

WILLIAMS

16-3025-101
June 1, 1984

TURKEY SHOOT®

SERVICE MANUAL

For service...

Call your authorized
WILLIAMS distributor

WILLIAMS
Electronics, Inc.
3401 N. California Ave.
Chicago, IL 60618

TURKEY SHOOT
ROM SUMMARY

ROM	PART NO.	DESCRIPTION	IC NO.	BOARD	ERROR CODE OR INDICATION
Sound ROM	A-5343-10706	2764 PROM, 8Kx8	IC8	CPU	no sound
TURKEY SHOOT 2	A-5343-10707	2732 PROM, 4Kx8	IC9	CPU	feathers
TURKEY SHOOT 3	A-5343-10708	2732 PROM, 4Kx8	IC10	CPU	spkr clicks
TURKEY SHOOT 4	A-5343-10709	2764 PROM, 8Kx8	IC11	CPU	213
TURKEY SHOOT 5	A-5343-10710	2764 PROM, 8Kx8	IC12	CPU	209
TURKEY SHOOT 6	A-5343-10711	2764 PROM, 8Kx8	IC13	CPU	205
TURKEY SHOOT 7	A-5343-10712	2764 PROM, 8Kx8	IC14	CPU	201
TURKEY SHOOT 8	A-5343-10713	2764 PROM, 8Kx8	IC15	CPU	214
TURKEY SHOOT 9	A-5343-10714	2764 PROM, 8Kx8	IC16	CPU	210
TURKEY SHOOT 10	A-5343-10715	2764 PROM, 8Kx8	IC17	CPU	206
TURKEY SHOOT 11	A-5343-10716	2764 PROM, 8Kx8	IC18	CPU	202
TURKEY SHOOT 12	A-5343-10717	2764 PROM, 8Kx8	IC19	CPU	215
TURKEY SHOOT 13	A-5343-10718	2764 PROM, 8Kx8	IC21	CPU	207
TURKEY SHOOT 14	A-5343-10719	2764 PROM, 8Kx8	IC23	CPU	216
TURKEY SHOOT 15	A-5343-10720	2764 PROM, 8Kx8	IC24	CPU	none
TURKEY SHOOT 16	A-5343-10721	2764 PROM, 8Kx8	IC25	CPU	208
TURKEY SHOOT 17	A-5343-10722	2764 PROM, 8Kx8	IC26	CPU	204
Special Chip 2	A-5410-10083	Special Chip	IC29	CPU	--
Special Chip 2	A-5410-10083	Special Chip	IC30	CPU	--
Clock-ROM 1	A-5282-10295	82S123 ROM, 32x8	IC14	VIDEO	no video
TURKEY SHOOT 21	A-5343-10726	2764 PROM, 8Kx8	IC41	VIDEO	vert lines
Horiz-sync ROM 1	A-5282-10294	82S129 ROM, 256x4	IC47	VIDEO	--
TURKEY SHOOT 18	A-5343-10723	2732 ROM, 4Kx8	IC55	VIDEO	gobbles
TURKEY SHOOT 19	A-5343-10724	2764 PROM, 8Kx8	IC57	VIDEO	vert lines
TURKEY SHOOT 20	A-5343-10725	2764 ROM, 8Kx8	IC58	VIDEO	vert lines
Decoder-ROM 5A (Horizontal)	A-5282-10292	6349 ROM, 512x8	IC60	VIDEO	--

CPU-BOARD JUMPERS: W1, W3, W6, W8, W10, W11, W14 and W16. Remove jumper W11 for cocktail games.

NOTICE

TO ORDER REPLACEMENT ROMS from your authorized WILLIAMS distributor, specify (1) part number shown above, (2) ROM-label color, (3) REV level (number) on the label, and (4) which game the ROM is used in.

Examine your Game

- [] INSPECT THE OUTSIDE of the carton or game cabinet for shipping damage.
- [] UNLOCK AND OPEN the bottom-rear door. Now check circuitry.
- [] ARE CONNECTORS SECURELY ATTACHED? Reconnect any found loose. DON'T FORCE CONNECTORS. They're keyed and only fit one way.
- [] ARE PLUG-IN CHIPS FIRMLY SEATED in their sockets?
- [] UNWRAP THE POWER CORD coiled inside the cabinet. DON'T PLUG IT IN YET!
- [] SCRUTINIZE MAJOR SUBASSEMBLIES, such as the monitor, control panel, transformer chassis and power supply. Make sure they're securely-mounted.
- [] UNDO THE CONTROL-PANEL LATCHES. You can reach these two from the coin door by extending your arm upward and to either side. Now check connectors and circuitry as above.

Control Locations

- // THE ON-OFF SWITCH is below the back door.
- // THE POWER-INTERLOCK SWITCH is behind the bottom-right corner of the back door. The interlock switch is a spring-loaded DPDT type that will turn off the game when you remove the panel. For servicing purposes, pull the switch out and the game will power up.
- // THE VOLUME-CONTROL is inside the coin-door and to your right.
- // THREE DIAGNOSTIC SWITCHES are mounted together on a bracket behind the coin door. These switches are used to access the Diagnostic-Mode Tests, the BOOKKEEPING TOTALS screen and the GAME ADJUSTMENTS screen.
- // THE MEMORY-PROTECT INTERLOCK SWITCH is behind the coin door. This switch must be open when you clear BOOKKEEPING TOTALS or make GAME ADJUSTMENTS. It automatically opens when the coin door is open.
- // THE CPU-BOARD RESET SWITCH is on the CPU board near the batteries.
- // THE CASHBOX ADVANCE SWITCH found inside the cashbox door allows bookkeeping information to be audited without permitting it to be zeroed.
- // THE SOUND DIAGNOSTIC SWITCH is on the CPU board near the small heatsink. Refer to Sound Self-Test for information on its use.

Power Turn-On

WARNING

THREE-WIRE PLUG. This game must be plugged into a properly-grounded outlet to prevent shock hazard and to assure proper game operation. DO NOT use a "cheater" plug to defeat the ground pin on the power cord, and DO NOT cut off the ground pin.

WARNING

FCC STICKER. Check the back of your game to see that an FCC sticker was attached to your game at the factory. All games that leave WILLIAMS' plants have been tested and found to comply with FCC Rules. As the sticker is proof of this fact, legal repercussions to the owner and distributor of the game may result if the sticker is missing. If you receive any WILLIAMS game (manufactured after December 1982) that has no FCC sticker, call WILLIAMS for advice or write us a note on your game-registration card. Be sure the card bears your game's serial number.

WHEN THE GAME IS FIRST TURNED ON general illumination should light. A moment later the scanning "rug pattern" indicating RAM/ROM test should appear on the screen.

IN A CORRECTLY-RUNNING GAME tests will be followed by the message "INITIAL CHECKS INDICATE ALL SYSTEMS GO." If failure messages come up on the screen instead, refer to Built-In Test Procedures.

DEMAGNETIZE THE GAME with a television degaussing-coil. Besides the monitor, remember to degauss large steel parts (for example, the back-door hinge). Do this as a daily procedure. Otherwise residual magnetism may cause color impurities that adversely affect your collections.

Game Operation

GAME START

INSERT COINS. The game allocates an adjustable number of credits per coin and displays this number on the CRT. Factory settings are one credit for two quarters. At factory settings, when two credits are displayed, pressing 2-PLAYER START initiates a two-player game.

PLAYER CONTROLS

//SHOOT mischievous turkeys with the laser gun.

//PRESS GOBBLE! Freeze the turkeys and pick them off with the gun!

//PRESS GRENADE! Eliminate several turkeys in one blast!

GAME PLAY

WITH A HAND ON HIS GUN, his GOBBLE and GRENADE buttons at the ready, the player defends his territory from marauding TURKEYS! He's given 100 missions to eliminate all the turkeys.

HE CAN TAKE AIM with his laser gun using the cursor on the screen to home in on his enemies. Or he can launch a GRENADE to blast all turkeys within range. Once each mission he can activate his GOBBLE button to momentarily freeze all the turkeys.

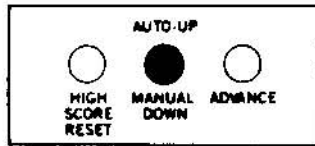
ASTUTE PLAYERS learn that most turkeys can be eliminated by a shot to the body. However the cyborg mechano-turkey persists until they hit him in the head. No turkey will succumb to a shot in the leg!

MISSIONS REQUIRE QUICK REACTIONS to clever ploys such as turkey air-raids, turkeys disguising themselves as businessmen and turkey helicopter-getaways. Every 8th wave earns a rapid-fire bonus where the player has 15 seconds to eliminate as many turkeys as possible. The player can score bonus points by shooting fire hydrants and trashcans as well as by freeing hostages.

THREE FOWLUPS are allowed. These occur whenever a turkey escapes or when an innocent bystander is injured.

Bookkeeping Totals

BOOKKEEPING TOTALS SHOW YOU AT A GLANCE if game settings are bringing you a satisfactory return on your investment! Only games by WILLIAMS ELECTRONICS have this feature. Think of it as a unique way to keep your TURKEY SHOOT game the leader of the pack when it comes to earnings...location after location, week in and week out!



Diagnostic Button Switches

ENTERING BOOKKEEPING MODE. Inside the coin door is a bracket with three button switches. Set the AUTO-UP/MANUAL-DOWN (center) switch to AUTO-UP. Press the ADVANCE switch to display BOOKKEEPING TOTALS on the screen. Now check those totals. Here's what to look for...

