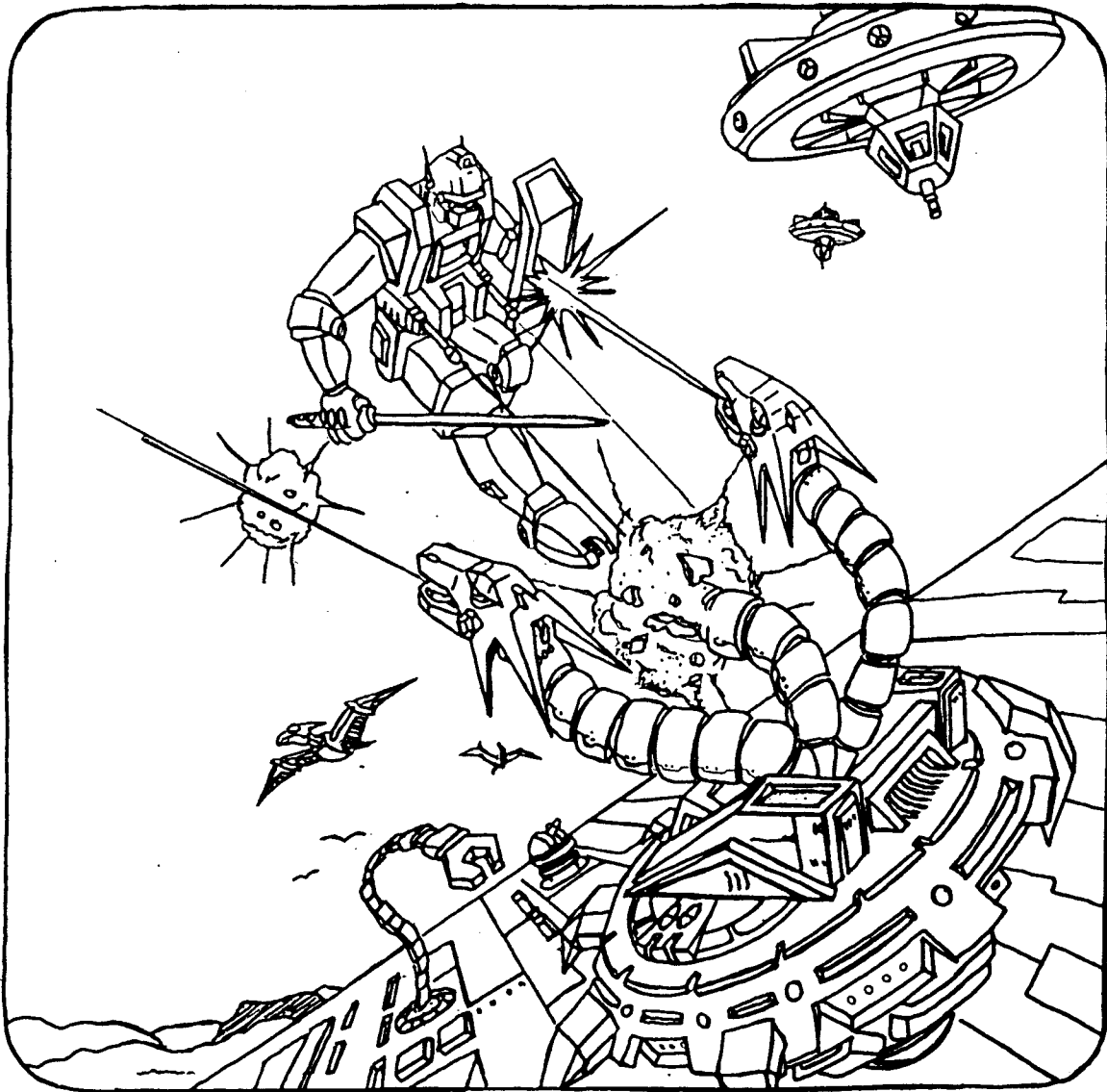


MAGMAX™

SERVICE INSTRUCTION



Nichibutsu

GAME OVERVIEW

Sometime in the not so distant future, EARTH suffers a tragic twist of fate ! An all powerful and mighty EMPIRE seizes control of our land. Human existance is threaten by these mysterious metallic monsters ! Is there no hope for mankind ? Has man seen his last reign on EARTH come to an end ?

