECN 74-120 | 11-26 | AR | | | | |
| D | Incorporates ECN 74-122 | 12-11 | AR | | | | |
| F | PER ECN 1047 | 7/3/75 | AR | | | | |
| G | PER ECN 1482 | 6/11/75 | AR | | | | |

| Item | Part Number | Qty. | DESCRIPTION |
|------|-------------|------|---|
| 1 | 37-7400 | 12 | Integrated Circuit, 7400 |
| 2 | 37-7402 | 11 | " " 7402 |
| 3 | 37-7404 | 4 | " " 7404 |
| 4 | 37-74H04 | 1 | " " 74H04 |
| 5 | 37-7406 | 3 | " " 7406 |
| 6 | 37-7408 | 4 | " " 7408 |
| 7 | 37-7410 | 6 | " " 7410 |
| 8 | 37-7420 | 2 | " " 7420 |
| 9 | 37-7427 | 1 | " " 7427 |
| 10 | 37-7474 | 16 | " " 7474 |
| 11 | 37-7486 | 2 | " " 7486 |
| 12 | 37-7492 | 1 | " " 7492 |
| 13 | 37-7493 | 7 | " " 7493 |
| 14 | 37-74107 | 3 | " " 74107 |
| 15 | 37-74153 | 5 | " " 74153 |
| 16 | 37-74165 | 1 | " " 74165 |
| 17 | 90-2006 | 1 | 16K Tank Rom E.A. #4800SD |
| 18 | 37-74193 | 2 | Integrated Circuit, 74193 |
| 19 | 37-8277 | 1 | " " 8277 |
| 20 | 37-9316 | 4 | " " 9316 |
| 21 | 37-9321 | 1 | " " 9321 |
| 22 | 37-9322 | 4 | " " 9322 |
| 23 | 37-9602 | 3 | " " 9602 |
| 24 | 37-555 | 2 | " " 555 |
| 25 | 37-556 | 1 | " " 556 |
| 26 | 37-566 | 2 | " " 566 |
| 27 | 37-MFC6040 | 2 | " " MFC 6040 |
| 28 | 10-5101 | 10 | Resistor, Carbon, 5%, 1/4 Watt, 100 ohm |
| 29 | 10-5102 | 12 | " " " " 1K ohm |
| 30 | 10-5103 | 3 | " " " " 10K ohm |
| 31 | 10-5104 | 4 | " " " " 100K ohm |
| 32 | 10-5221 | 1 | " " " " 220 ohm |
| 33 | 10-5223 | 2 | " " " " 22K ohm |
| 34 | 10-5331 | 2 | " " " " 330 ohm |
| 35 | 10-5333 | 3 | " " " " 33K ohm |
| 36 | 10-5334 | 2 | " " " " 330K ohm |
| 37 | 10-5392 | 2 | " " " " 3.9K ohm |
| 38 | 10-5471 | 6 | " " " " 470 ohm |