BOOKKEEPING TOTALS

LEFT SLOT COINS	432
CENTER SLOT COINS	0
RIGHT SLOT COINS	398
PAID CREDITS	830
EXTRA MISSIONS EARNED	226
TOTAL PLAY TIME [HOUR: MIN]	34:28
TOTAL MEN PLAYED	689
TOTAL SINGLE PLAYER	548
TOTAL TWO PLAYER	141
TOTAL CREDITS PLAYED	830
AVERAGE TIME /GAME [MIN:SEC]	2:00

Bookkeeping screen

AVERAGE TIME PER CREDIT: TWO MINUTES. Your most important figure on the BOOKKEEPING TOTALS screen is AVERAGE TIME/GAME. You'll want to pay special attention to this figure every day for this reason: Thorough field and factory research has shown that two-minute games both satisfy players and also keep the quarters flowing.

If games aren't running about two minutes long, then collections probably aren't at their peak. You'll want to tailor your game to your game-playing public. It's easy. But only WILLIAMS games let you do it!

GAME ADJUSTMENTS

EXTRA FOWL EVERY	50000	RECOMMENDED
MISSIONS FOR 1 CREDIT GAME	3	RECOMMENDED
ATTRACT MODE SOUNDS	YES	
PRICING SELECTION	5	1/FIFTY 2/DOLLAR
LEFT SLOT UNITS	1	
CENTER SLOT UNITS	4	
RIGHT SLOT UNITS	1	
UNITS REQUIRED FOR CREDIT	2	
UNITS REQUIRED FOR BONUS CREDIT	0	
MINIMUM UNITS FOR ANY CREDIT	0	
DIFFICULTY OF PLAY	5	RECOMMENDED
GUN RECOIL	YES	
RESTORE FACTORY SETTINGS	NO	
CLEAR BOOKKEEPING TOTALS	NO	
HIGH SCORE TABLE RESET	NO	
AUTO CYCLE	NO	

[PLAYER 1 START] TO MOVE UP - [PLAYER 2 START] TO MOVE DOWN
[GOBBLE] TO INCREASE VALUE - [GRENADE] TO DECREASE VALUE

PRESS ADVANCE TO EXIT

Adjustments Screen Showing Factory Settings

Exclusive Game Adjustments

1. Inside the coin door is a bracket with three button switches. Set the AUTO-UP/MANUAL-DOWN (center) switch to AUTO-UP.
2. Press the ADVANCE switch twice. The GAME ADJUSTMENTS screen will come up.
3. Use PLAYER 2 START to move down to the desired adjustment.
4. Use PLAYER 1 START to move up.
5. Use GOBBLE (raise value or yes) or GRENADE (reduce value or no) to alter the value of an adjustment.

Now for the multiple-choice section! Choose one or more:

//Use GOBBLE or GRENADE to choose the appropriate difficulty level (0 = easiest or extra liberal, 5 = average, 9 = hardest or extra conservative).

//SELECT GAME PRICING with standard or custom settings. See the Pricing Table later in this chapter.

Pricing Table

Coin-Door Mechanism	Games/Price	Pricing Selection	Left Slot Units	Center Slot Units	Right Slot Units	Units Req'd For Credit	Units Req'd For Bonus Credit	Min. Units For Any Credit
Twin Quarter	●1/25¢, 4/\$1	3	1	4	1	1	0	0
Quarter,	1/25¢, 5/\$1	0	1	4	1	1	4	0
Dollar,	2/50¢, 4/\$1	0	1	4	1	1	0	2
Quarter	2/50¢, 5/\$1	0	1	4	1	1	4	2
	●1/50¢, 2/\$1	5	1	4	1	2	0	0
	1/50¢, 3/\$1, 4/\$1.25	0	3	12	3	4	15	0
	1/\$1	0	1	4	1	4	0	0
	1/50¢, 3/\$1, 7/\$2	0	12	48	12	14	96	24
1DM, 5DM	2/1DM, 12/5DM	0	12	0	2	2	0	0
	●1/1DM, 6/5DM	2	6	0	1	1	0	0
1 Franc, 5 Franc	●1/2F, 3/5F only	4	1	16	6	2	0	0
25-Cent, 1 Guilder	●1/25¢, 4/1G 1/25¢, 5/1G	6 0	1 1	0 0	4 4	1 1	0 4	0 0
5 Franc, 10 Franc	●1/5F, 2/10F ●1/10F	7 8	1 1	0 0	2 2	1 2	0 0	0 0
1 Franc, 2 Franc	●2/1F, 5/2F	2	6	0	1	1	0	0
100 Lire, 200 Lire	●1/200 Lire	8	1	0	2	2	0	0
Twin Coin	●1/1 Coin ●1/2 Coins 1/4 Coins 1/2 Coins, 3/4 Coins 1/3 Coins, 2/5 Coins	3 5 0 1 0	1 1 1 1 2	4 4 4 4 0	1 1 1 1 2	1 2 4 2 5	0 0 0 4 0	0 0 0 0 0
	●1/2, 3/5	4	1	16	6	2	0	0
1-Unit, 5-Unit	1/1, 5/5 1/3, 2/5	0 0	1 2	0 0	5 10	1 5	0 0	0 0
Any	●Free Play	9	1	4	1	1	0	0

Game Pricing

PRICING SELECTION allows a shorthand method of setting the pricing functions. If a number from one to nine is entered into the PRICING SELECTION function, a corresponding standard setting (shown in the pricing table above) will be entered into the game. The rest of the pricing functions are automatically set for that standard.

FOR CUSTOM SETTINGS first set PRICING SELECTION to zero. Then set the remaining values according to the Pricing Table.

THE GAMES : PRICE RATIO is equivalent to the ratio X : VC

where:

X = SLOT UNITS

V = COIN VALUE

C = UNITS REQUIRED FOR CREDIT

For example at factory settings with quarter chutes the variables produce 1 : 25x2 or one game for two quarters.

Diagnostic-Mode Tests

SET THE AUTO-UP/MANUAL-DOWN SWITCH to the MANUAL-DOWN position and press ADVANCE. The game is now in its Diagnostic Mode and a ROM test is performed. With ROM test results present on the CRT display, set the AUTO-UP/MANUAL-DOWN switch to the AUTO-UP position. Enter subsequent tests by pressing ADVANCE once more for each test. After the last test, Game-Over Mode commences.

AUTO-CYCLE MODE permits continuous ROM, RAM and CMOS RAM tests to detect failures that only appear after numerous checksum comparisons. If an error is detected Auto-Cycle Mode is aborted and a failure message is displayed on the CRT.

1. Open the coin door. It must remain open for AUTO CYCLE.
2. Display GAME ADJUSTMENTS.
3. Move down to AUTO CYCLE.
4. Display YES.
5. Press ADVANCE.
6. To enter Game-Over Mode turn the game off and on.

Built-In Test Procedures

POWER-UP TESTS

RAM TEST. A rug pattern scans across the screen. Only screen RAMS (dynamic type) are tested. A bad RAM is indicated on the CPU-board LED-indicator by an error code between 100 and 199 (eg., 1-3-1; see the table of Screen-RAM Error Codes below). If a RAM error is indicated, check all three DC power-voltages on the RAM indicated: -5/pin 1, +12/pin 8, +5/pin 9. None of these should have more than a few millivolts of AC on it. Never replace a RAM chip until you prove that these voltages are normal!

Screen-RAM Error Codes

CHIP	98	99	100	101	102	103	104	105
CODE	115	116	117	118	111	112	113	114
CHIP	106	107	108	109	110	111	112	113
CODE	125	126	127	128	121	122	123	124
CHIP	114	115	116	117	118	119	120	121
CODE	135	136	137	138	131	132	133	134

ROM TEST. A bad ROM is indicated on the CPU-board LED-indicator by an error code between 200 and 299 (eg., 2-1-1; see the ROM Summary for codes). An error message may also appear on the CRT. Power down and replace bad chips.

CMOS-DATA TEST. Checksums are compared. If the CMOS RAM fails the test, FACTORY SETTINGS RESTORED appears on the CRT.

DIAGNOSTIC-MODE TESTS

RAM AND ROM TESTS... These tests are repeated, only the ROM test is performed first. Refer to RAM Test and ROM Test above.

CMOS-RAM TEST. A chip error is displayed on the CRT and the LED readout on the CPU board. If the CMOS RAM is bad, the error code 3 will appear on the LED readout.

SOUND, COIL AND LAMP TEST. Sound-lines 1 through 6 are tested. In addition, the grenade and gun lamps, feather and gun coils are checked. One by one, sound lines, lamps or coils are pulsed. When a sound line is pulsed, its number is shown on the CRT. You should hear a separate sound for each sound line. If a sound is missing, its corresponding line is stuck high (that is, open) or stuck low (that is, shorted to ground). If two lines produce the same sound, they're shorted together. Use AUTO-UP to cycle through all the sounds, coils and lamps. With MANUAL-DOWN, you'll continuously test one sound-line, lamp or coil.

SWITCH TEST. The name of the switch is highlighted when that switch is closed. Opto switches (used to determine gun position) are tested in a special way: Watch the graph on the left side and bottom of the switch-test screen as you move the gun. The graph should change color ("move") smoothly. If the graph appears to "jump," adjust the optos for smooth movement. To exit the switch test you must hold ADVANCE down until the next screen appears.

THE CROSSHATCH PATTERN aids the technician in converging the monitor.

THE PURITY SCREENS (solid red, green and blue screens) are intended for monitor adjustments and for checking the color RAMs. If these screens show contaminated colors, degauss the screen and adjust the purity magnets. If colors are missing, one of your color RAMs may be bad. A purity screen with vertical lines through it also signals a color-RAM error. (Please don't confuse the purity screens with the crosshatch pattern or color bars pattern. These test patterns are supposed to have vertical lines!)

THE COLOR BARS are intended for monitor adjustments and for checking the color RAMS. The bars serve as a color and brightness reference when you adjust the color drives and cutoffs, screen and black-level controls. If colors are missing or the wrong colors are displayed, you may have a bad color RAM. From the left side of the CRT, here are the colors you should see: red, green, blue, black, white, yellow, cyan and magenta.

