



INSTALLATION AND SERVICE MANUAL

including

Schematic Diagrams

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UPRIGHT GAME, MODEL 1US39
SERVICE AND OPERATION MANUAL

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1. GENERAL INFORMATION

A. Installation and Set-Up

Locate the door keys supplied and remove the Rear Access Door.

Check the Main Harness for loose or unplugged connectors, and check for secure mounting of the monitor, power supply, and game pcb. Stabilize the cabinet using the leg levelers in the floor of the cabinet to prevent the game from rocking.

The selectable options have been pre-set at the factory for optimum player appeal. However, to set the game up for your specific requirements, refer to the operator selectable options on Page 3 in Chapter 2, Section A of this manual.

Remove the power cord from the inside of the cabinet and insert the strain relief plate into the slot at the bottom of the rear access door opening. Plug the AC cord into a grounded 117 VAC outlet and flip the power switch to the ON position. Allow 2 to 3 minutes for the monitor to warm up and check for proper demonstration mode video on the screen. Insert the proper coinage into a coin slot and start a game. Check for proper operation of all joystick controls and switches.

1. GENERAL INFORMATION

B. System Adjustments

The Volume Control, Coin Counter, and Service Switch are located on the Service Panel. The Service Panel is located inside the Coin Door, mounted on the wall of the cabinet on the left side.

The Coin Counter increments once for every coin dropped through either coin entry slot.

Apache-3tm utilizes stereo sound. However, a single Volume Control is used to adjust the overall loudness of the game sounds. NOTE: The volume control potentiometers on the Main pcb are pre-set to mid-range at the factory and should not be adjusted.

The Service Switch can be used to add credits to the game without incrementing the Coin Counter.

The fuses for the AC power line and the 12 volt Supply are located on the Power Supply assembly. The fuse holders are labeled as to the proper fuse ratings. The line fuse should be 3 A slow blow, and the 12 volt fuse (used for coin door lamp circuit) should be 1 A fast blow.

The +5 vdc adjustment level control on the Power Supply's Switching Regulator is pre-set at the factory. In the event that an adjustment is required, measure the +5 volt level present at the game logic pcb with a Digital Multi-Meter while adjusting the output level of the Switching Regulator. The voltage must measure between +4.90 vdc to 5.10 vdc at the game logic pcb for proper operation.

WARNING: DANGEROUS VOLTAGE LEVELS ARE PRESENT IN AND AROUND THE MONITOR AND POWER SUPPLY ASSEMBLY. ADJUSTMENTS AND REPAIRS SHOULD BE ATTEMPTED ONLY BY QUALIFIED ELECTRONIC TECHNICIANS.

2. GAME INFORMATION

A. Operator Selectable Options

The APACHE-3™ game allows for operator adjustable pricing, difficulty, etc. These are accessed by the two dipswitches located on the game pcb. Tables 1 and 2 outline the available options. Note that both coin slots are wired to the "Coin-1" input.

CAUTION! Turn Power OFF before changing dip switch settings!

DIPSWITCH 1: Game Price settings for BOTH left and right acceptors

	1	2	3
1 Coin - 1 Credit	ON	ON	ON
2 Coins - 1 Credit	OFF	ON	ON
3 Coins - 1 Credit	ON	OFF	ON
1 Coin - 2 Credits	OFF	OFF	ON
1 Coin - 5 Credits	ON	ON	OFF
1 Coin - 6 Credits	OFF	ON	OFF
2 Coins - 3 Credits	ON	OFF	OFF
3 Coins - 2 Credits	OFF	OFF	OFF

DIPSWITCH 2: Game Option Settings

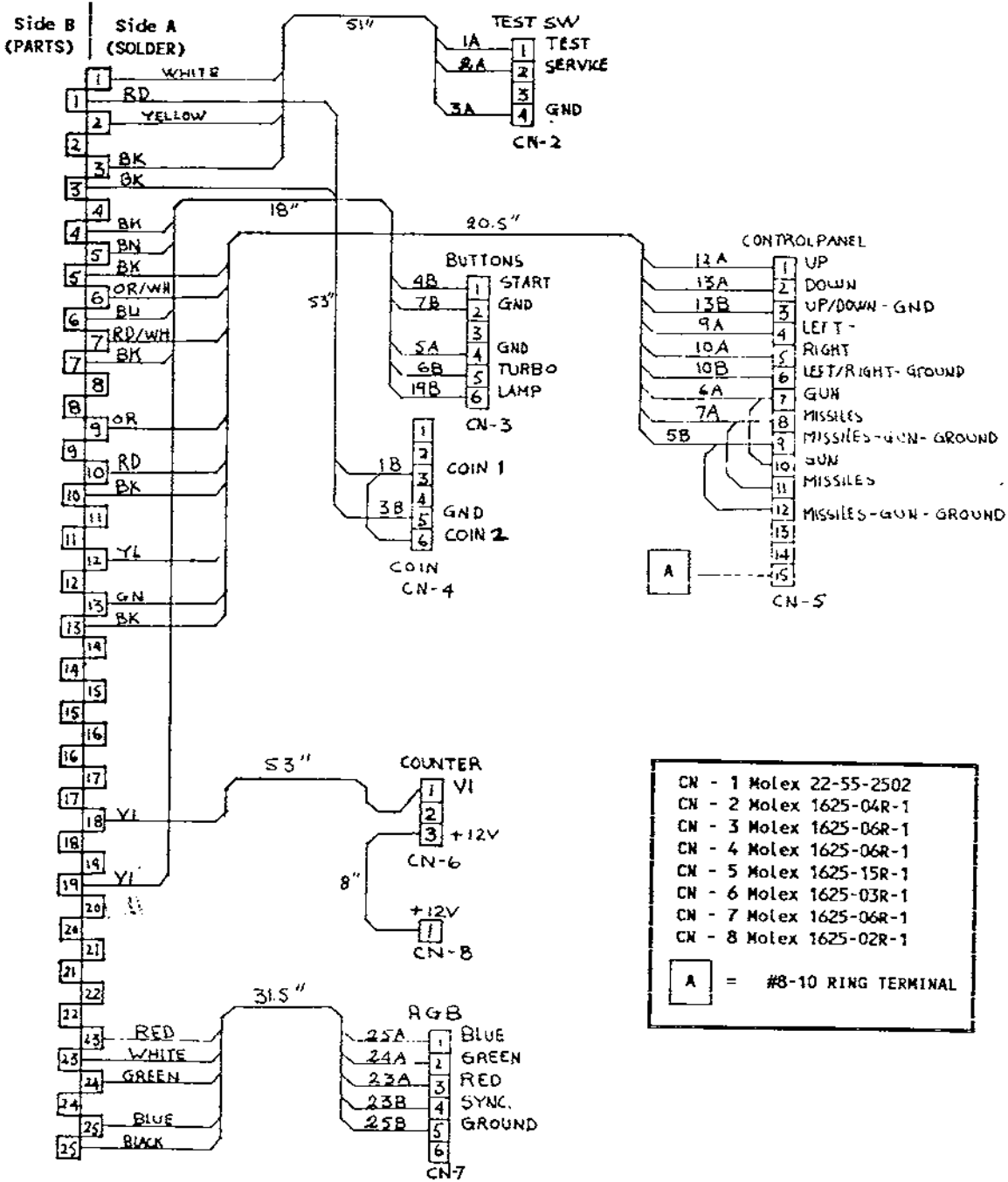
	1	2	3	4	5	6	7	8
3 Lives	ON	ON				A L W A Y S O F F	N O T U S E D	A L W A Y S O N
4 Lives	OFF	ON						
5 Lives	ON	OFF						
6 Lives	OFF	OFF						
Difficulty: Medium			ON	ON				
Difficulty: Easy			OFF	ON				
Difficulty: Hard			ON	OFF				
Difficulty: Hardest			OFF	OFF				
Attract Mode Sound ON					ON			
Attract Mode Sound OFF					OFF			

IMPORTANT NOTICE: Apache 3 is a ONE PLAYER GAME!