Unknown to the destructive forces that now rule over the land and sea, is a secret mechanism developed as man's last hope ! All of man's energies, resources and knowledge have been poured into this new defense weapon. If man is to succeed in regaining his home from these evil forces, this machine is his final breath ! The terrible three headed DRAGONIA scorns the land consuming our people with it's voracious hunger ! Can it be stopped ???

A single, brave and gallant soldier must be chosen to fight this final battle ! All mankind awaits the outcome of this lopsided match ! Can EARTH be saved ?? The craft launches now from the underground rebel base and races to the jetta point !

Who will win the final battle between DRAGONIA and MAGMAX ? ? ...

KIT CONTENTS :

1. NICHIBUTSU PRINTED CIRCUIT BOARD	1	pc
2. FCC STICKER	1	
3. MARQUEE	1	
4. SIDE DECALS	2	
5. WIRING HARNESS	1	
6. 8-WAY JOYSTICK	1	
7. BUTTON / SWITCH ASSEMBLY	2	
8. CONTROL PANEL OVERLAY	1	
9. INSTRUCTION MANUAL	1	

USER INFORMATION

F.C.C. REGULATION COMPLIANCE

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction 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 F.C.C. rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

F.C.C. requires the STICKER comes within the KIT have to be on the back of your machine or elsewhere visible when inspected.

SERVICE INFORMATION

NICHIBUTSU will repair and exchange parts or replace P.C.Board in the event of manufacturing defect for ninety day after original purchase.

Mail-in service can be obtained during the warranty period by sending the product postage prepaid, to the nearest distributor or NICHIBUTSU USA CORP. (California).

A purchase receipt or other proof of of date of original purchase will be required before warranty performance is rendered.

It is important that the enclosed registration card be filled out entirely and send-in for your protection in case of product failure.

HOW TO PLAY

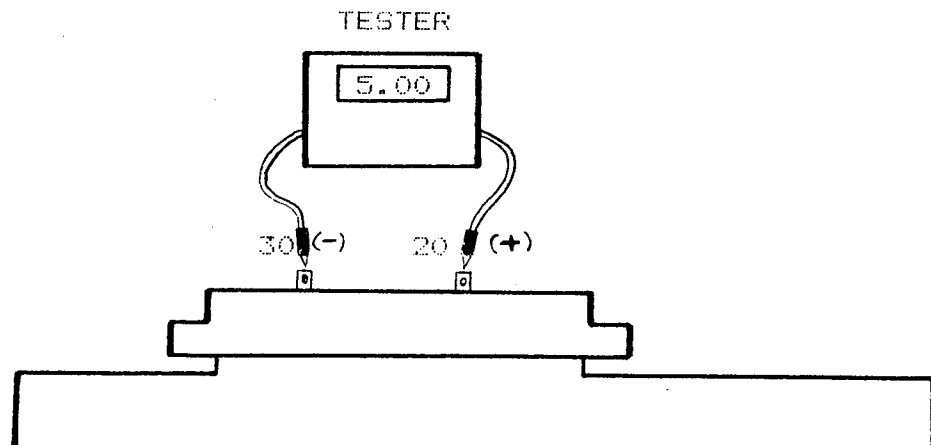
- * Control MAGMAX using 8 way joystick.
- * Destroy enemies and alien formations using ENERGYBEAM !
- * Warp between ground level and underground using TRANSPORTER .
- * Form a powerful MAGMAX robot by joining with head and leg units. FIREPOWER is increased with each unit added .
- * With HEAD joined to MAXcraft, pick up RED PLASMA WEAPON. This enables MAGMAX to destroyed enemies in succession !
- * BONUS point for destroying enemies formed in one line flashing RED : 1000 - 1000 - 1000 - - - ->
- * Shoot down STALACLITES to destroy enemies !
- * Beware of underground volcanoes !
- * When DRAGONIA appears, shoot each head seven times to defeat it !