Sound Self-Test

1. NO SOUND IN DIAGNOSTIC-MODE TEST: Check the sound-select inputs (pins 2 through 9 of IC 4) on the CPU board for pulsing during the test. Also check for shorts between sound lines.
2. STILL NO SOUND: Turn the volume control all the way up. With the game turned on, momentarily place a powered-up AC soldering-pencil on the center tap of the volume control. DO NOT use a soldering iron of over 40 watts. Cordless models will NOT work here.
 - (A) If you hear a low hum, the power-amplifier chip (TDA2002A), volume control and speaker are okay.
 - (B) If you don't hear a hum, try the test again with the volume control turned halfway up.
3. GARbled SOUNDS: One at a time, replace microprocessor IC27 and Sound Rom IC8 on the CPU board.
4. THE SOUND DIAGNOSTIC BUTTON on the CPU board isn't used in this game. If you accidentally press this button, game sounds will be disabled until you turn the game off and on again.

TURKEY SHOOT Circuitboards & Gun Mechanism

<u>PART NO.</u>	<u>DESCRIPTION</u>
C-10525	opto PC-board
C-8809	heatsink assembly
D-9444 or D-8784	power-supply PC-board
D-9868	video PC-board
D-9886	power-transformer chassis
D-10395	CPU PC-board
D-10413	interface PC-board
D-10289	gun-mechanism
SFL-24-750-DC	gun coil-assembly
SFL-25-750-DC	feather-dispenser coil

Warnings & Notices

WARNING

FOR SAFETY AND RELIABILITY, WILLIAMS does not recommend or authorize any substitute parts or modifications of WILLIAMS equipment.

USE OF NON-WILLIAMS PARTS and modifications of game circuitry may adversely affect game play, or may cause injuries.

SUBSTITUTE PARTS OR EQUIPMENT MODIFICATIONS may void FCC type-acceptance.

SINCE THIS GAME IS PROTECTED by Federal copyright, trademark and patent laws, unauthorized game-conversions may be illegal under Federal law.

THIS "CONVERSION" PRINCIPLE ALSO APPLIES to unauthorized facsimiles of WILLIAMS equipment, logos, designs, publications, assemblies and games (or game features not deemed to be in the public domain), whether manufactured with WILLIAMS components or not.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to correct the interference.

RF-INTERFERENCE NOTICE

CABLE PLACEMENT and ground-strap routing on this game have been designed to keep RF radiation and conduction within levels accepted by FCC regulations.

TO MAINTAIN THESE LEVELS, reposition harnesses and reconnect ground straps to their original placements if they should be disconnected during maintenance.

"TURKEY SHOOT" is a trademark of Williams Electronics, Inc.

TURKEY SHOOT GUN ASS'Y. (D-10302)

ITEM	PART NO.	DESCRIPTION	QTY.
1	03-7890	GUN, MOLDED	1
2	B-10293	GUN SHAFT ASS'Y	1
3	03-7891-24	GUN NOZZLE	1
4	C-10423-3025-1	3025 BTN ASSY GRND	1
5	4106-01099-16B	S.T.S. #6 TORX (T-15) TRX-PH	2
6	4106-01099-18B	S.T.S. #6 TORX (T-15) TRX-PH	5
7	4106-01099-06B	S.T.S. #6 TORX (T-15) TRX-PH	1
8	4106-01099-26B	S.T.S. #6 TORX (T-15) TRX-PH	2
9	03-7786	P/GRIP TRIGGER	1
10	01-7994	T/S TRIG. SPRING	1
11	5647-10163-00	TRIGGER SWITCH	1
12	H-10328	GUN CABLE	1
13	4106-01009-06	SMS #6 x 3/8 P.PH P	4
14	A-10512	SKT. & BULB #1866 ASSY.	1
15	A-10441	COIL BRKT SUB-ASSY	1
16	01-7991	T/S COIL RET BRKT	1
17	02-4211	T/S KICKER PLUNGER	1
18	10-257	SPRING-CREDIT BTN	1
19	SPL-24/750-DC	3025 GUN COIL ASSY	1
20	23-6557-9	NEOPRENE GASKET	2
21	5791-09138-00	9P1625 03-06-2092	1
22	RM-23-01	H.S. TUBING 1/8 POLY	1

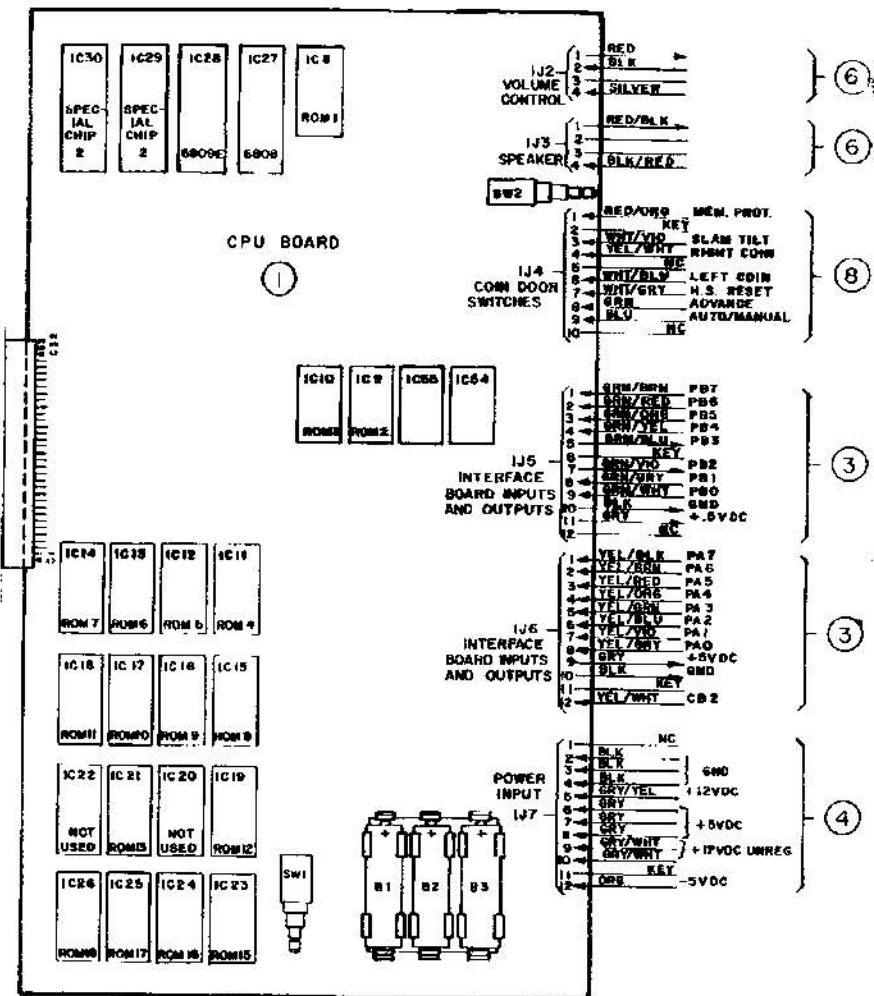
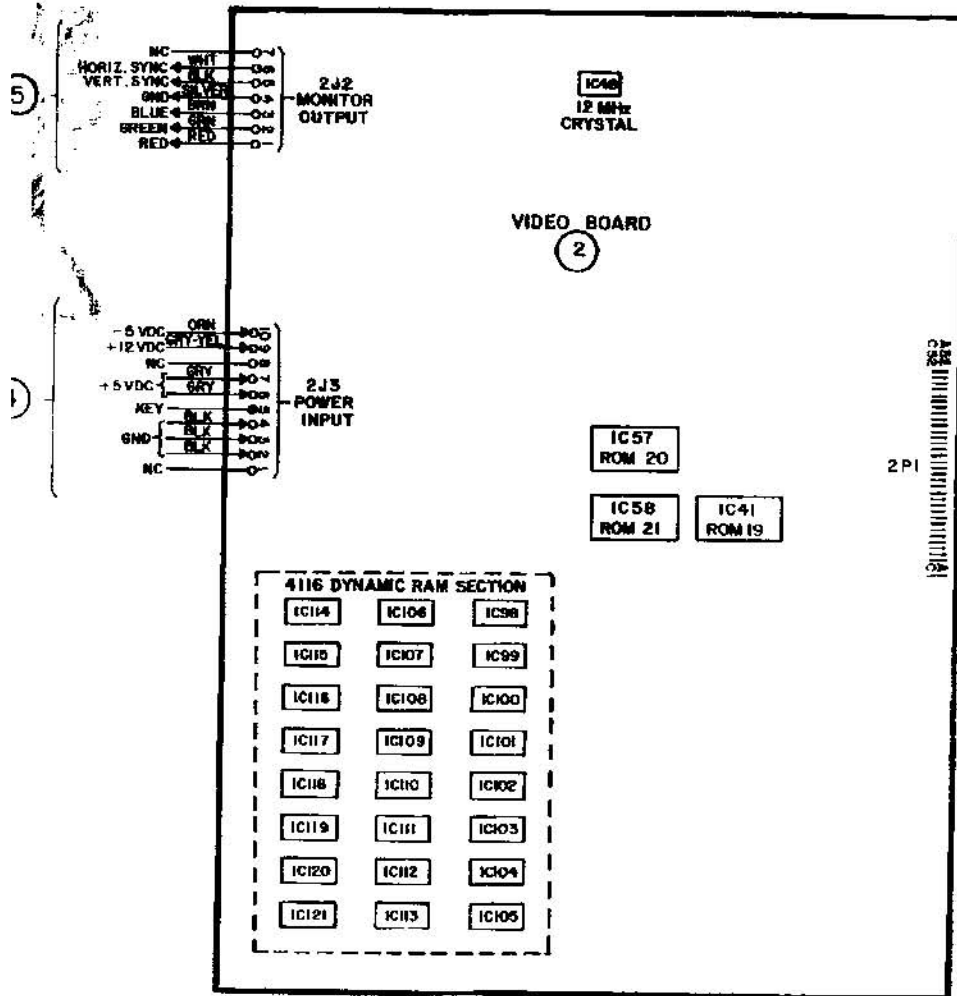
9-PIN MALE CONNECTOR

PIN	COLOR	FUNCTION
1	ORG-BLK 22	SW. GND
2	ORG-BRN 22	TRIGGER SW.
3	ORG-RED 22	GRENAD SW.
4	BLK-RED 22	LAMP COMMON 6V D.C.
5	BLK-RED 22	TRIGGER LAMP ON-OFF
6	BLK-ORG 22	GRENAD LAMP ON-OFF
7	BLK-YEL 18	TRIGGER SOLENOID ON-OFF
8	BLK-BLU 18	SOLENOID COMMON (+12V D.C.)
9	NOT USED	

WHITE HOUSING 5791-09138-00 (REF.). Install item 21 after wires are installed in gun shaft.