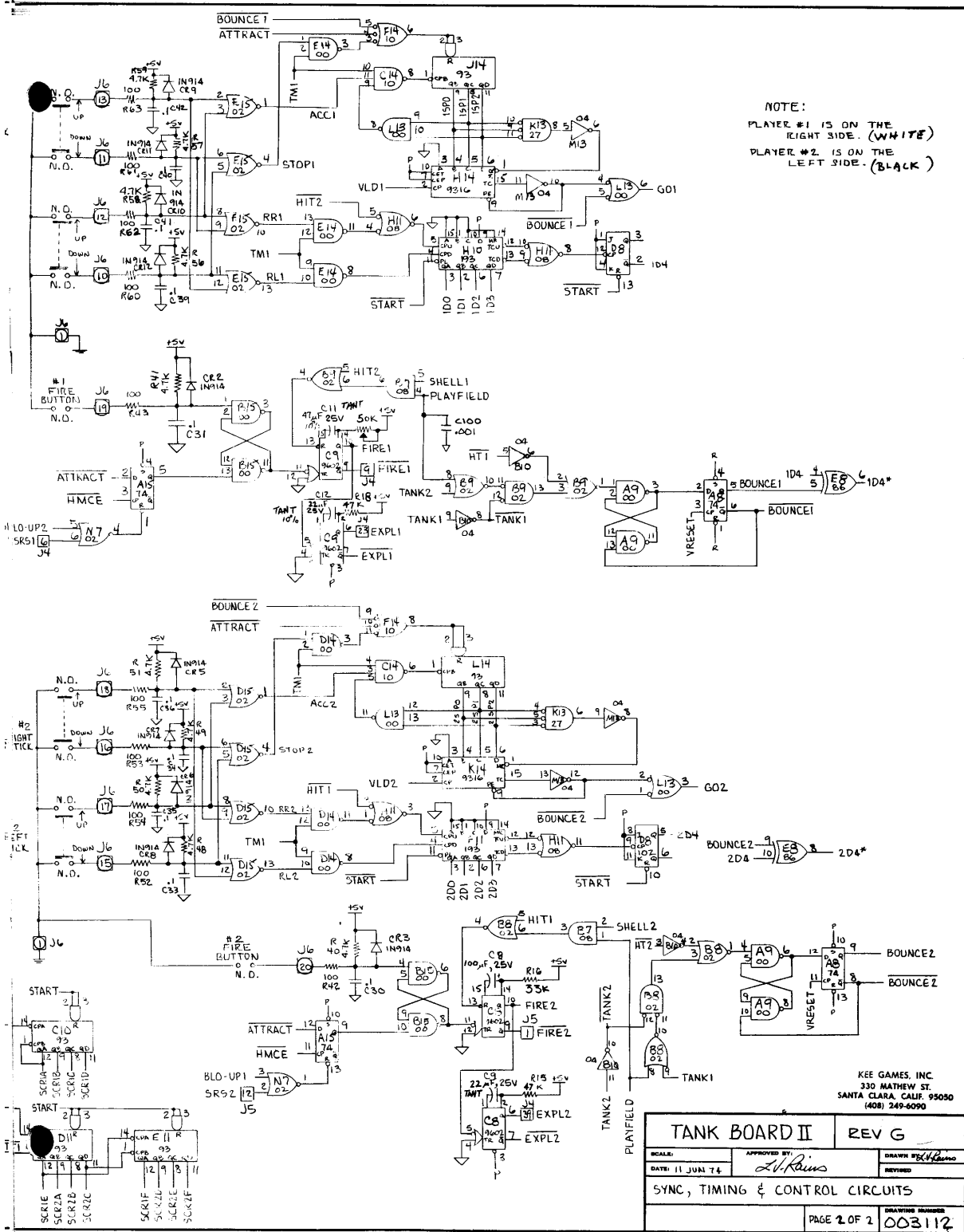


| SYN | DESCRIPTION | DATE | APP |
|-----|-------------------|------|-----|
| F | REV PER ECN 10A-7 | 10/7 | KEE |
| G | REV PER ECN 14-B2 | 1/82 | KEE |



KEE GAMES, INC.
330 MATHEW ST.
SANTA CLARA, CALIF. 95050
(408) 249-6090

| TANK BOARD II | | REV G |
|---|------------------------|----------------------|
| SCALE: | APPROVED BY: | DRAWN BY: <i>KEE</i> |
| DATE: 10 JUNE 74 | | REVISED: |
| ROM MUXING, PLAYFIELD, MINEFIELD, SOUND | | |
| PAGE 8 OF 2 | DRAWING NUMBER: 003112 | |



NOTE:
 PLAYER #1 IS ON THE
 RIGHT SIDE. (WHITE)
 PLAYER #2 IS ON THE
 LEFT SIDE. (BLACK)