POWER REQUIREMENT

This P.C.Board requires a power supply of

- * + 5 V 5 A (\pm 2%) for game logics
- * +12 V 1 A (\pm 10%) for audio IC only

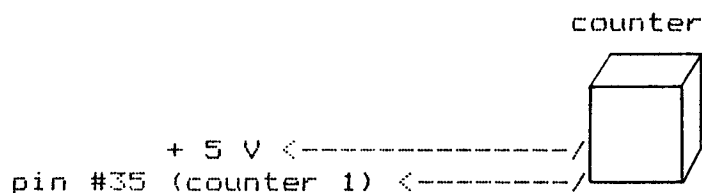
It is very important that exactly + 5 V must be adjusted and checked at the edge connector pin # 20 (plus) and pin # 30 (minus) as shown below . Otherwise malfunction may occur in some cases.



WIRING CONNECTOR

SOLDER SIDE			PARTS SIDE		
1	p1-UP	w/brown	2	p1 - DOWN	w/red
3	p1 - LEFT	w/orange	4	p1 - RIGHT	w/yel
5	p1- SHOOT	w/green	6		
7	p2 - UP		8	p2 - DOWN	
9	p2 - LEFT		10	p2 - RIGHT	
11	p2 - SHOOT		12		
13	COIN 1	w/purple	14	COIN 2	
15	GND		16	GND	black
17	GND	black	18	GND	
19	+ 5 V	red	20	+ 5 V	red
21	+ 12 V	yellow	22		
23			24	+ 12 V	
25	+ 5 V	red	26	+ 5 V	
27	GND	black	28	GND	
29	GND	black	30	GND	
31	1 player	brown	32	2 players	w/blue
33	TEST	orange	34	SERVICE	w/blk
35	COUNTER 1	w/gray	36	COUNTER 2	
37	SP (+)	purple	38	SP (-)	gray
39			40	RED	
41	GREEN		42	BLUE	
43	GND	black	44	SYNC	white

COUNTER CONNECTION



Only work with 5 V or 6 V type counter. Please don't use 12 V or 24 V type counter, It may damage the logic board.

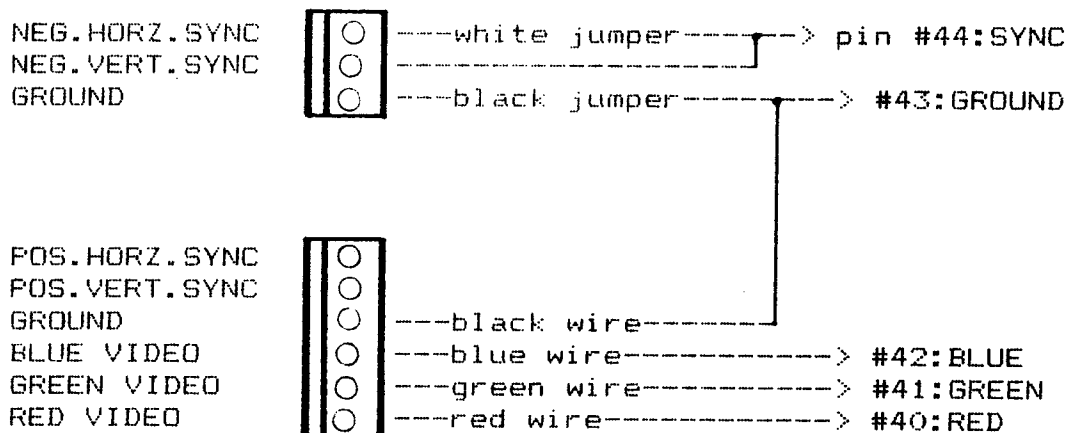
MONITOR SYNCHRONIZATION

The P.C.Board in this kit uses COMPOSITE NEGATIVE SYNCHRONIZATION.