FEATHER CHAMBER ASSY. (D-10344)

ITEM	PART NO.	DESCRIPTION	QTY.
1	11-768	FTR DEVICE FRAME	1
2	01-7906	F/D GLASS CLAMP	2
3	4206-01016-08	WS #6 x 1/2 P-RH	4
4	03-7902	FTR DEVICE SCREEN	1
5	4208-01041-10	WS #8 x 1/2 P-FH	6
6	01-7927	FEATHER GUIDE	2
7	01-7979	F/D FLOW DIVIDER	1
8	31-1228-3025-U	3025 P/D COVER	1
9	08-7424	FTR DEVICE GLASS	1
10	20-9435	FEATHERS	80
11	23-6573-4	NEOPRN GSKT 17"	2



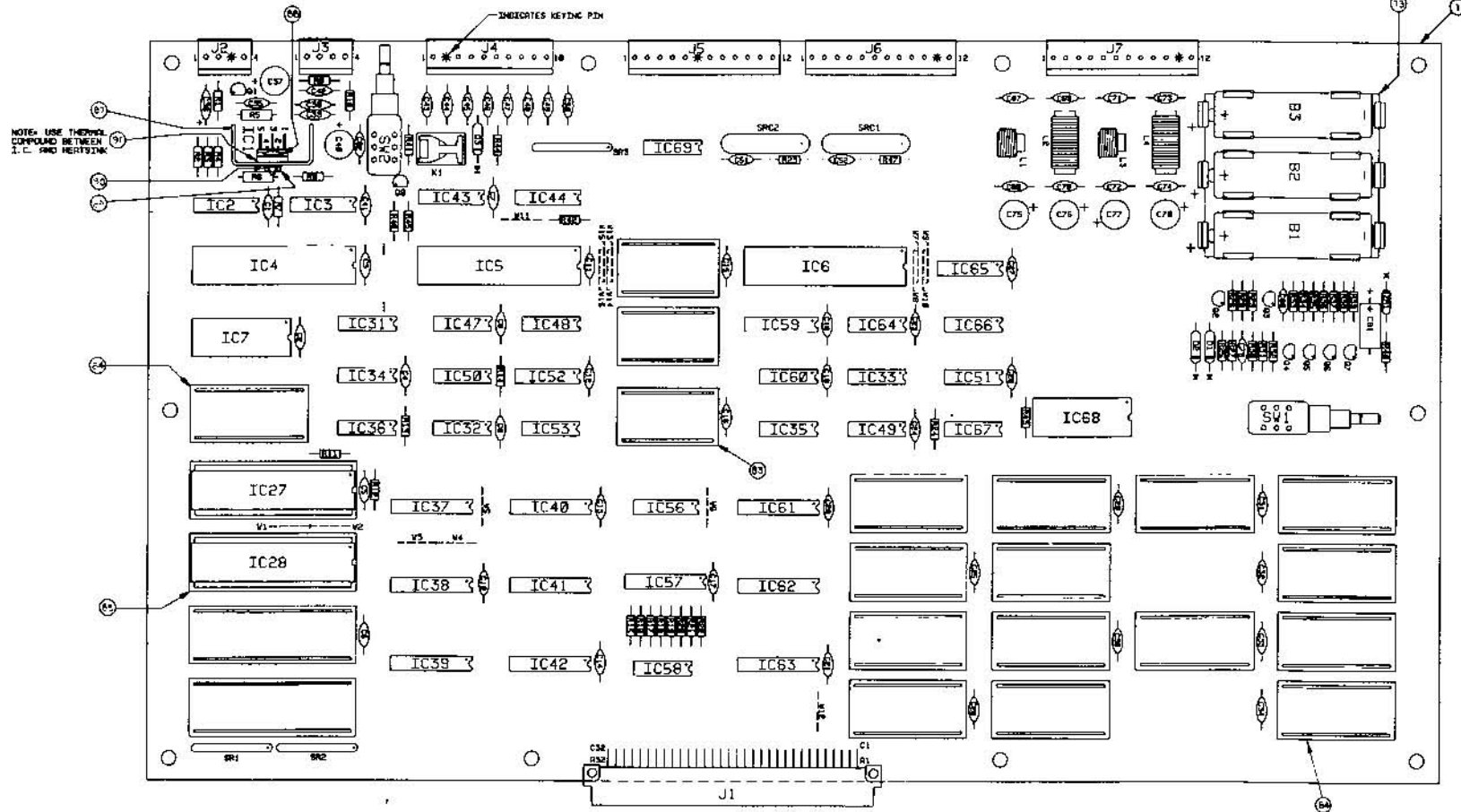
CONNECTOR KEY

- | | |
|-------------------|--------------------------|
| 1 CPU BOARD | 7 CONTROL PANEL |
| 2 VIDEO BOARD | 8 COIN DOOR |
| 3 INTERFACE BOARD | 9 CASH BOX |
| 4 POWER SUPPLY | 10 VERTICAL OPTO-BOARD |
| 5 MONITOR | 11 HORIZONTAL OPTO-BOARD |
| 6 CABINET | 12 GUN |

Circuitboards & Gun Mechanism

PART NO.	DESCRIPTION
C-10544	opto PC-board subassembly
C-8809	heatsink assembly
D-9444 or D-8784	power-supply PC-board
D-9868	video PC-board
D-9886	power-transformer chassis
D-10395	CPU PC board
D-10413	interface PC-board
D-10289	gun mechanism
SFL-24-750-DC	gun coil-assembly
SFL-25-750-DC	feather-dispenser coil

NAME	DATE
AGE	12-8-68
	1-28-69

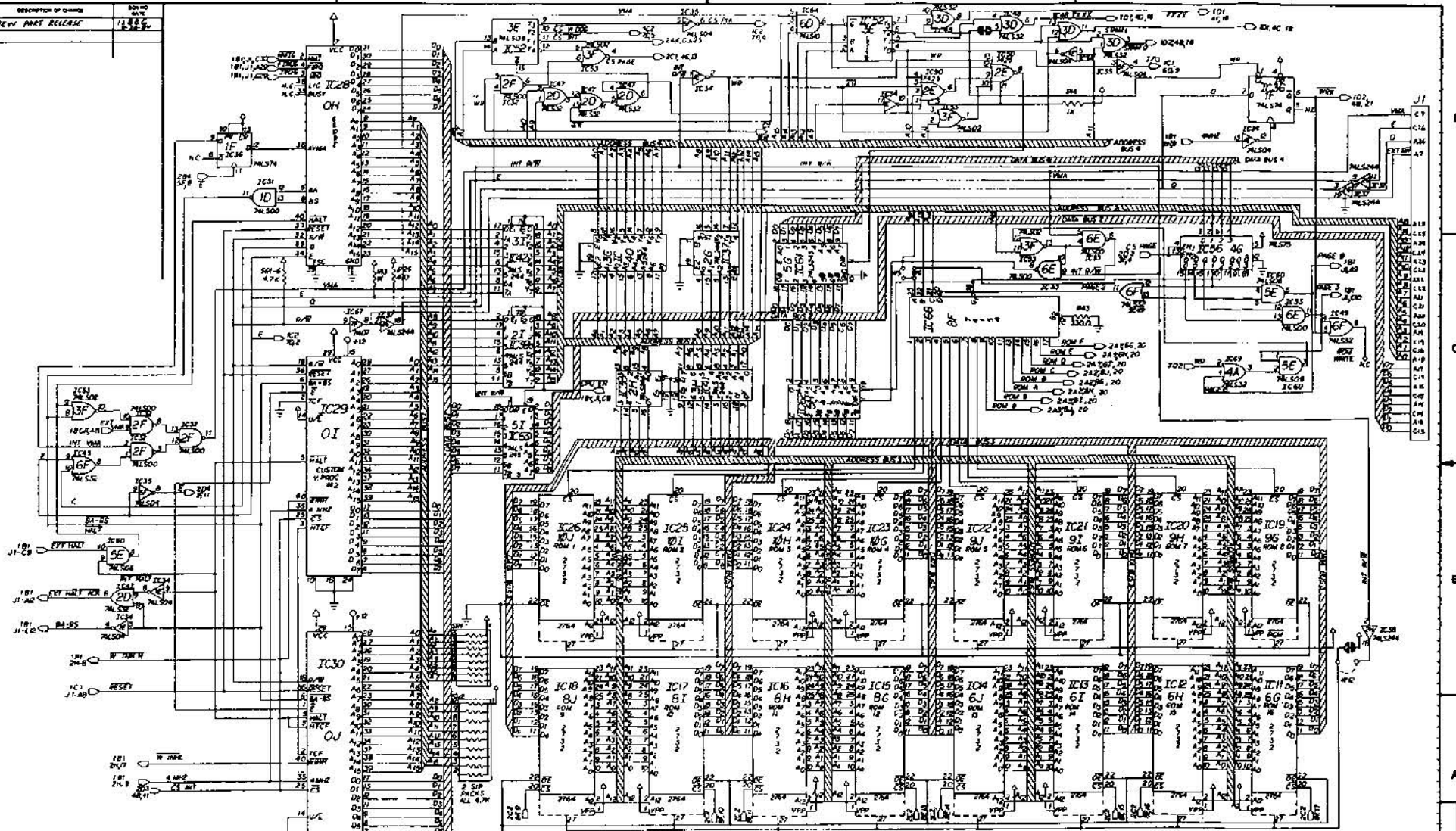


TURKEY SHOOT

ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
PROJ ENGR S. C. HERSCHLER		DO NOT SCALE WORK TO DIMENSIONS SHOWN		REMOVE BURRS - BREAK SHARP EDGES		WILLIAMS ELECTRONICS, INC.	
OWN BY DATE 1-11-69		TOLERANCES FRACTIONAL: UNLESS OTHERWISE SPECIFIED 1/64 ANGULAR .1" MATERIAL .005 FAILETS .020 MAX		3401 N. CALIFORNIA AVE CHICAGO, ILL. 60618		NAME CPU PC BOARD SUB-ASSEM.	
CHECKED BY DATE 1-28-69		FIRST PROJECT NO. 3025		SCALE 1/8" = 1"		PART NO. D-10394	
APPROVAL DATE 1-27-69		FIRST USAGE D-10375		MATERIAL C-10		REV SMT_Loc2	