2. GAME INFORMATION

B. Main Harness Wiring

APACHE 3 MAIN HARNESS
P/N 036-0169-00

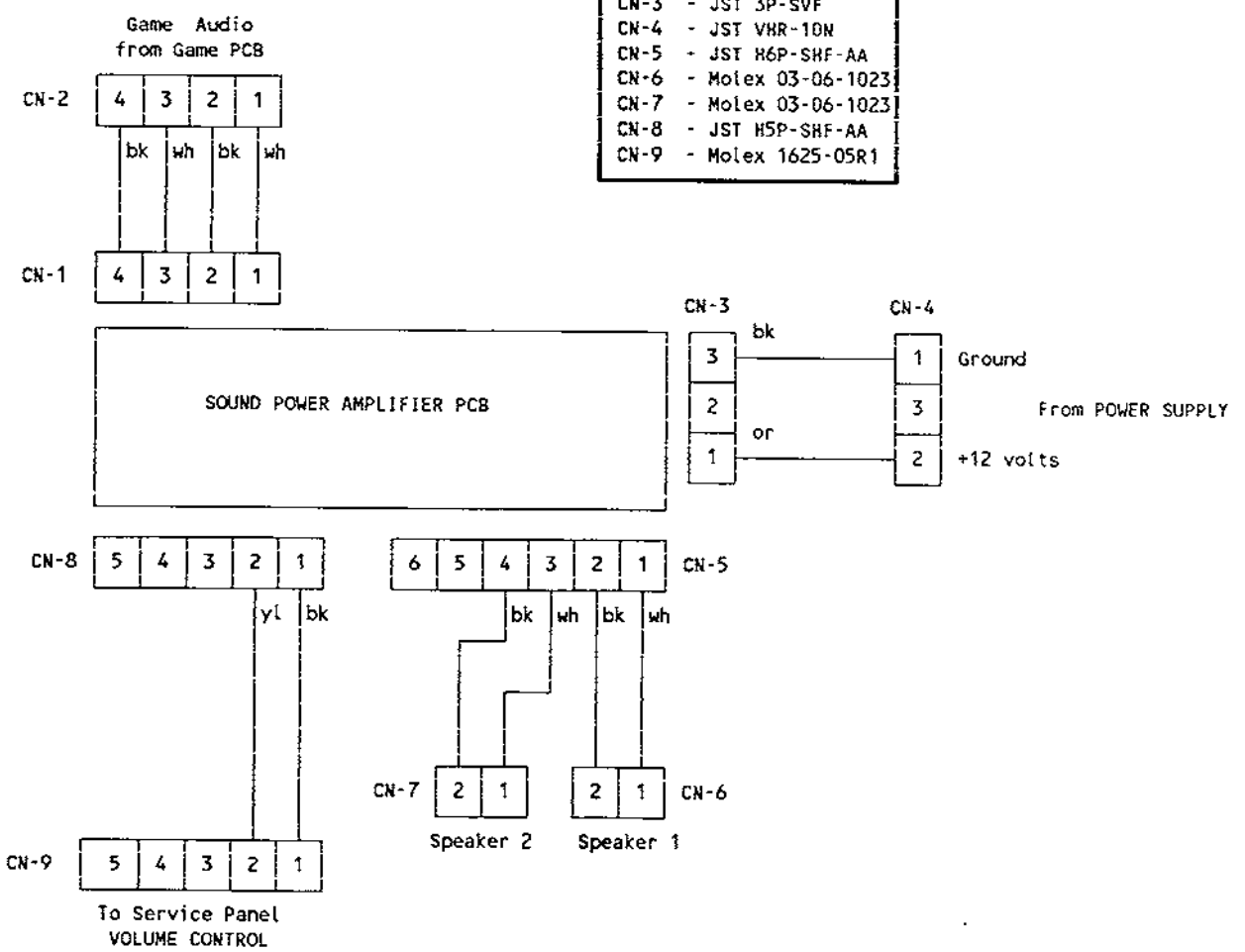


2. GAME INFORMATION

C. Sound Wiring

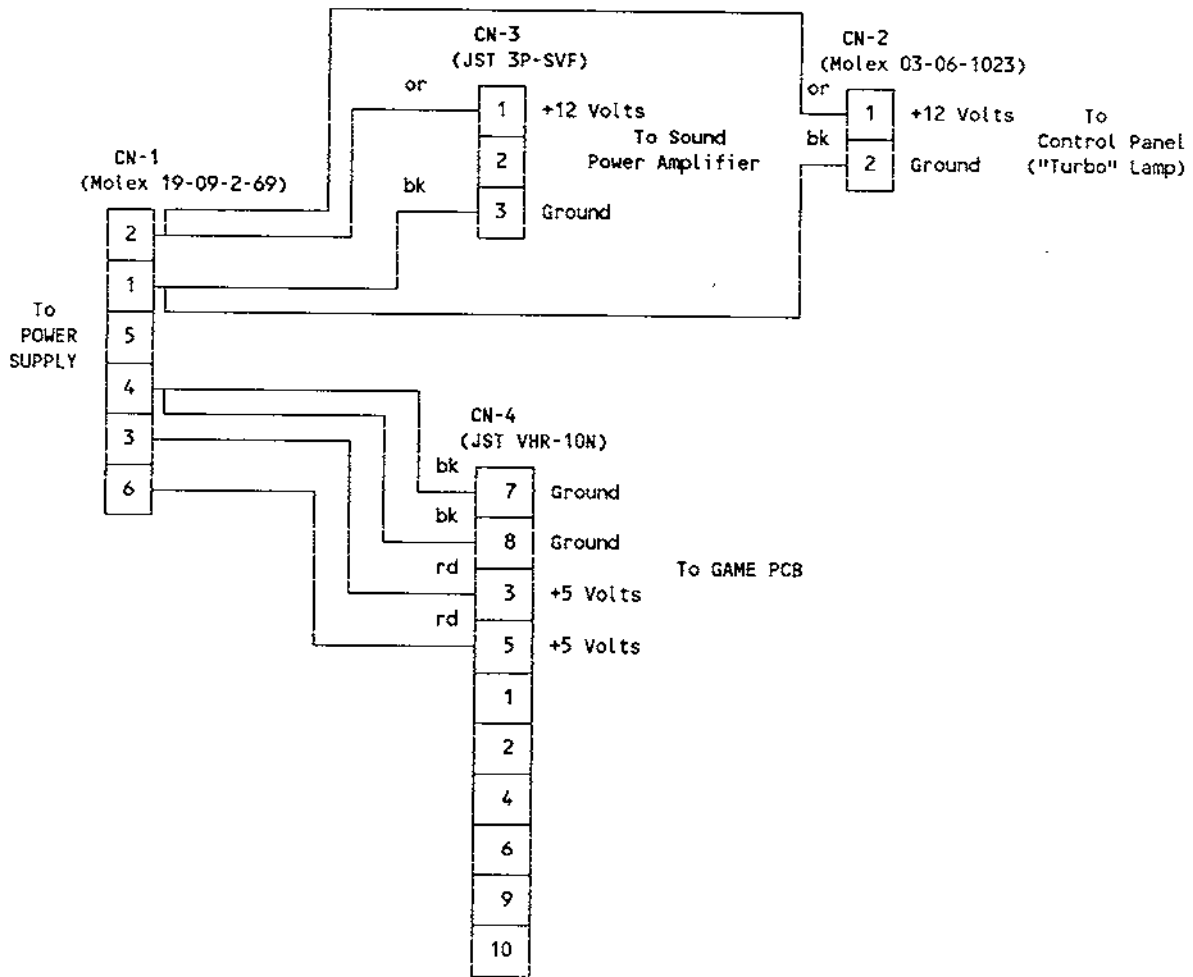
APACRE-3 SOUND POWER AMP WIRING

- | | | |
|------|---|------------------|
| CN-1 | - | JST H4P-SHF-AA |
| CN-2 | - | JST H4P-SHF-AA |
| CN-3 | - | JST 3P-SVF |
| CN-4 | - | JST VHR-10N |
| CN-5 | - | JST H6P-SHF-AA |
| CN-6 | - | Molex 03-06-1023 |
| CN-7 | - | Molex 03-06-1023 |
| CN-8 | - | JST H5P-SHF-AA |
| CN-9 | - | Molex 1625-05R1 |



2. GAME INFORMATION

D. DC Distribution Harness



3. REPLACEMENT PARTS LIST

NOTE: All replacement parts must be ordered through an authorized DATA EAST Distributor. Please order by both DATA EAST part number and part description.