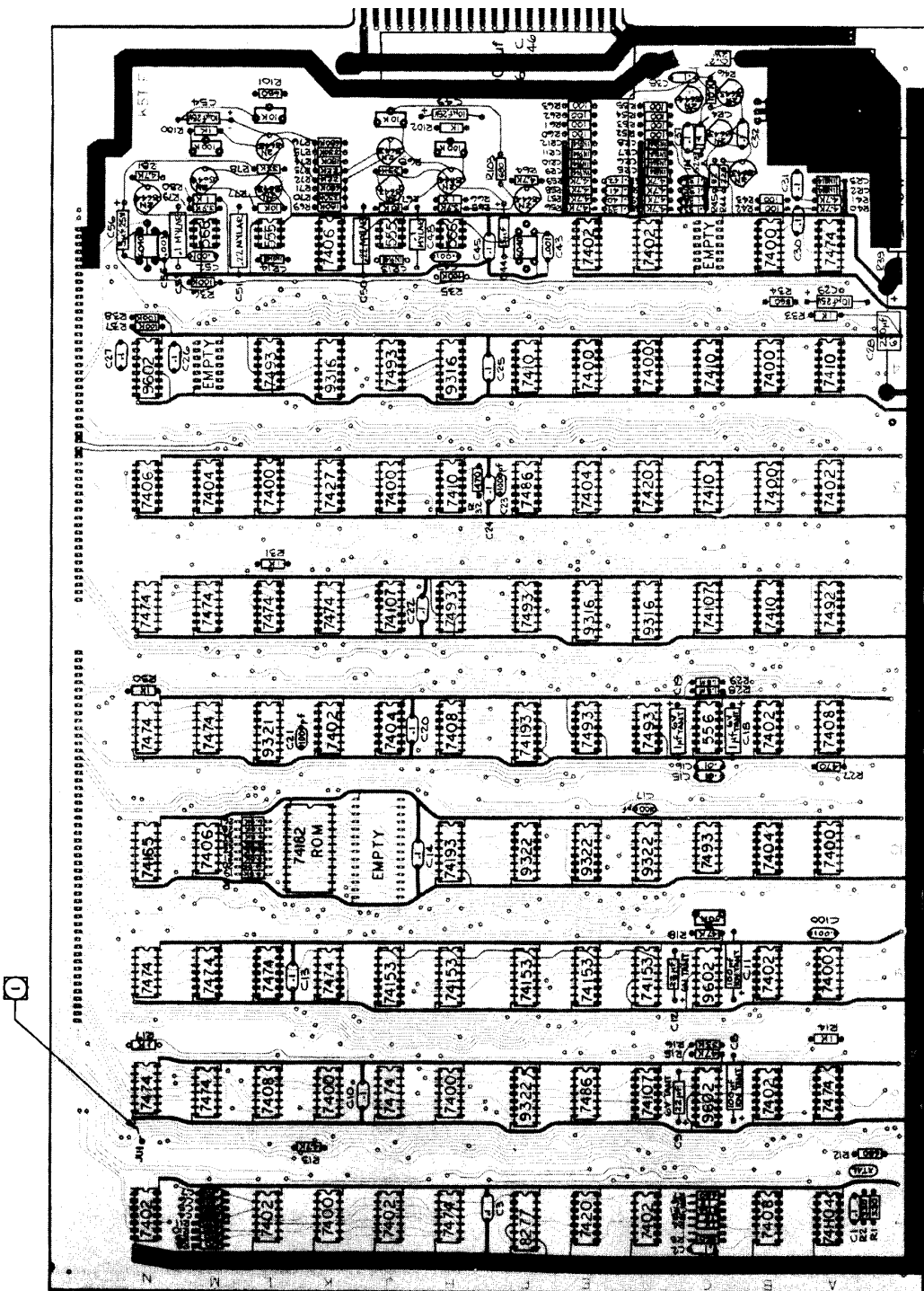
KEE GAMES, INC
 330 MATHEW ST.
 SANTA CLARA, CALIF. 95050
 (408) 249-6090

| | | |
|---------------------------------|-----------------------------------|--------------------------------|
| TANK BOARD II | | REV G |
| SCALE: | APPROVED BY: <i>L.H. Rains</i> | DRAWN BY: <i>L.H. Rains</i> |
| DATE: 11 JUN 74 | | REVISION: |
| SYNC, TIMING & CONTROL CIRCUITS | | |
| DRAWING NUMBER | | 003112 |
| PAGE 2 OF 2 | | |