DESCRIPTION OF CHANGE
NEW PART RELEASE

REVISED
11-27-74



ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
PROJ ENGR	S.C. ANDERSON	DO NOT SCALE WORK TO DIMENSIONS SHOWN		WILLIAMS ELECTRONICS, INC. 3401 CALIFORNIA AVE CHICAGO, ILL. 60648 NAME: SCHEMATIC CPU SCALE: N/S PART NO: 16-8907 REV:			
CHKD BY	DATE	FIRST PROJECT NO	FIRST USAGE				
DATE	DATE	DATE	DATE				
DATE	DATE	DATE	DATE				

62068-91

REV	DESCRIPTION OF CHANGE	DATE
NEW PART RELEASE		12/1/83
A	REVISION ON ASSY 12/1/83	12/1/83

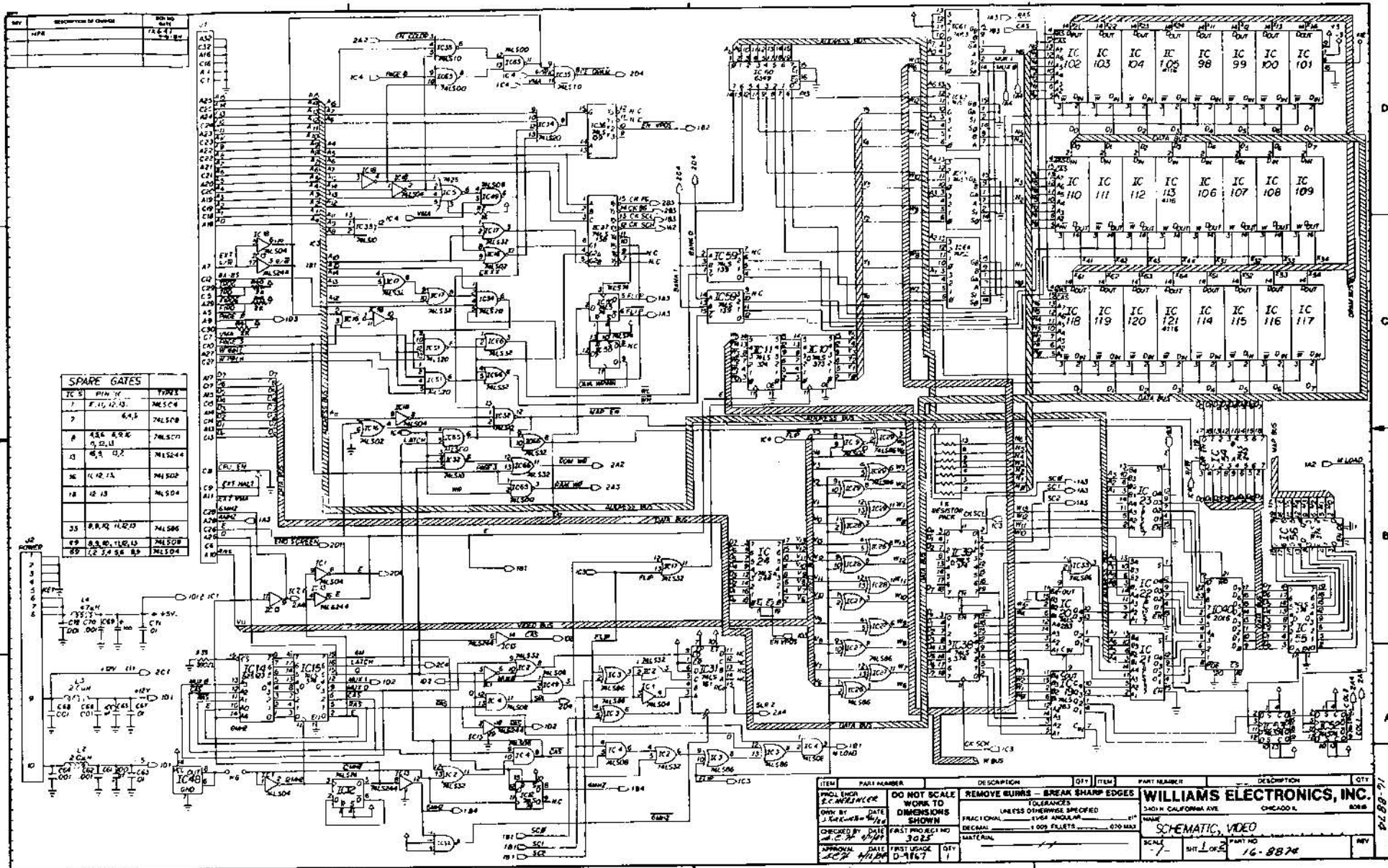
NOTES:

- FOR SCHEMATIC, REFER TO DWG. #16-8874
- I.C., 74LS86: IC3, IC26, IC27, IC28, IC29, IC33, IC84.
- I.C., 74LS74: IC6, IC12, IC25, IC56, IC59, IC53.
- I.C., 74LS274: IC11, IC15, IC38, IC39, IC55, IC56, IC78, IC86, IC89, IC95, IC98.
- I.C., 74LS157: IC21, IC22, IC23, IC86, IC77, IC81, IC82.
- I.C., 74LS161: IC51, IC45, IC44, IC45, IC46.
- I.C., 74188: IC73, IC74, IC94, IC95, IC96, IC97.
- I.C., 4116: IC89, IC93, IC104, IC181, IC182, IC183, IC184, IC185, IC186, IC187, IC188, IC189, IC118, IC111, IC112, IC113, IC114, IC115, IC116, IC117, IC118, IC119, IC120, IC121.
- RESISTOR, 1K OHM: R1, R2, R3, R4, R5, R32, R33, R37, R38.
- RESISTOR, 2K OHM: R6, R12, R16, R28, R29, R29, R36, R48, R41, R42.
- CAPACITOR, .01 MFD: C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C53, C67, C71, C75, C74, C75, C76, C77, C78, C79, C80, C81, C85, C85, C84, C85, C86, C87, C88, C89, C88, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100, C101, C102, C103, C104, C105, C106, C107, C108.
- CAPACITOR, .001 MFD: C52, C54, C66, C68, C78, C78.
- DIODE, 1N4148: D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19.