A. 500-0038-00 UPRIGHT GAME, APACHE-3

<u>Part Number</u>	<u>Description</u>	<u>Comments</u>
031-0005-00	Speaker, 8 Ω , 5 inch	
365-0015-00	Cabinet Assy, 1US39, Apache	w/rear door & bezel
366-0001-00	Rear Door	(for cabinet assy)
380-0002-00	Bezel, Monitor, Black Cardboard	
380-0006-00	Bezel, Monitor, Wood	(Monitor Card Support)
510-0004-00	Coin Door Assy	w/plastic cashbox
510-0065-00	Monitor, Universal H/V	Wells-Gardner
510-0153-00	PCB set, Apache-3	
510-0154-00	PCB Assy, Sound Amp	
545-0004-01	Cash Box, Plastic	
780-0122-00	Manual, Apache-3 Upright	
810-0039-00	Underlay, Monitor, Apache-3	
820-0047-00	Decal, Side, Apache-3	
830-0044-00	Plex, Marquee, Apache-3	

B. 515-0029-03 SERVICE PANEL ASSEMBLY

<u>Part Number</u>	<u>Description</u>	<u>Comments</u>
090-0002-00	Coin Counter, 12 volt	w/internal diode
123-0011-00	Potentiometer, 25K, 1/2 watt	Volume Control
180-0024-xx	Pushbutton Assy, w/Microswitch	(any color will do)
535-0084-00	Bracket, Service Panel	

C. 510-0002-03 POWER SUPPLY ASSEMBLY

<u>Part Number</u>	<u>Description</u>	<u>Comments</u>
001-0012-00	Switching Regulator	+5 V @ 11A, 12V @ 2A
010-0001-00	Transformer, Isolation	1 A (min) @ 115 VAC
150-0005-00	Filter, Noise	Corcom 1011L
200-0002-00	Fuse, 1 A Fast Blow	for Coin Door Lamps
200-0011-00	Fuse, 3 A Slo Blow	115 VAC Line Fuse
205-0003-02	Fuse Block, 2 pole	
515-0002-01	Power Cord Assy	w/strain relief plate
660-0003-00	Fish Paper	(safety cover)

3. REPLACEMENT PARTS LIST

NOTE: All replacement parts must be ordered through an authorized DATA EAST Distributor. Please order by **both** DATA EAST part number and part description.

D. 510-0152-00 CONTROL PANEL ASSEMBLY

<u>Part Number</u>	<u>Description</u>	<u>Comments</u>
120-0068-00	Resistor, Power, 300 Ω , 5 W	
165-0009-00	Lamp, #161	(for "Turbo" button)
180-0021-00	Microswitch	(for pushbuttons)
180-0024-02	Pushbutton Assy, w/Microsw	Red
180-0025-00	Pushbutton Assy, Lighted	"Turbo"
535-0089-00	Control Panel, Bare, Apache	(no overlay)
800-0037-00	Overlay, Control Panel, Apache	
800-0038-00	Overlay, Steering Assy, Apache	

E. 515-0028-00 STEERING ASSEMBLY

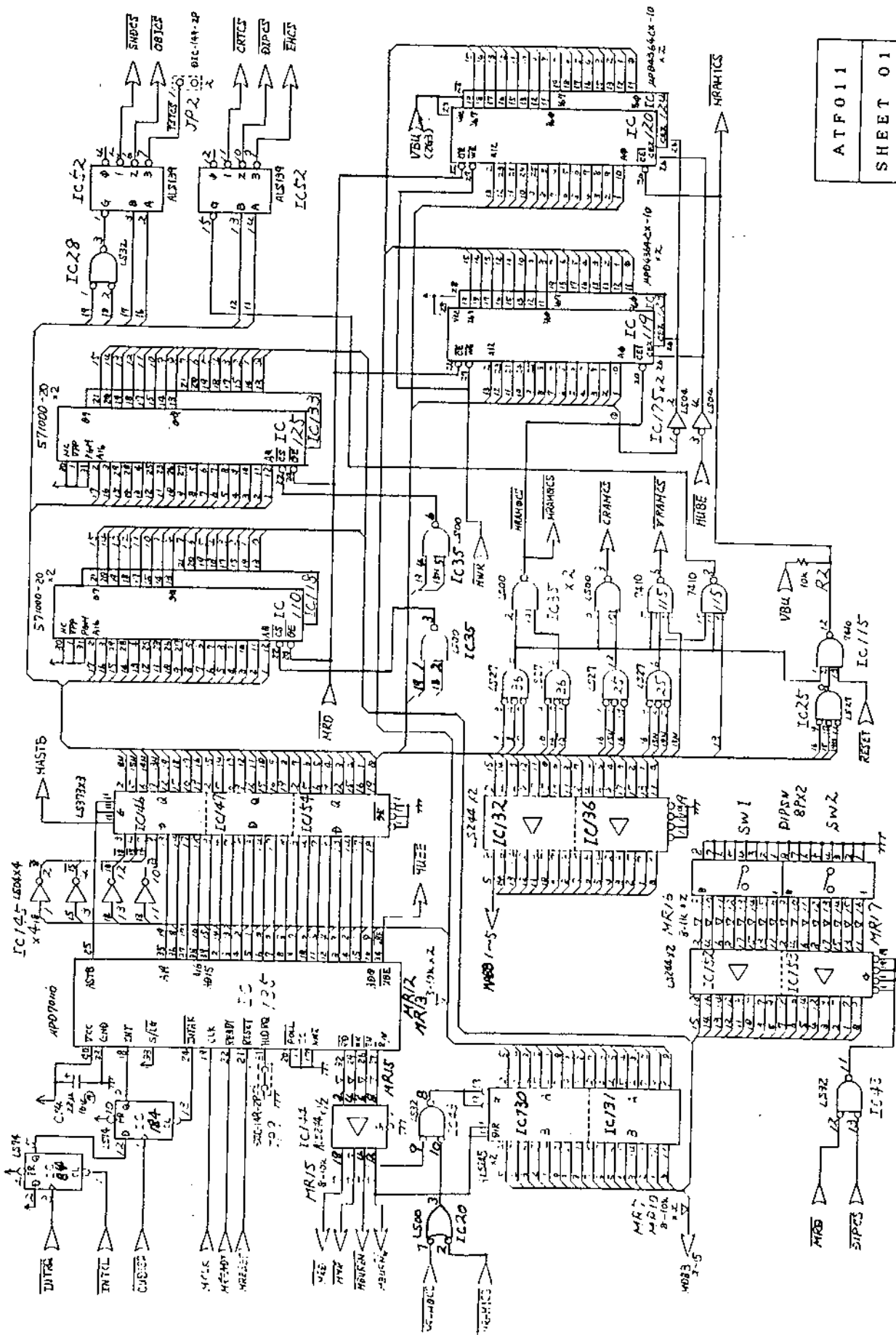
<u>Part Number</u>	<u>Description</u>	<u>Comments</u>
123-0004-53	Potentiometer, 5K Ohm	Type EJ - Extra life
180-0021-00	Switch, Cherry #E63-00A	Thumb Button & Trigger
234-0006-05	Screw, Socket Head Cap, 8-32 X 3/4, self locking	
244-0009-00	Washer, Split Lock, #8	
266-0004-00	Spring, Compression	(Trigger and Thumb Button)
267-0001-00	Spring, Torsion, Steering	(left/right)
267-0002-00	Spring, Torsion, Handle	(up/down)
280-0007-00	Bushing, Thumb Button	
353-0001-00	Pushnut, 0.12 Dia	for Thumb Button
455-0048-00	Trigger	
530-0022-00	Shaft, Handle	(up/down)
530-0023-00	Pin, Spring Handle	
530-0024-00	Shaft, Steering	(left/right)
535-0091-00	Controller Cover	without Apache-3 overlay
545-0008-00	Button, Thumb	