The wires of the new harness to the monitor are color coded to indicate the RED , BLUE , GREEN video signals to the monitor . The BLACK is used for GROUND (0 V) and the WHITE is for SYNC (synchronization).

Attach the wires from the P.C.Board to the monitor's main circuit board as shown below .

*for WELLS-GARDNER MONITOR
 &
 *for ELECTROHOME MONITOR



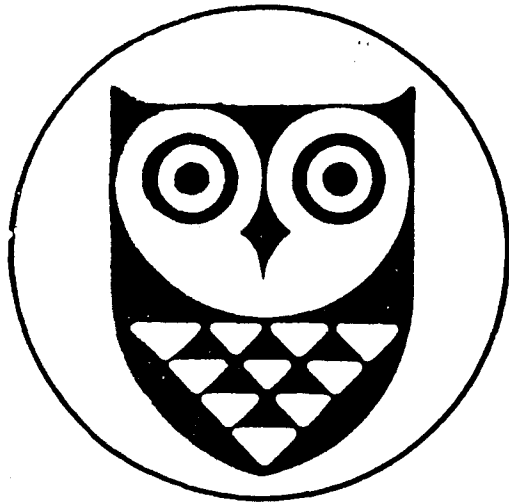
DIP SWITCH ADJUSTMENTS

SWITCH 1

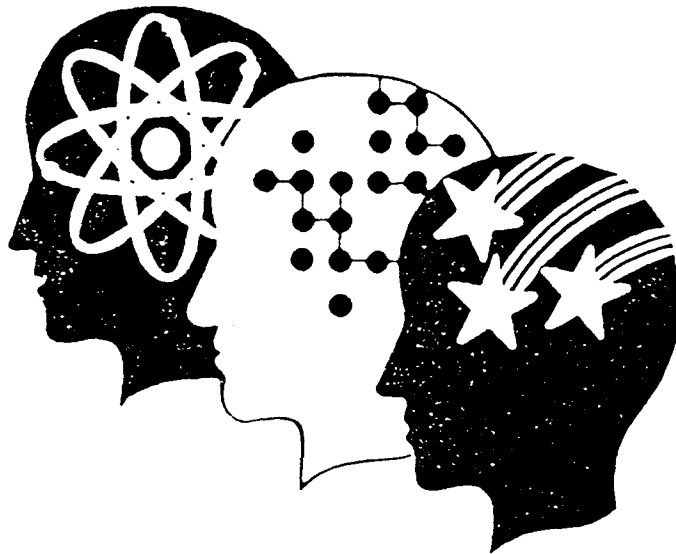
		1	2	3	4	5	6	7	8
Number of player	3	OFF	OFF						
	4	ON	OFF						
	5	OFF	ON						
	6	ON	ON						
Bonus Player	30000& 50000			OFF	OFF				
	50000& 70000			ON	OFF				
	70000& 90000			OFF	ON				
	90000&110000			ON	ON				
Demo Sound	WITH					OFF			
	WITHOUT					ON			
Type	TABLE						OFF		
	UPRIGHT						ON		

SWITCH 2

		1	2	3	4	5	6	7	8
COIN	: 1 Coin 1 Credit	OFF	OFF						
	: 1 " 2 "	ON	OFF						
	1 : 2 " 1 "	OFF	ON						
	: FREE PLAY	ON	ON						
Coin	: 1 Coin 3 Credit			OFF	OFF				
	: 1 " 6 "			ON	OFF				
	2 : 2 " 3 "			OFF	ON				
	: 3 " 1 "			ON	ON				
Difficulty	EASY					OFF			
	HARD					ON			