ITEM	PART NO.	PART DESCRIPTION	DESCRIPTION	QTY.	ITEM	PART NO.	PART DESCRIPTION	DESCRIPTION	QTY.	ITEM	PART NO.	PART DESCRIPTION	DESCRIPTION	QTY.	
87	5188-18203-00	Q1, D2, Q3, Q4, Q5	TRANSISTOR, 2N3904 NPN 10-32	5	28	5288-18817-00	SEE NOTE #7	I.C., 74188, 8 BIT SHIFT REGISTER	6	27	5281-89739-00	IC71, IC72, IC85	I.C., 74LS158, QUAD 2 TO 1 MULTIPLEXER	5	
86	56				26	5280-89481-00	IC61, IC62, IC63, IC64	I.C., 74155, QUAD 4 TO 1 MULTIPLEXER	4	25	A-5282-18253	IC68	I.C. NOR2, DECODE ROM 5B	8	
85	55				3	5281-18252		I.C. NOR2, DECODE ROM 5A	1	24	5281-89588-00	IC54, IC85, IC87	I.C., 74LS245, OCTAL BUS TRANSCEIVER	3	
84	54	5843-89845-00	C62, C64, C65, C68, C78, C79	CAPACITOR, AXIAL, .001 MFD, 50V +/-20%	6	23	5281-18829-00	IC49	I.C., 74135, 12 PIN DDC 17	1	22	A-5282-18294	IC47	I.C., NOR2, SYNC ROM	1
83	53	5848-89421-00	C61, C65, C69	CAPACITOR, RADIAL, 100 MFD, 25V +/-50%	3	21	5248-18133-00	IC40	I.C., IC5516AP-2 CMOS 5 RAM 2K X 8 200 NS	8	20	5281-89745-00	IC37	I.C., 74LS138, 3 TO 8 DECODER	1
82	52	5843-89396-00	C68	CAPACITOR, CERAMIC, .1 MFD, 50V +/-20%	1	19	5281-89246-00	IC36, IC59	I.C., 74LS138, DECODE ROM 2 7/4 DECODE	2	18	5281-10814-00	IC34, IC51, IC58	I.C., 74LS280, DUAL 4-INPUT NAND	3
81	51	5843-89844-00	C54, C55, C56, C57	CAPACITOR, CERAMIC, .02 MFD, 50V +/-20%	4	17	5281-89735-00	SEE NOTE #6	I.C., 74LS161, BINARY COUNTER	5	16	5281-89235-00	IC38, IC32, IC35	I.C., 74LS138, TRIPLE 3-INPUT NAND	3
88	58	5843-89865-00	C51, C52, C53	CAPACITOR, CERAMIC, .01 MFD, 50V +/-20%	3	15	5281-89738-00	SEE NOTE #5	I.C., 74LS157, QUAD 2 TO 1 MULTIPLEXER	7	14	5281-89734-00	IC19, IC20	I.C., 74LS285, 4 BIT ADDER	2
78	48	5843-89908-00	SEE NOTE #11	CAPACITOR, CERAMIC, .01 MFD, 50V +/-20%	89	13	A-5282-18295		I.C., DUAL CLOCK ROM	1	12	5281-89867-00	IC13, IC24	I.C., 74LS244, OCTAL BUF	2
77	47	5819-89669-00	SRI	RESISTOR, C.F., 1K OHM, 5% 18 PIN SIP	1	11	5281-89486-00	SEE NOTE #4	I.C., 74LS374, OCTAL D.F.F.	11	10	5281-89556-00	IC18, IC81, IC82, IC93	I.C., 74LS975, OCTAL D LATCH	4
76	46	5818-89534-00	V2, V4, V5, V6	RESISTOR, 8 OHM	4	9	5281-89247-00	IC9, IC16	I.C., 74LS88, QUAD 2-INPUT NOR	2	8	5281-89493-00	IC6, IC65	I.C., 74LS88, QUAD 2-INPUT NAND	2
75	45	5818-89541-00	R36	RESISTOR, C.F., 2.7K OHM, 2% 1/4 WATT	1	7	5281-89487-00	SEE NOTE #3	I.C., DUAL D.F.F.	6	6	5280-89551-00	IC5	I.C., 7425, DUAL 4-INPUT W/STROBE NOR	1
74	44	5818-89541-00	R35	RESISTOR, C.F., 2.7K OHM, 2% 1/4 WATT	1	5	5281-89743-00	IC4, IC7, IC49	I.C., 74LS88, QUAD 2-INPUT AND	3	5	5281-89737-00	SEE NOTE #2	I.C., 74LS88, QUAD 2-INPUT EXOR	7
73	43	5818-18176-00	R35	RESISTOR, C.F., 2.7K OHM, 2% 1/4 WATT	1	4	5281-89528-00	SEE NOTE #1	I.C., 74LS88, QUAD 2-INPUT OR	5	3	5281-89528-00	IC1, IC18, IC69	I.C., 74LS84, HEX. INVERTER	3
72	42	5818-18883-00	R54, R59	RESISTOR, C.F., 390 OHM, 5% 1/4 WATT	2	1	5281-89737-00	SEE NOTE #2	BARE P.C. BOARD (REV. 2)	1					
71	41	5818-18178-00	R25, R29	RESISTOR, C.F., 47 OHM, 5% 1/4 WATT	3										
70	40	5818-89588-00	R31	RESISTOR, C.F., 270 OHM, 2% 1/4 WATT	1										
69	39	5818-89416-00	R22, R24, R26	RESISTOR, C.F., 470 OHM, 5% 1/4 WATT	3										
68	38	5818-18284-00	R9, R15, R17, R21	RESISTOR, C.F., 1K OHM, 2% 1/4 WATT	4										
67	37	5818-18285-00	SEE NOTE #10	RESISTOR, C.F., 2K OHM, 2% 1/4 WATT	10										
66	36	5818-18285-00	R7, R11, R15, R19	RESISTOR, C.F., 3.9K OHM, 5% 1/4 WATT	4										
65	35	5818-89219-00	R6, R18, R14, R10	RESISTOR, C.F., 8.2K OHM, 5% 1/4 WATT	4										
64	34	5818-89558-00	SEE NOTE #3	RESISTOR, C.F., 1K OHM, 5% 1/4 WATT	9										
63	33	5551-18161-00	L2, L3	COIL, RADIAL, 4.7 MH, 5 R.	2										
62	32	5551-89025-00	L1	COIL, RADIAL, 4.7 MH, 50 MH	1										
61	31	5348-89488-00	SEE NOTE #8	I.C., 4116 ROM/D 16K X 1, 450 NS	24										
60	30	5348-18819-00	IC75, IC76, IC77, IC78	I.C., 2148 ROM/S 1K X 4, 70 NS	8										
59	29	5348-18818-00	SEE NOTE #15	DIODE, 1N4148, 150 MH	19										

BILL OF MATERIALS

PROJ ENGR S. WRESCHLER OWN BY DATE R. DRY 5/20/83 CHECKED BY DATE C. H. 8/7/83 APPROVED DATE C. H. 11/1/83	DO NOT SCALE WORK TO DIMENSIONS SHOWN FIRST PROJECT NO 3022 PART NUMBER D-9867	REMOVE BURRS - BREAK SHARP EDGES TOLERANCES UNLESS OTHERWISE SPECIFIED FRACTIONAL .004 ANGULAR .30 MAX DECIMAL .003 PALLETS .002 MAX MATERIAL NONE	WILLIAMS ELECTRONICS, INC. 3401 N. CALIFORNIA AVE. CHICAGO, IL 60641 NAME VIDEO P. C. BOARD, SUB-ASSEMBLY SCALE 1:2 1 DWT. 2.02 PART NO D-9867 REV A
---	---	---	--

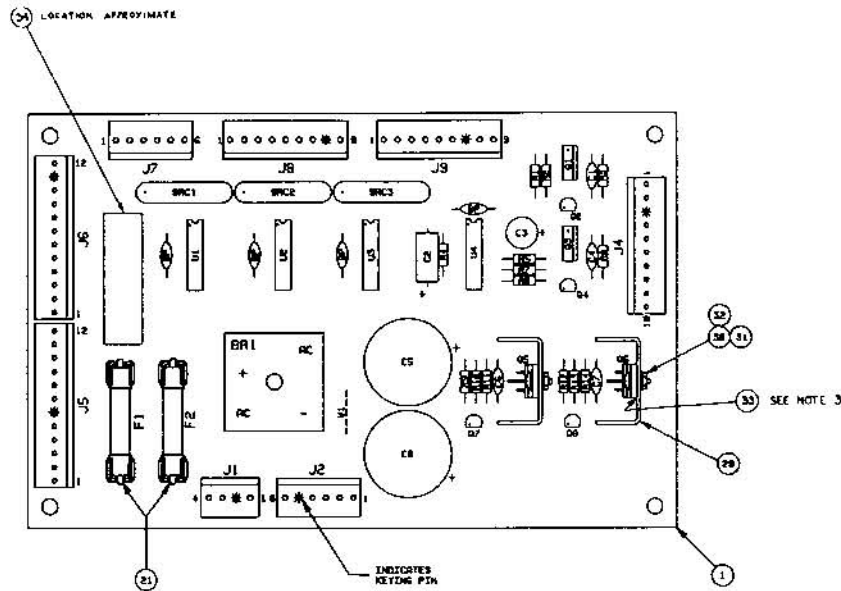


IC #	Pin	IC	Value
1	7	74LS04	1K
2	7	74LS04	1K
3	7	74LS04	1K
4	7	74LS04	1K
5	7	74LS04	1K
6	7	74LS04	1K
7	7	74LS04	1K
8	7	74LS04	1K
9	7	74LS04	1K
10	7	74LS04	1K
11	7	74LS04	1K
12	7	74LS04	1K
13	7	74LS04	1K
14	7	74LS04	1K
15	7	74LS04	1K
16	7	74LS04	1K
17	7	74LS04	1K
18	7	74LS04	1K
19	7	74LS04	1K
20	7	74LS04	1K
21	7	74LS04	1K
22	7	74LS04	1K
23	7	74LS04	1K
24	7	74LS04	1K
25	7	74LS04	1K
26	7	74LS04	1K
27	7	74LS04	1K
28	7	74LS04	1K
29	7	74LS04	1K
30	7	74LS04	1K
31	7	74LS04	1K
32	7	74LS04	1K
33	7	74LS04	1K
34	7	74LS04	1K
35	7	74LS04	1K
36	7	74LS04	1K
37	7	74LS04	1K
38	7	74LS04	1K
39	7	74LS04	1K
40	7	74LS04	1K

ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
1	74LS04	NOT SCALE		1	74LS04	NOT SCALE	
2	74LS04	WORK TO		2	74LS04	WORK TO	
3	74LS04	DIMENSIONS		3	74LS04	DIMENSIONS	
4	74LS04	SHOWN		4	74LS04	SHOWN	
5	74LS04	3025		5	74LS04	3025	
6	74LS04	3025		6	74LS04	3025	
7	74LS04	3025		7	74LS04	3025	
8	74LS04	3025		8	74LS04	3025	
9	74LS04	3025		9	74LS04	3025	
10	74LS04	3025		10	74LS04	3025	
11	74LS04	3025		11	74LS04	3025	
12	74LS04	3025		12	74LS04	3025	
13	74LS04	3025		13	74LS04	3025	
14	74LS04	3025		14	74LS04	3025	
15	74LS04	3025		15	74LS04	3025	
16	74LS04	3025		16	74LS04	3025	
17	74LS04	3025		17	74LS04	3025	
18	74LS04	3025		18	74LS04	3025	
19	74LS04	3025		19	74LS04	3025	
20	74LS04	3025		20	74LS04	3025	
21	74LS04	3025		21	74LS04	3025	
22	74LS04	3025		22	74LS04	3025	
23	74LS04	3025		23	74LS04	3025	
24	74LS04	3025		24	74LS04	3025	
25	74LS04	3025		25	74LS04	3025	
26	74LS04	3025		26	74LS04	3025	
27	74LS04	3025		27	74LS04	3025	
28	74LS04	3025		28	74LS04	3025	
29	74LS04	3025		29	74LS04	3025	
30	74LS04	3025		30	74LS04	3025	
31	74LS04	3025		31	74LS04	3025	
32	74LS04	3025		32	74LS04	3025	
33	74LS04	3025		33	74LS04	3025	
34	74LS04	3025		34	74LS04	3025	
35	74LS04	3025		35	74LS04	3025	
36	74LS04	3025		36	74LS04	3025	
37	74LS04	3025		37	74LS04	3025	
38	74LS04	3025		38	74LS04	3025	
39	74LS04	3025		39	74LS04	3025	
40	74LS04	3025		40	74LS04	3025	

WILLIAMS ELECTRONICS, INC.
 2401 N. CALIFORNIA AVE.
 CHICAGO, ILL. 60641
 NAME: SCHEMATIC VIDEO
 SCALE: 1/8" = 1" PART NO: 16-8872
 DATE: 10/22/72

REV	DESCRIPTION OF CHANGE	DATE
	NEW PART RELEASE	1/16/78
A	ISSUED TO: 16-8911-00, REV. 1	1/16/78
	ISSUED TO: 16-8911-00, REV. 2	1/16/78



- NOTES:
- FOR SCHEMATIC, REFER TO DRAWING NO. 16-8911.
 - RESISTOR 4.7K R1, R2, R5, R7, R10, R13.
 - APPLY ITEM 33 BETWEEN ITEMS 7 & 29.