APACHE-3
Schematic Diagrams

Program Board - ATF011

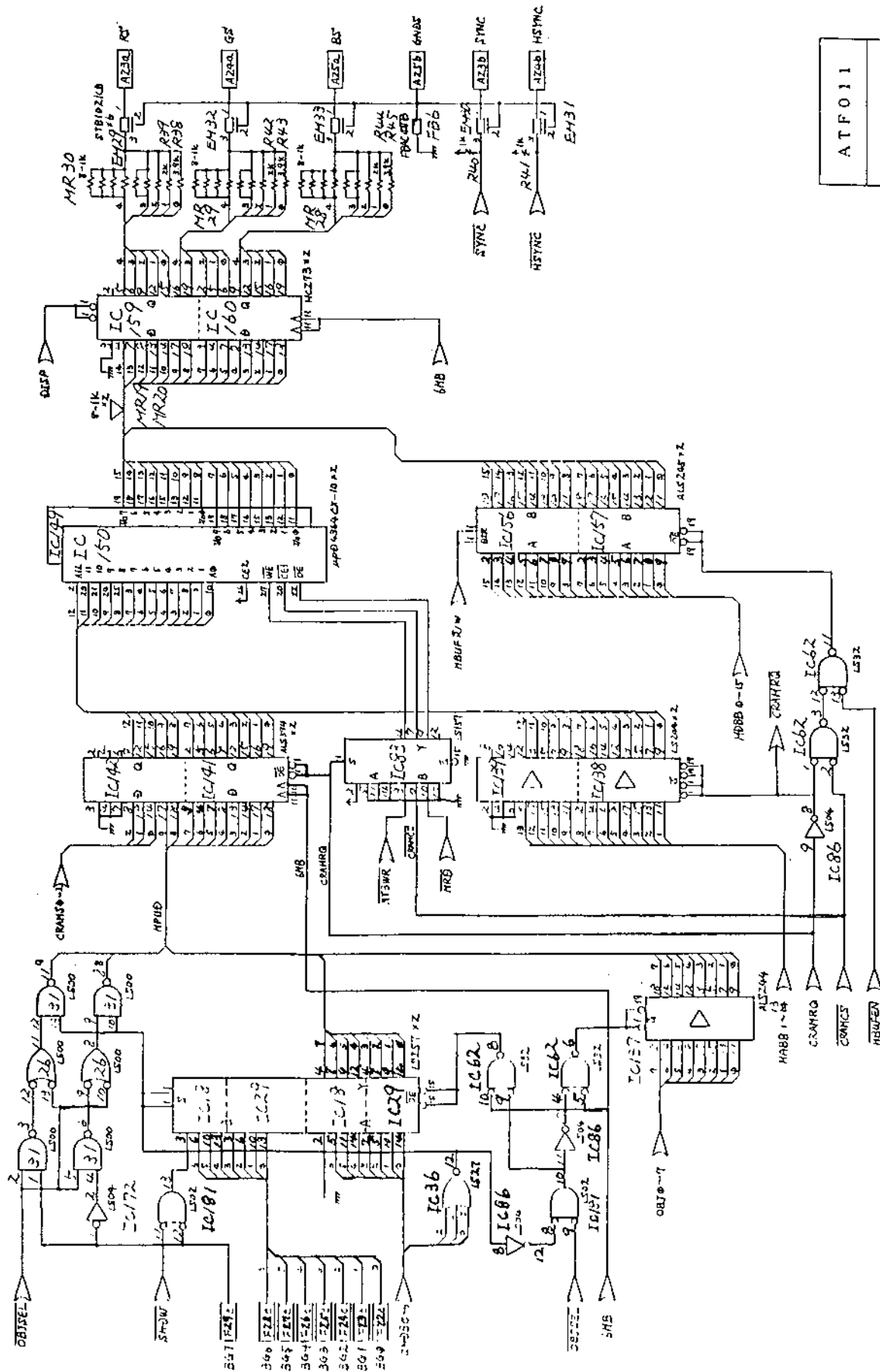
Logic Board - ATF012A

Sound Power Amp - TF02PA



ATF011
SHEET 01