PARTS LIST SPECIFICATION

Page 2 of 2

| Item | Part Number | Qty. | DESCRIPTION | Rev | G |
|------|-------------|------|--|-----|---|
| 39 | 10-5472 | 14 | Resistor, Carbon, 5%, 1/4 Watt, 4.7K ohm | | |
| 40 | 10-5473 | 1 | " " " " 47K ohm | | |
| 41 | 10-5561 | 2 | " " " " 560 ohm | | |
| 42 | 10-5681 | 4 | " " " " 680 ohm | | |
| 43 | 10-5682 | 8 | " " " " 6.8K ohm | | |
| 44 | 10-5820 | 1 | " " " " 82 ohm | | |
| 45 | 10-5184 | 2 | " " " " 180K ohm | | |
| 46 | 10-5185 | 2 | " " " " 1.8M ohm | | |
| 47 | 13-5P22 | 1 | " " " 2 Watt, .22 ohm | | |
| 48 | 19-808W4PO | 1 | " Wirewound, 20%, 10W, 4 ohm | | |
| 49 | 31-1N914 | 13 | Diode, 1N 914 | | |
| 50 | 32-1N5229 | 1 | Diode, Zener, 1N 5229B, 4.3V, 5%, Motorola | | |
| 51 | 34-2N3643 | 7 | Transistor, 2N 3643 | | |
| 52 | 33-2N3644 | 5 | Transistor, 2N 3644 | | |
| 53 | 34-MJE200 | 1 | Transistor, MJE 200 | | |
| 54 | 19-311103 | 2 | Trimpot, 10K | | |
| 55 | 19-311503 | 1 | Trimpot, 50K | | |
| 56 | 90-101 | 1 | Crystal, 14.31818 mhz | | |
| 57 | 27-120104 | 26 | Capacitor, Ceramic Disc Bypass, .1 uf | | |
| 58 | 27-101103 | 2 | " " " .01 uf | | |
| 59 | 27-250105 | 9 | " " " .001 uf | | |
| 60 | 28-101101 | 3 | " Dipped Mica, 100 pf | | |
| 61 | 29-004 | 2 | " Tantalum, 1 uf, 6V | | |
| 62 | 29-003 | 2 | " " 22 uf, 6V | | |
| 63 | 29-001 | 2 | " " 100 uf, 10V | | |
| 64 | 21-101224 | 2 | " Mylar, .22 uf | | |
| 65 | 24-250505 | 2 | " Electrolytic, 5 uf, 25V | | |
| 66 | 24-250106 | 3 | " " 10 uf, 25V | | |
| 67 | 24-060257 | 1 | " " 250 uf, 6V | | |
| 68 | 24-200808 | 1 | " " 8000 uf, 16V | | |
| 69 | 79-42424 | 1 | Socket, 24 pin | | |
| 70 | 78-06002 | 1 | Heatsink, Thermalloy #6111B-66 | | |
| 71 | 55-6125 | 4 | Flex Strip Jumper, 25 Conductor, Ansley #FSN-23A | | |
| 72 | 72-1412S | 2 | Screw, Machine, , Pan Hd., Phil., 4-40 x 3/4" | | |
| 73 | 75-044 | 2 | Washer, Split Lock, #4 | | |
| 74 | 75-914S | 2 | Nut, Hex 4-40 | | |
| 75 | 003113 | 1 | Printed Circuit Board, #90125 | | |
| 76 | 10-5684 | 2 | Resistor, Carbon, 5%, 1/4W, 680K ohm | | |
| 77 | 19311104 | 2 | Trimpot, 100K ohm | | |
| 78 | 21-101104 | 2 | Capacitor, Mylar .1 uf | | |
| 79 | _____ | 1 | Jumper, (30 AWG, Insulated) | | |



NOTES:

1 JUI IS AN OPTIONAL JUMPER FOR ALTERNATE PLAYFIELD (± 30 AWG, INSULATED)