ITEM	PART NO.	PART DESIGNATION	DESCRIPTION	QTY.
14	4-8850-113		LABEL - PCB ASSY TO	1
33	20-9229		THERMAL COMPOUND	QND
32	4703-00001-00		#4 EXT. TOOTH LOCKWASHER	2
31	4406-0117-00		6-32 HEX NUT	2
30	4004-01008-04		6-32 x 3/8 P-H.S. SCREW	2
29	8705-09199-00		HEAT SINK	2
28	5010-02248-00	R11, R14	RESISTOR, C.F., 2W OHM 2 1/2 WATT	2
27	5791-09820-00	J1	4-PIN HEADER, 89-65-1841	1
26	5791-09630-00	J2, J7	6-PIN HEADER, 89-65-1861	2
25	5791-09827-00	J8, J9	3-PIN HEADER, 89-65-1891	2
24	5791-09444-00	J4	18-PIN HEADER, 89-65-1181	1
23	5791-09643-00	J5, J6	12-PIN HEADER, 89-65-1111	2
22	5791-09651-00	F1, F2	FUSE, 5 A, 250V	2
21	5732-09178-00		FUSEHOLDER	4
20	5843-09308-00	BP	CAPACITOR, AXL, 81 PFD, 50V +/-20%	4
19	5843-09396-00	C1, C4, C6, C7	CAPACITOR, AXL, 1 PFD, 50V +/-20%	4
18	5841-09243-00	C2	CAP., ELECT. AXL, 10 PFD, 10V +/-10%	1
17	5849-09276-00	C3	CAP., ELECT. AXL, 470 PFD, 10V +/-20%	1
16	5849-09504-00	C5, C8	CAP., ELECT. AXL, 4700 PFD, 35V +/-20%	2
15	5818-09534-00	V1	RESISTOR, C.F., 8 OHM	1
14	5818-09113-00	R5	RESISTOR, C.F., 35K OHM 5/8 1/4 WATT	1
13	5818-08774-00	R4	RESISTOR, C.F., 22K OHM 5/8 1/4 WATT	1
12	5818-09224-00	R3, R9	RESISTOR, C.F., 270 OHM 5/8 1/4 WATT	2
11	5818-09358-00	R9, R12	RESISTOR, C.F., 1K OHM 5/8 1/4 WATT	2
10	5818-09991-00	SEE NOTE #2	RESISTOR, C.F., 4.7K OHM 5/8 1/4 WATT	6
9	5161-18079-00	Q1, Q3	TRANSISTOR, 2N5122 NPN	2
8	5198-18278-00	Q2, Q4	TRANSISTOR, 2N3906 PNP	4
7	5162-09188-00	Q5, Q6	TRANSISTOR, TIP122 NPN	2
6	5188-09608-00	BR1	BRIDGE RECTIFIER, 35 A, 250V	1
5	5868-18396-00	SRC1, SRC2, SRC3	SIP, 4.7K, 470 PFD., BR, BC	3
4	5318-08975-00	U1	I.C., 4848 CMOS HEX. INVERTER	1
3	5261-18087-00	U4	I.C., 74LS123 DCMR, M.T. 128	1
2	5281-09738-00	U3, U5	I.C., 74LS157 DUAL 2 TO 1 MULTIPLEX	2
1	5772-10697-00		PCB P.C. BOARD	1

BILL OF MATERIALS

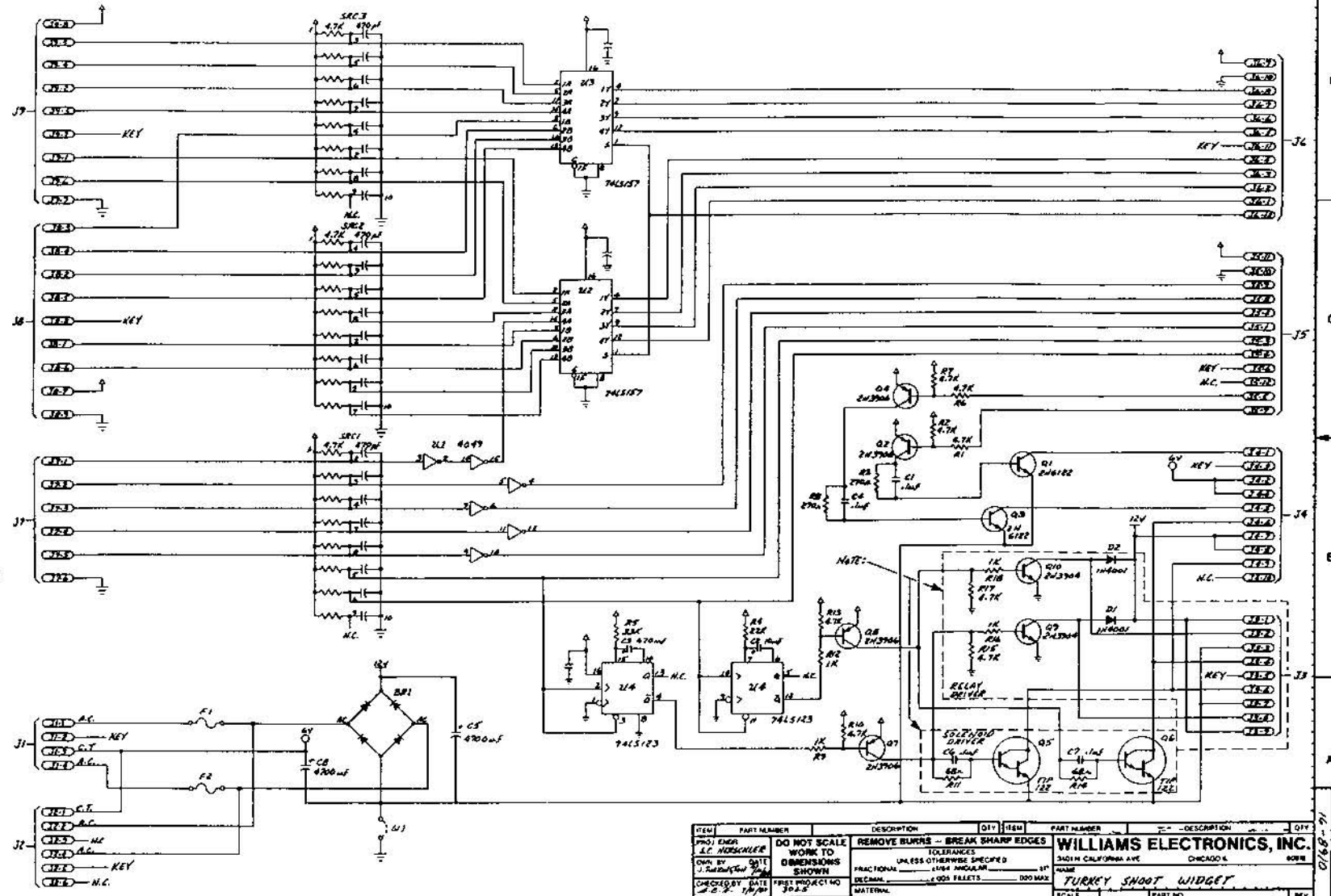
WILLIAMS ELECTRONICS, INC.
3030 CALIFORNIA AVE
CHICAGO, ILL.