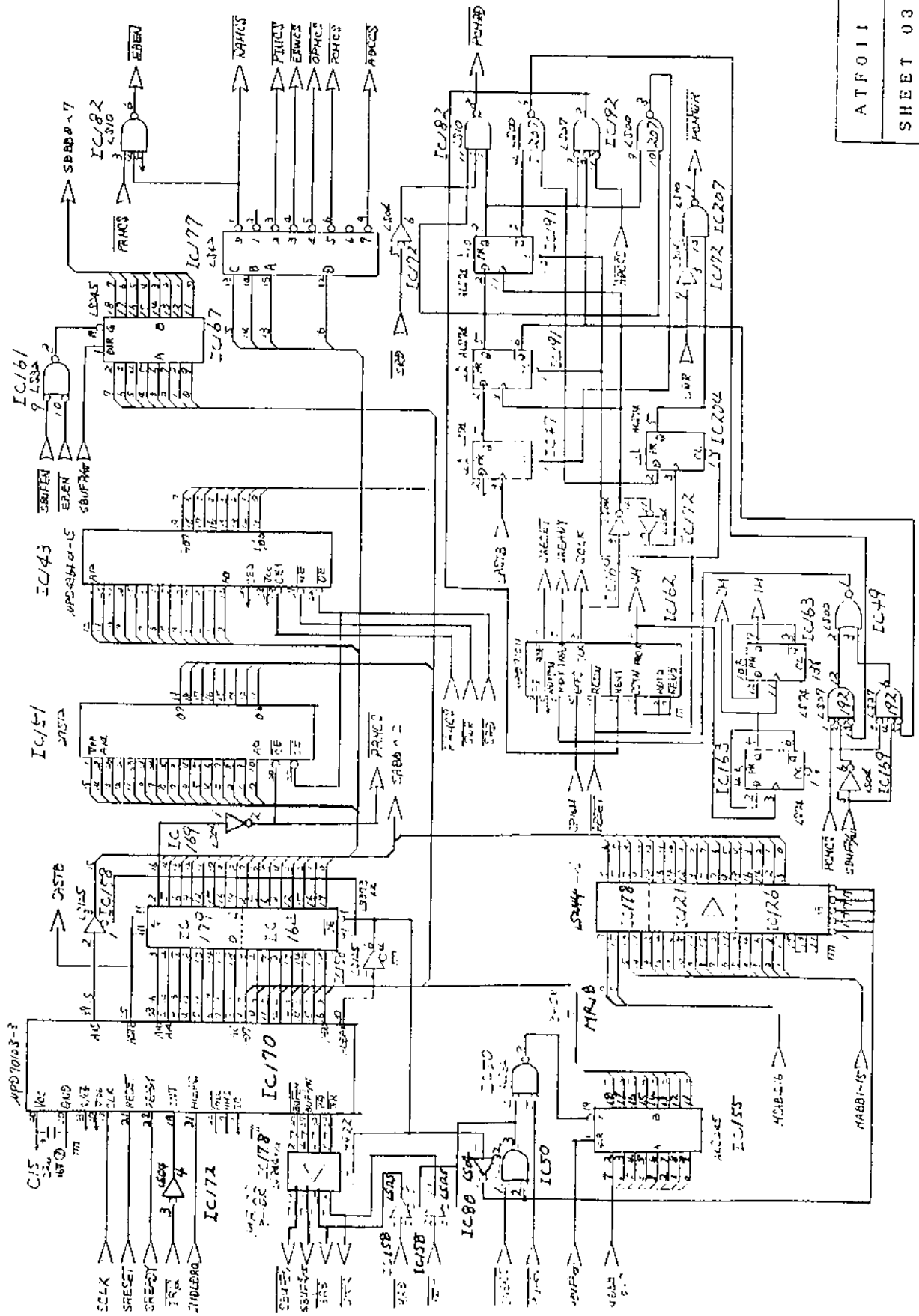
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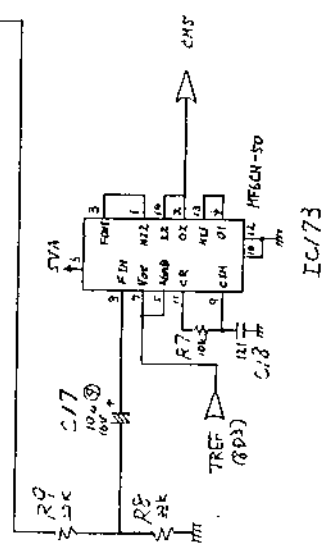
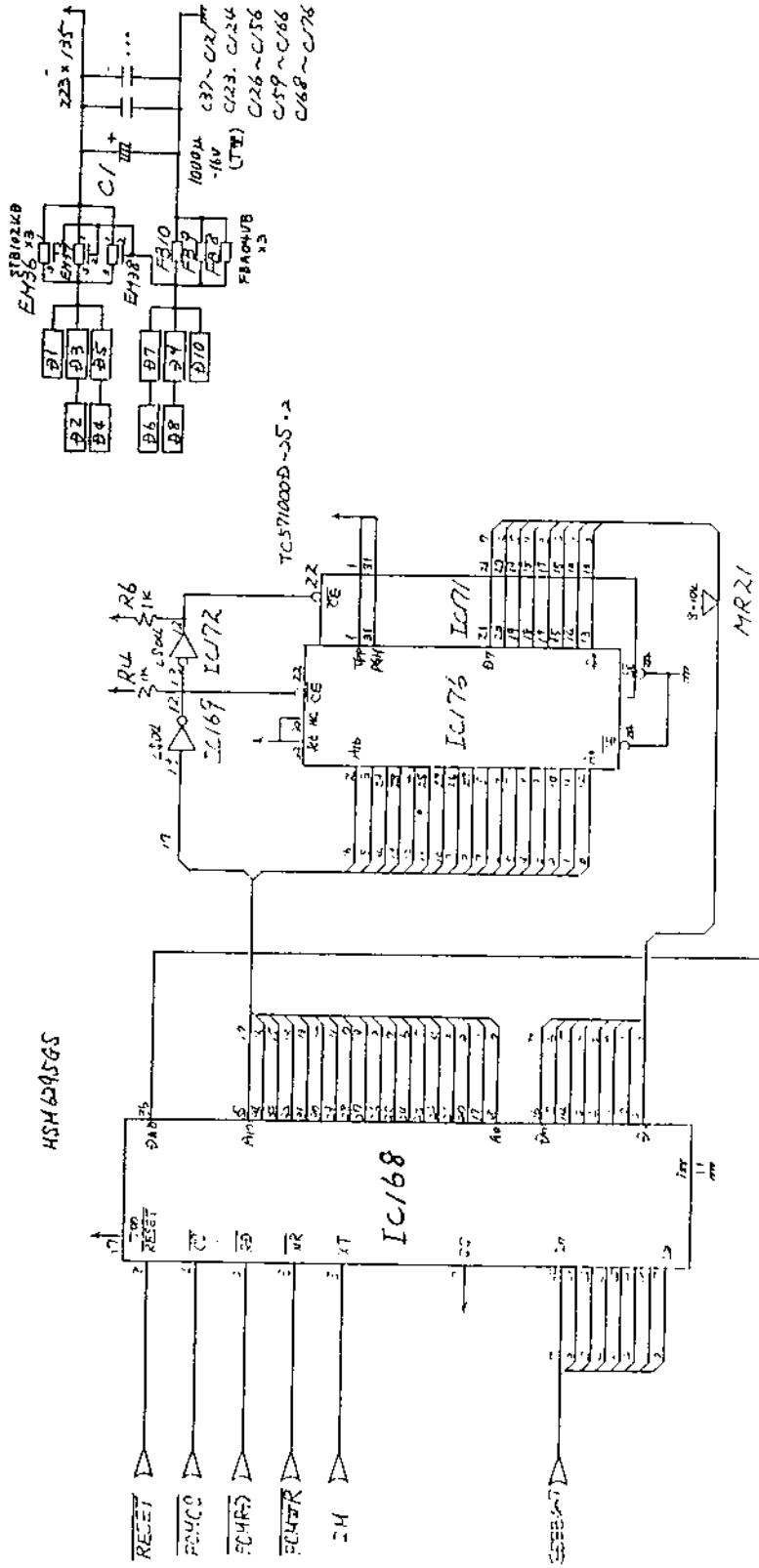
ATF011
SHEET 02



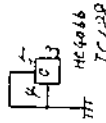
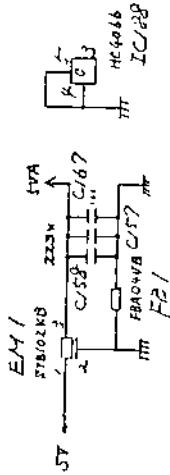
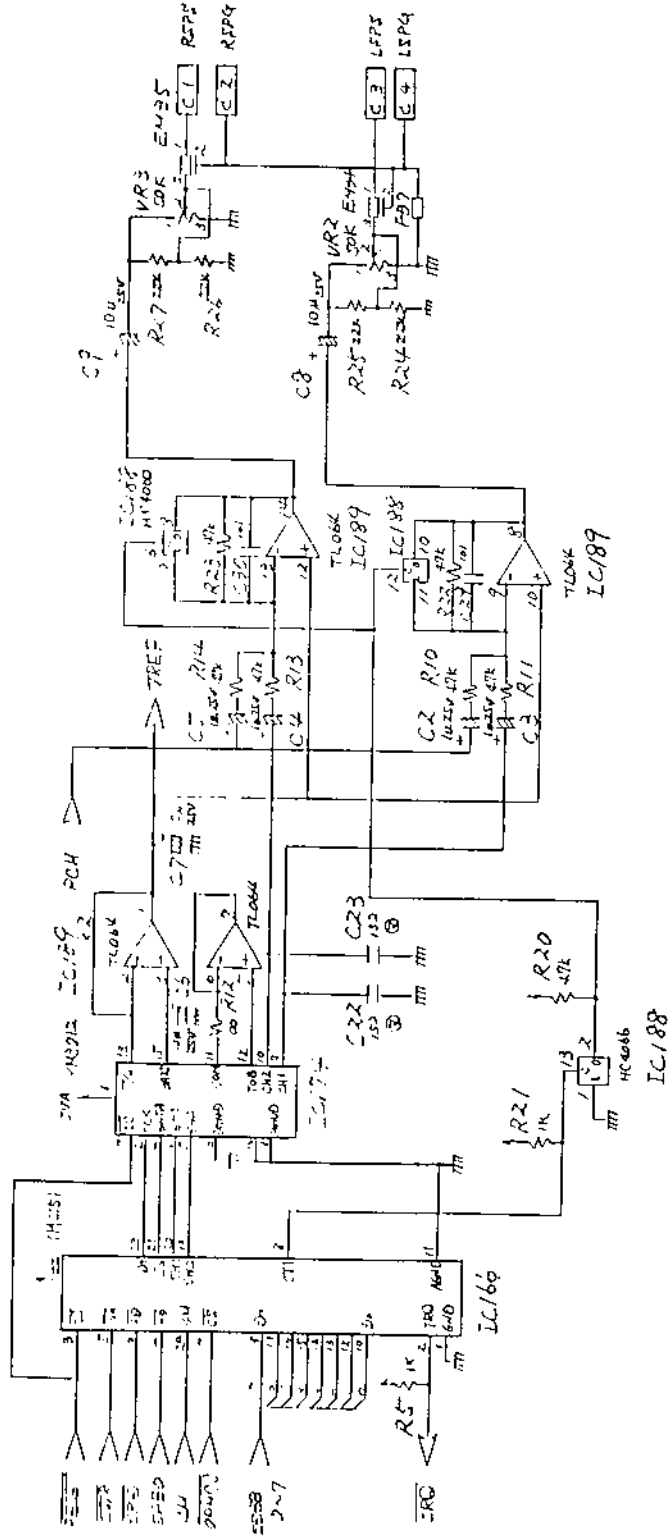
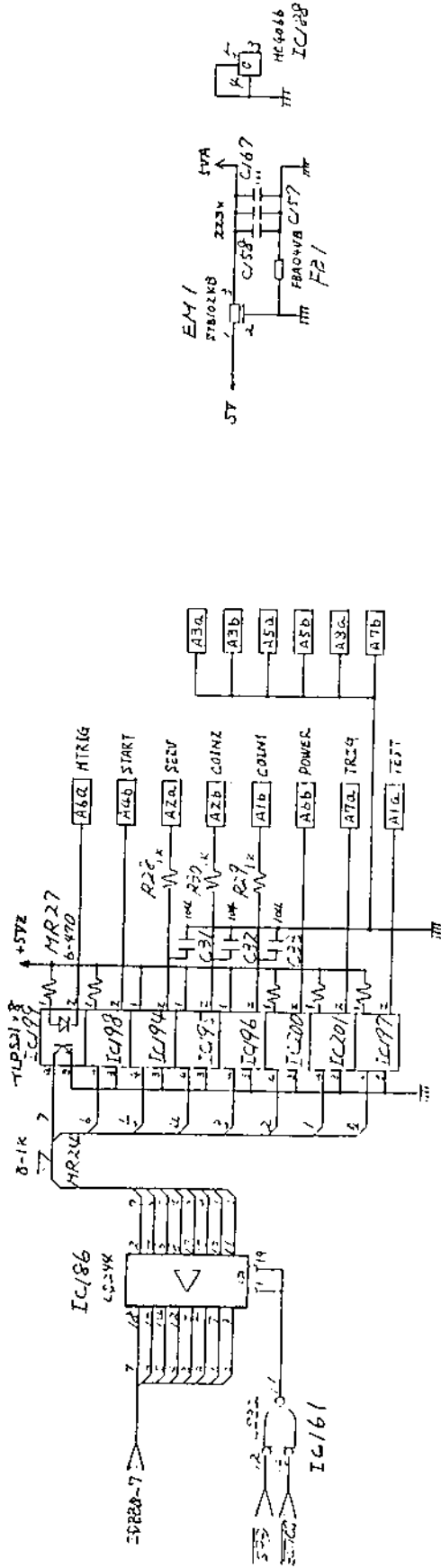
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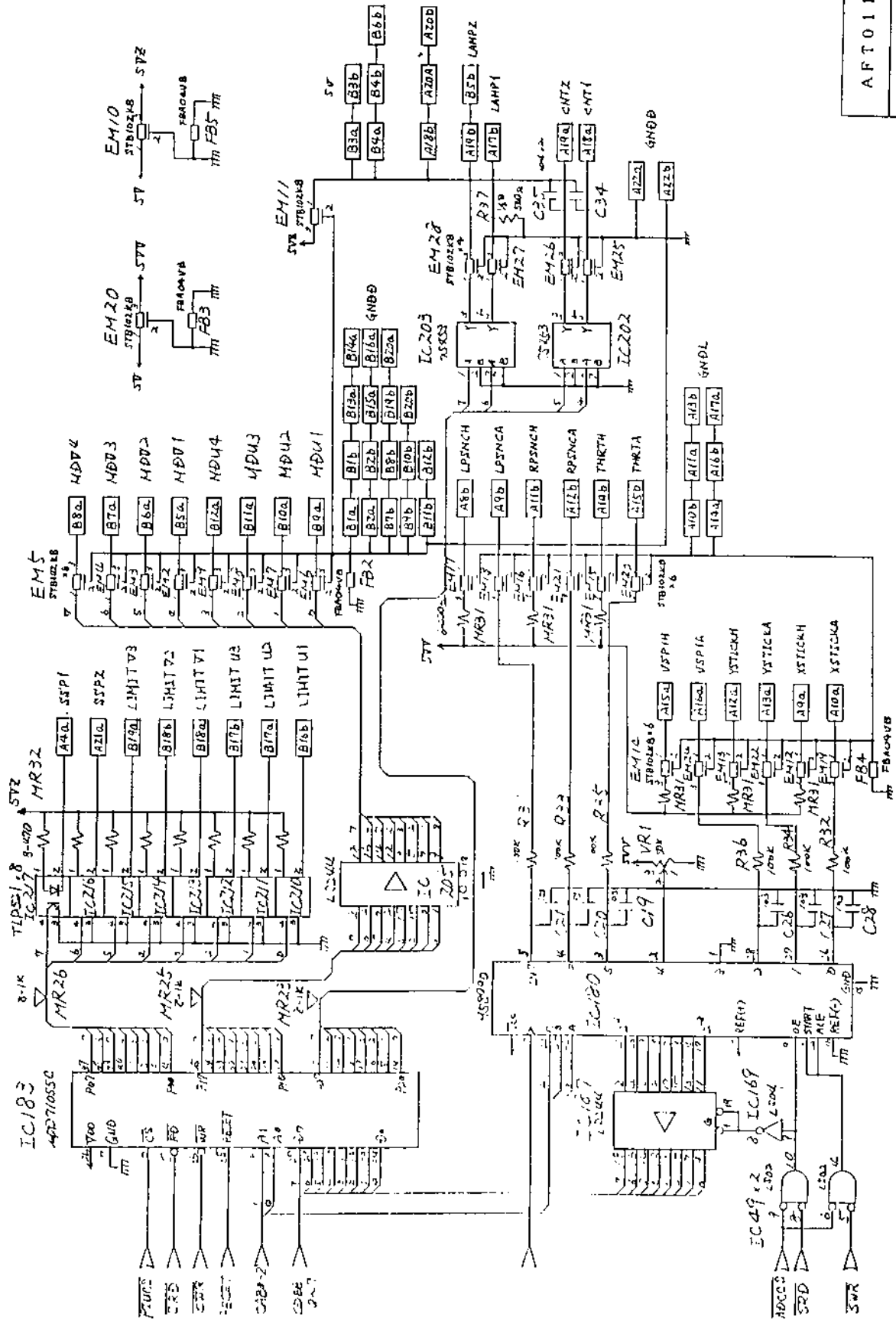
ATF011
SHEET 03