WIDGET P.C. BOARD ASSEMBLY

SCALE: 1.5/1
PART NO: D-10413
REV: A

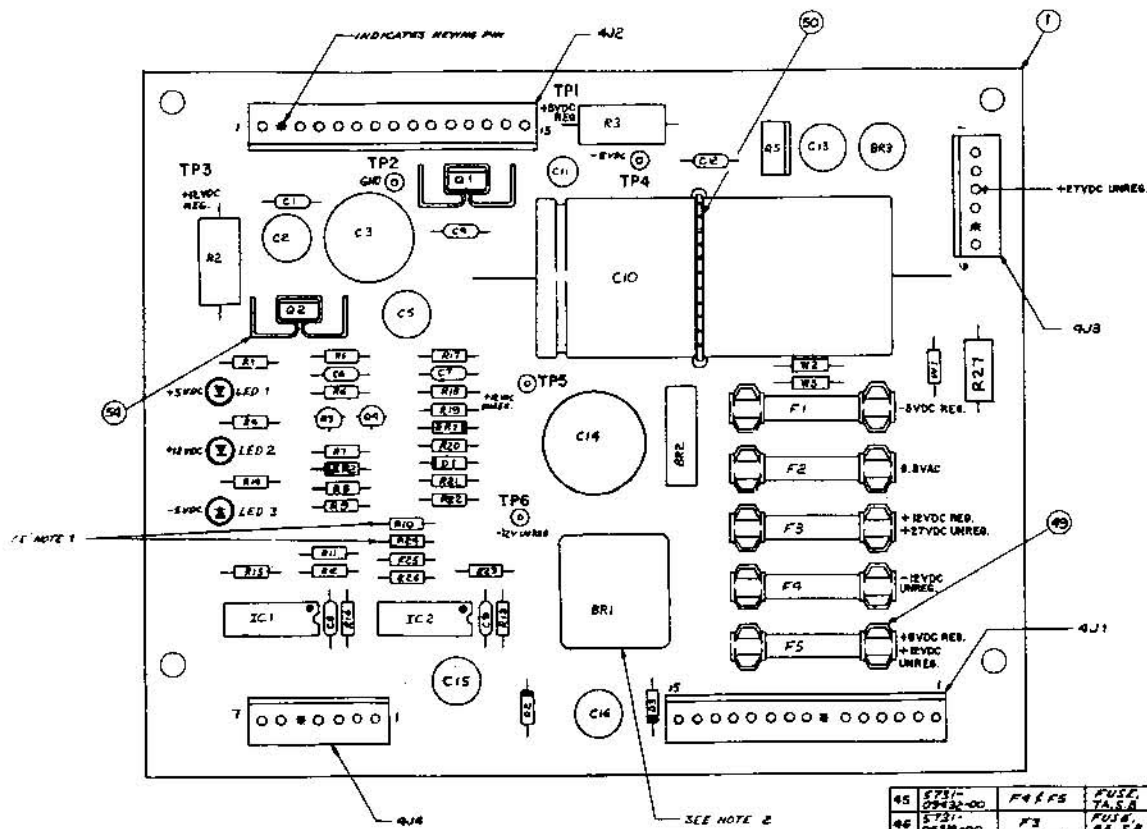
PROJ ENGR	DO NOT SCALE WORK TO DIMENSIONS SHOWN	REMOVE BUMPS - BREAK SHARP EDGES UNLESS OTHERWISE SPECIFIED	NAME
DRW BY: R. COY	DATE: 4/3/84	FRACTIONAL: 1/16 ANGULAR: 1/16	WILLIAMS ELECTRONICS, INC.
CHECKED BY:	DATE:	DECIMAL: 1/32 1/64 1/8 1/4 1/2 1	PROJECT NO: 3805
APPROVAL:	DATE: 2-2-84	MATERIAL: NONE	QTY: 1

REV	DESCRIPTION OF CHANGE	DATE
NPR		1/15/68 R.L. BY



NOTE:
USE ONLY SOLENOID DRIVER
COMPONENTS FOR 3025
(TURKEY SHOOT)
RELAY DRIVER COMPONENTS
ARE FOR FUTURE USE

ITEM	PART NUMBER	DESCRIPTION	QTY	ITEM	PART NUMBER	DESCRIPTION	QTY
1	74LS157	DO NOT SCALE WORK TO DIMENSIONS SHOWN		1	74LS157	DO NOT SCALE WORK TO DIMENSIONS SHOWN	
2	74LS157	REMOVE BURRS - BREAK SHARP EDGES		2	74LS157	REMOVE BURRS - BREAK SHARP EDGES	
3	74LS157	TOLERANCES UNLESS OTHERWISE SPECIFIED		3	74LS157	TOLERANCES UNLESS OTHERWISE SPECIFIED	
4	74LS157	FRACTIONAL .104 INCHES		4	74LS157	FRACTIONAL .104 INCHES	
5	74LS157	DECIMALS .004 INCHES		5	74LS157	DECIMALS .004 INCHES	
6	74LS157	DIAMETERS .000 INCHES		6	74LS157	DIAMETERS .000 INCHES	
7	74LS157	WATERMARK		7	74LS157	WATERMARK	
WILLIAMS ELECTRONICS, INC.		3401N CALIFORNIA AVE CHICAGO IL 60604		TURKEY SHOOT WIDGET		PART NO 16-8910	
SCALE - / -		SHT 2041		REV		07/68-71	



NOTES:
 1. REMOVE R24 IF +5VDC IS GREATER THAN 5.25 VDC,
 REMOVE R10 IF +5VDC IS LESS THAN 4.75 VDC.
 2. BR1 MUST BE MOUNTED 1/8" ABOVE SURFACE OF
 BOARD.
 3. FOR SCHEMATIC REFER TO 16-BR1.

ITEM NO.	PART NO.	PART DESCRIPTION	QUANTITY
55	5010-02885-00	R10 RESISTOR C.F. 1/2 W. 5% 10K	1
56	5010-02881-00	R24 RESISTOR C.F. 1/2 W. 5% 10K	1
ITEM NO.	PART NO.	PART DESCRIPTION	QUANTITY

45	5731-09432-00	F4 F5 F5	FUSE, 7A 5A	2
46	5731-09318-00	F3	FUSE, 1A 5A 250V	1
47	5731-09652-00	F1	FUSE, 1A 5A 250V	1
48	5731-09551-00	F2	FUSE, 1A 5A 250V	1
49	5731-09178-00		FUSEHOLDER	10
50	03-7620		TIE WRAP	1
61	5778-09076-00	4J14 J2	HEADER, 15 PIN 09-65-1061	2
62	5731-02023-00	4J3	HEADER, 6 PIN 09-65-1061	1
53	5731-09071-00	4J4	HEADER, 7 PIN 09-65-1071	1
54	5701-09881-00		HEAT SINK	2
	5701-09689-00		HEAT SINK	0

BILL OF MATERIALS

ITEM NO.	PART NO.	PART DESCRIPTION	DESCRIPTION	REQD NO.
1	5778-09478-00		BARE P.C. BOARD	1
2	5010-02885-00	R28	RESISTOR, 1/2 W. 5%, 10K	1
3	5010-02881-00	R13, R16	RESISTOR, 1/2 W. 5%, 10K	2
4	5010-02882-00	R21	RESISTOR, 1/2 W. 5%, 10K	1
5	5010-02883-00	R20	RESISTOR, 1/2 W. 5%, 10K	1
6	5010-02884-00	R16	RESISTOR, 1/2 W. 5%, 10K	1
7	5010-02880-00	R7	RESISTOR, 1/2 W. 5%, 10K	1
8	5010-02881-00	R4	RESISTOR, 1/2 W. 5%, 10K	1
9	5010-02882-00	R1, R8	RESISTOR, 1/2 W. 5%, 10K	2
10	5010-02883-00	R11	RESISTOR, 1/2 W. 5%, 10K	1
11	5010-02884-00	R12	RESISTOR, 1/2 W. 5%, 10K	1
12	5010-02885-00	R25	RESISTOR, 1/2 W. 5%, 10K	1
13	5010-02886-00	R5	RESISTOR, 1/2 W. 5%, 10K	1
14	5010-02887-00	R2	RESISTOR, 1/2 W. 5%, 10K	1
15	5010-02888-00	R27	RESISTOR, 1/2 W. 5%, 10K	1
16	5010-02889-00	R26	RESISTOR, 1/2 W. 5%, 10K	1
17	5010-02890-00	R3, R6	RESISTOR, C.F. 1/2 W. 5%, 10K	2
18	5010-02891-00	R10, R13, R15	RESISTOR, C.F. 1/2 W. 5%, 10K	4
19	5010-02892-00	R8, R9	RESISTOR, C.F. 1/2 W. 5%, 10K	2
20	5010-02893-00	R1	RESISTOR, C.F. 1/2 W. 5%, 10K	1
21	5043-02894-00	C6, C7	CAPACITOR, 0.1UF CERAMIC 50V	2
22	5040-02895-00	C2, C16	CAPACITOR, 100UF 50V ALUM. 5% 10K	2
23	5040-02896-00	C15	CAPACITOR, 47UF 50V ALUM. 5% 10K	1
24	5040-02897-00	C3	CAPACITOR, 100UF 50V ALUM. 5% 10K	1
25	5040-02898-00	C4	CAPACITOR, 100UF 50V ALUM. 5% 10K	1
26	5040-02899-00	C5	CAPACITOR, 330UF 16V ALUM. 5% 10K	1
27	5040-02900-00	C8	CAPACITOR, 470UF 35V ALUM. 5% 10K	1
28	5043-02901-00	C1, C4, C8	CAPACITOR, 1UF 50V ALUM. 5% 10K	3
29	5043-02902-00	C9	CAPACITOR, 47UF 50V ALUM. 5% 10K	1
30	5043-02903-00	C8	CAPACITOR, 100UF 50V ALUM. 5% 10K	1
31	5040-02904-00	C12	CAPACITOR, 220UF 16V ALUM. 5% 10K	1
32	5040-02905-00	C11	CAPACITOR, 220UF 16V ALUM. 5% 10K	1
33	5070-02906-00	D1, D2, D3	DIODE, 1N4001	3
34	5076-02907-00	ER1	DIODE, 1N4001 2.5A (5.0V)	1
35	5075-02908-00	ER2	DIODE, 1N4001 2.5A (5.0V)	1
36	5130-02909-00	Q1, Q2	TRANSISTOR, 2N2222	2
37	5130-02910-00	Q1, Q2	SCA 8 AMP, 100V	2
38	5220-02911-00	VR	VOLTAGE REGULATOR, 7805	1
39	5420-02912-00	IC1, IC2	VOLTAGE REGULATOR, 7805	2
40	5400-02913-00	BR1	BRIDGE RECTIFIER, 3A 50V	1
41	5400-02914-00	BR2	BRIDGE RECTIFIER, 40A 50V	1
42	5400-02915-00	BR3	BRIDGE RECTIFIER, 10A 50V	1
43	5771-02916-00	LED1, LED2, LED3	LED, RED	3
44	5771-02917-00	TP1 - TP6	TERMINAL 0.100" (0.100" DIA)	4