ATF011
SHEET 04



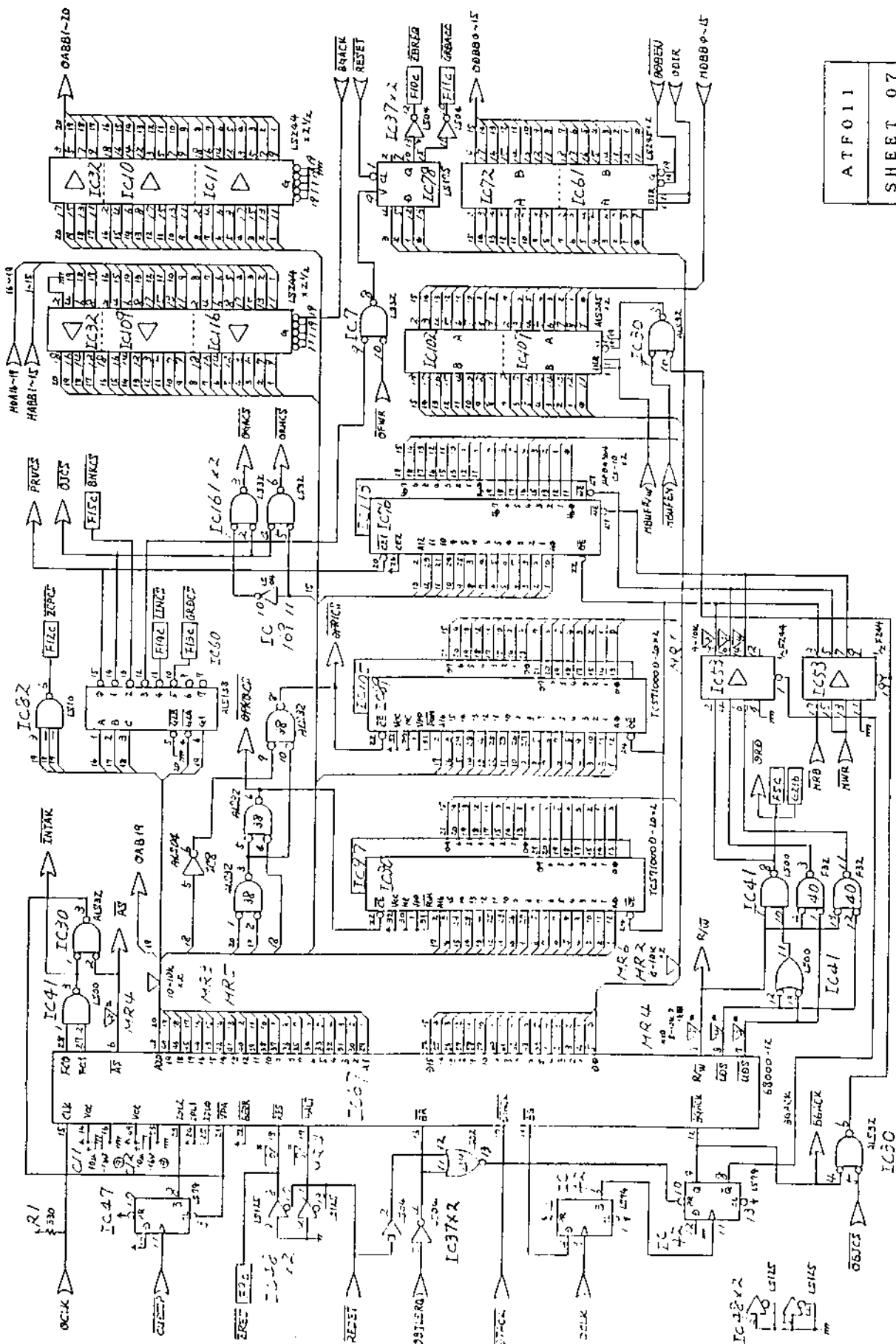
AFT011
SHEET 06



AFT011
SHEET 06

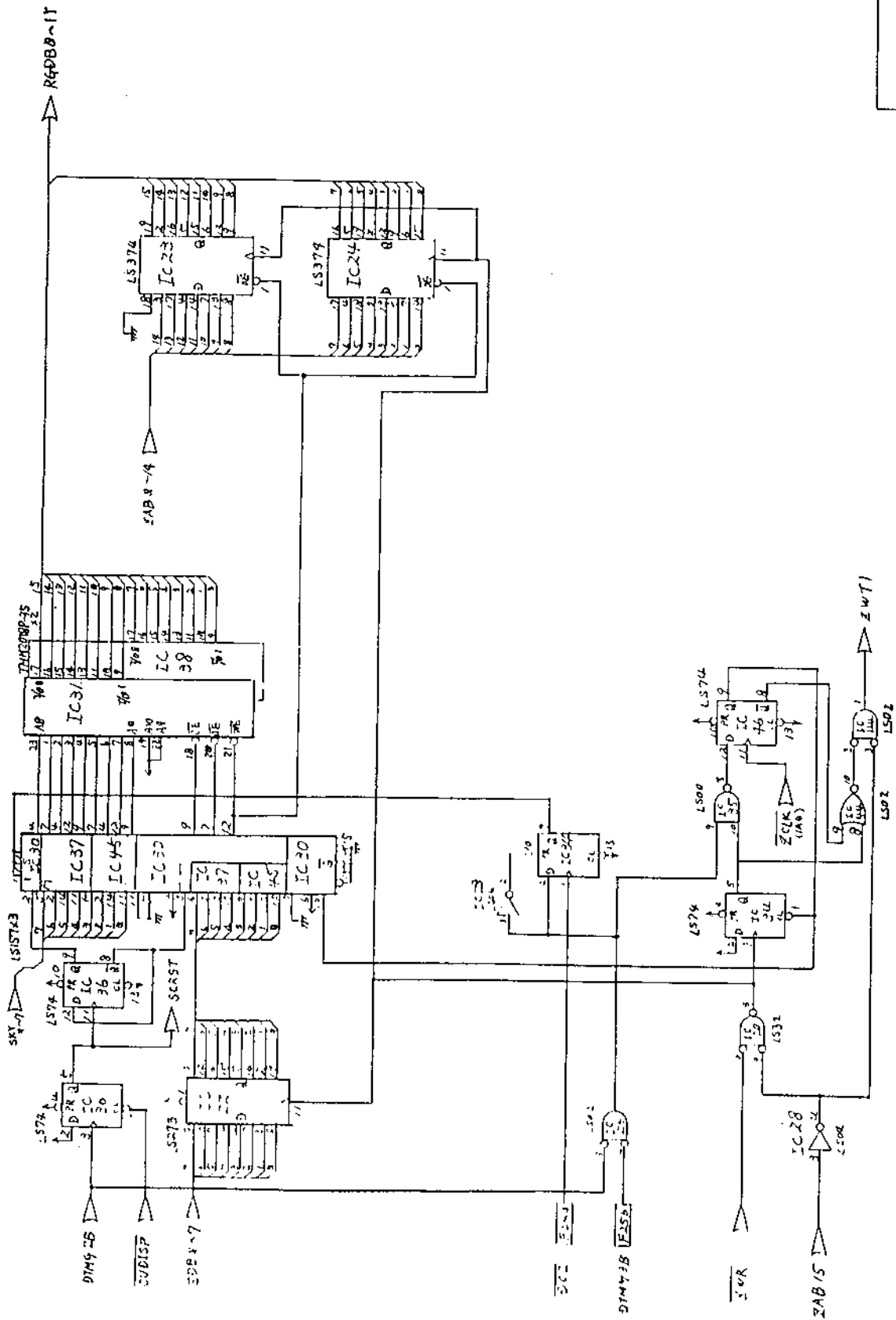


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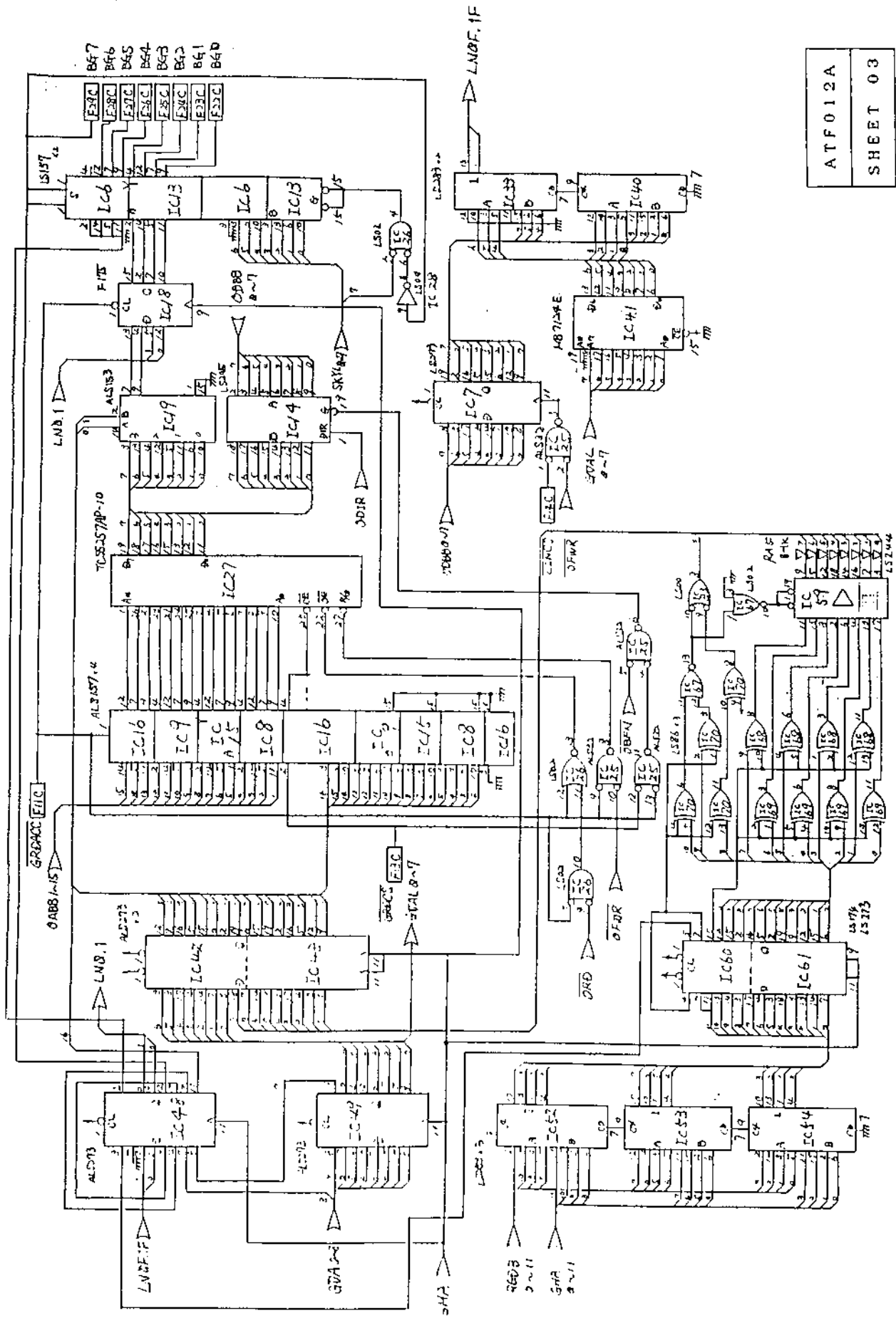


ATF011
SHEET 07

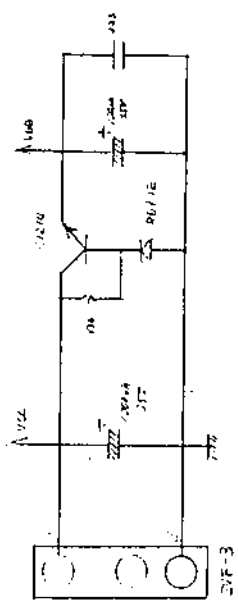
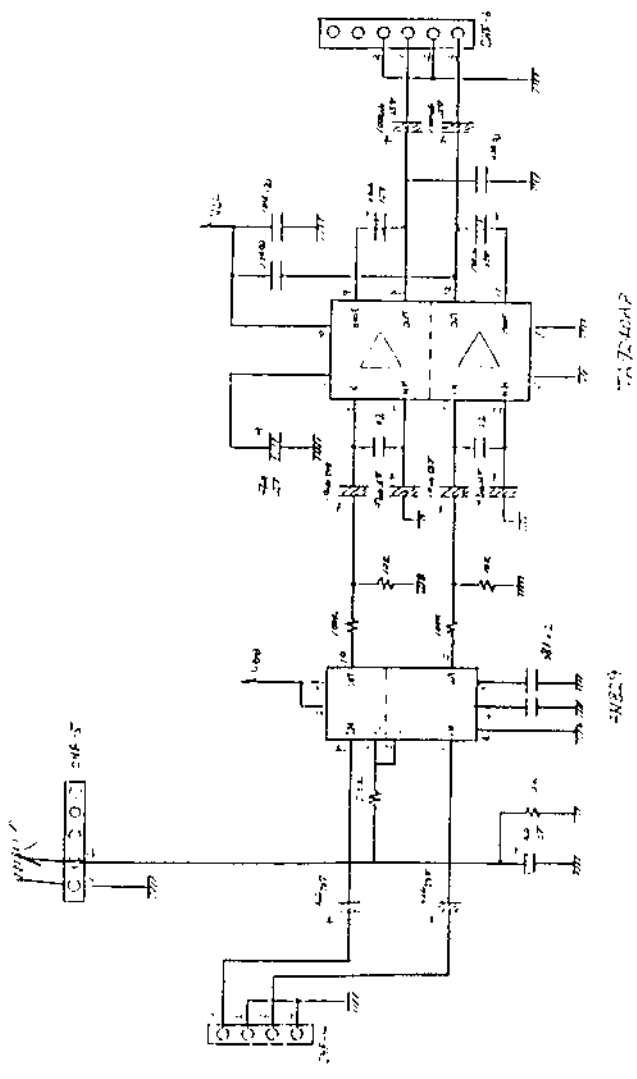

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ATF012A
SHEET 02



ATF012A
SHEET 03



TF02PA
SHEET 01


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CUSTOMER RESPONSE

This APACHE-3™ Installation and Service Manual includes schematic diagrams, and should answer almost all of the technical questions that you may have. Should you require additional, or more detailed information, you should contact the DATA EAST distributor from whom you have purchased the game. His highly qualified staff will, most likely, be able to answer your questions, or give you the proper direction. If, after consulting with your distributor, you still require additional assistance, you may contact the DATA EAST service department at (408) 286-7080, between the hours of 8:00 AM and 5:00 PM Pacific time. When contacting your distributor, or when contacting DATA EAST, please be prepared to provide the serial numbers for the game pcb (printed on the original product seal), the "AAMA PROTECT" sticker, and the game cabinet.

DATA EAST welcomes all constructive feedback, both negative and positive. We would be pleased if you would write us directly with your comments concerning our products and services. Our address is:

Data East USA, Inc.
470 Needles Drive
San Jose, CA 95112
Attn: Customer Service Dept.

Be sure to indicate whether you wish to have your name added to our mailing list for service bulletins and product updates. The form below is provided for your convenience

APACHE-3™ CUSTOMER RESPONSE

COMPANY NAME: _____
ADDRESS: _____
CITY: _____ STATE: _____ ZIP: _____
TELEPHONE: _____
YOUR NAME: _____ TITLE: _____
GAME CABINET SERIAL NUMBER _____
PCB SERIAL NUMBER _____ AAMA # _____
(from Original Product Seal)
ADD YOUR COMPANY TO OUR DIRECT MAIL LIST? (circle one) YES NO
COMMENTS: _____