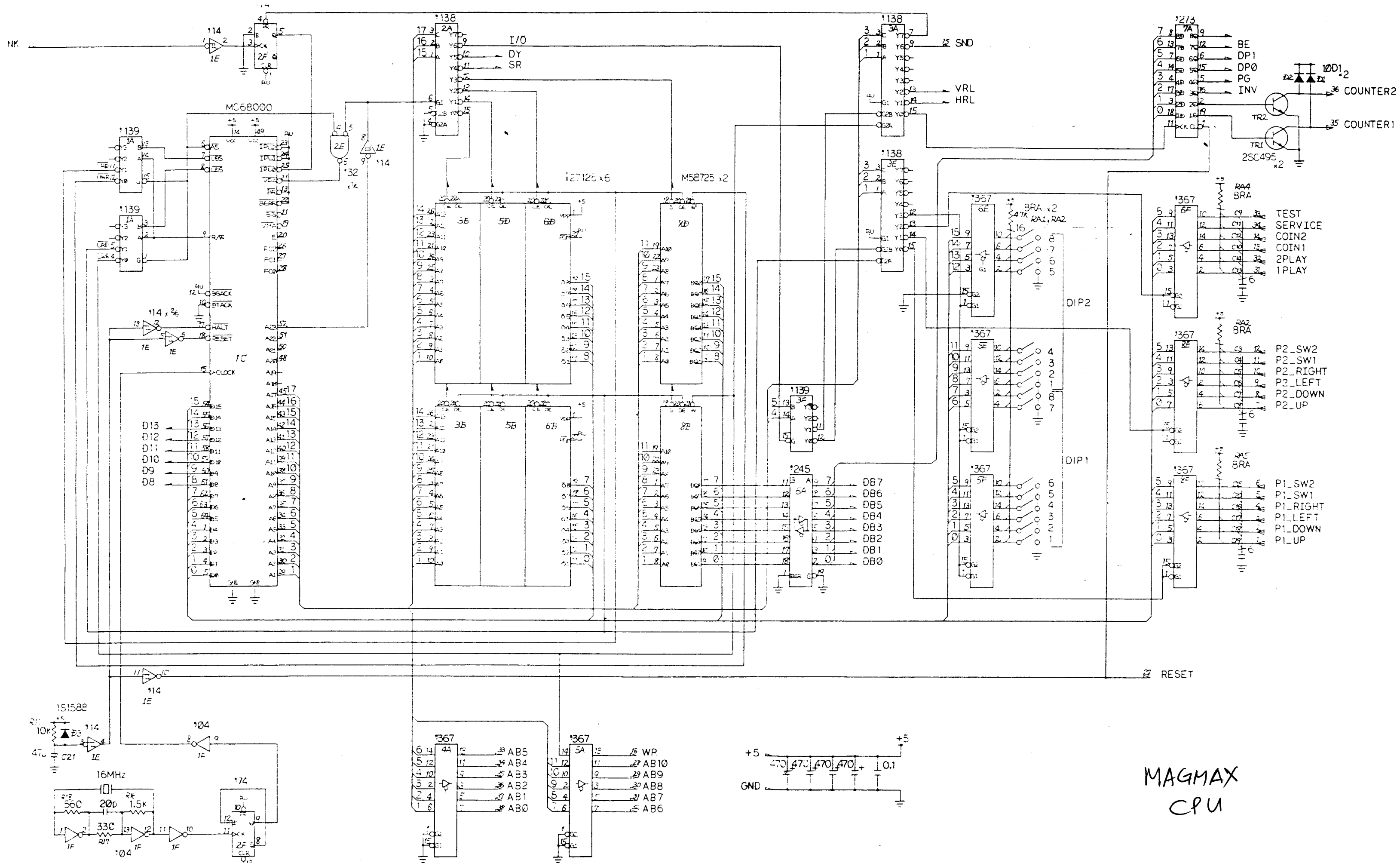
Nichibutsu



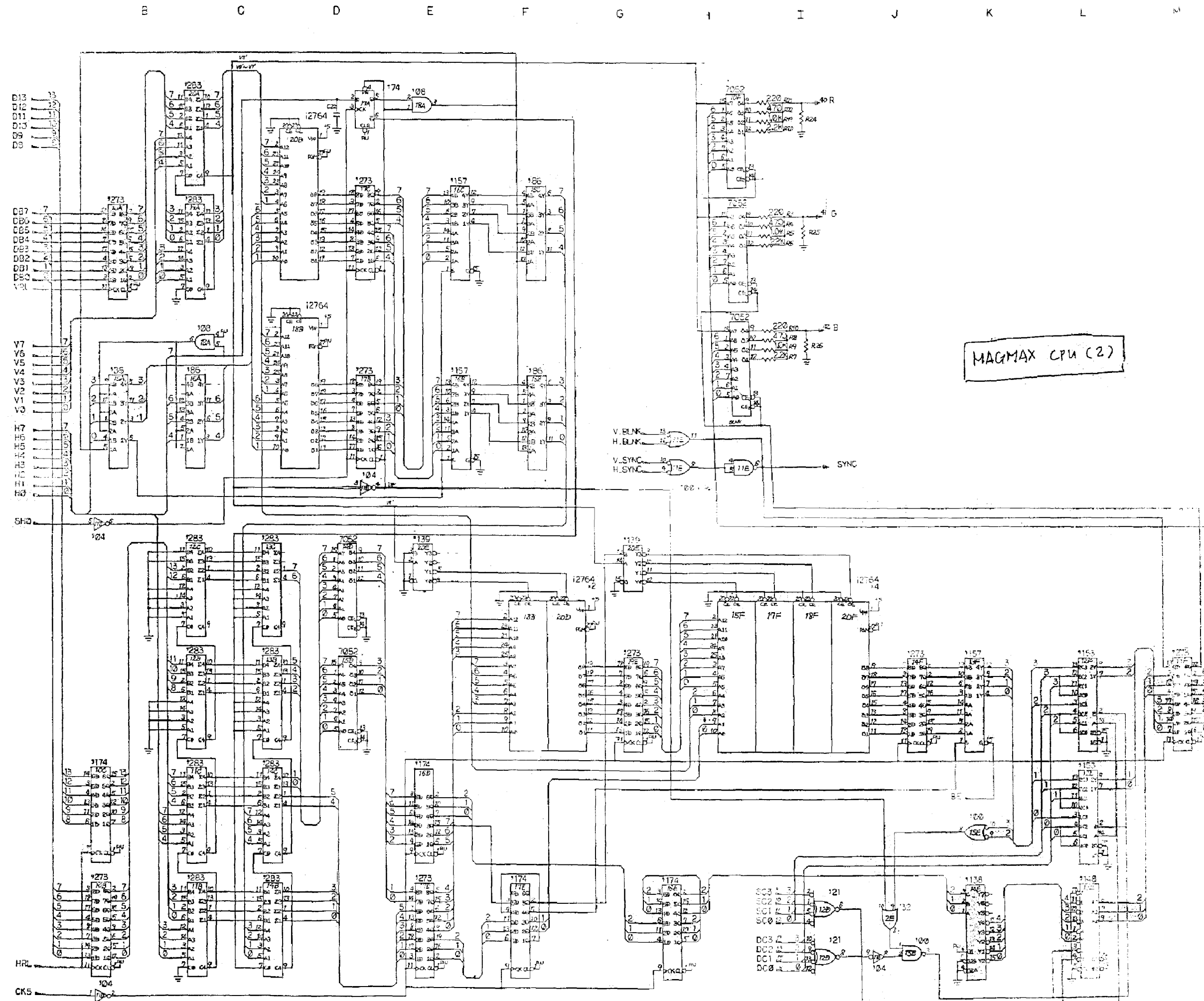
Frontier Spirit
of Amusement

NICHIBUTSU USA CORP.
15737 Garfield Ave., Unit 18
Paramount, CA.
90723

Sales: (213) 408-0515
Service: (213) 408-0518



MAGMAX
CPU



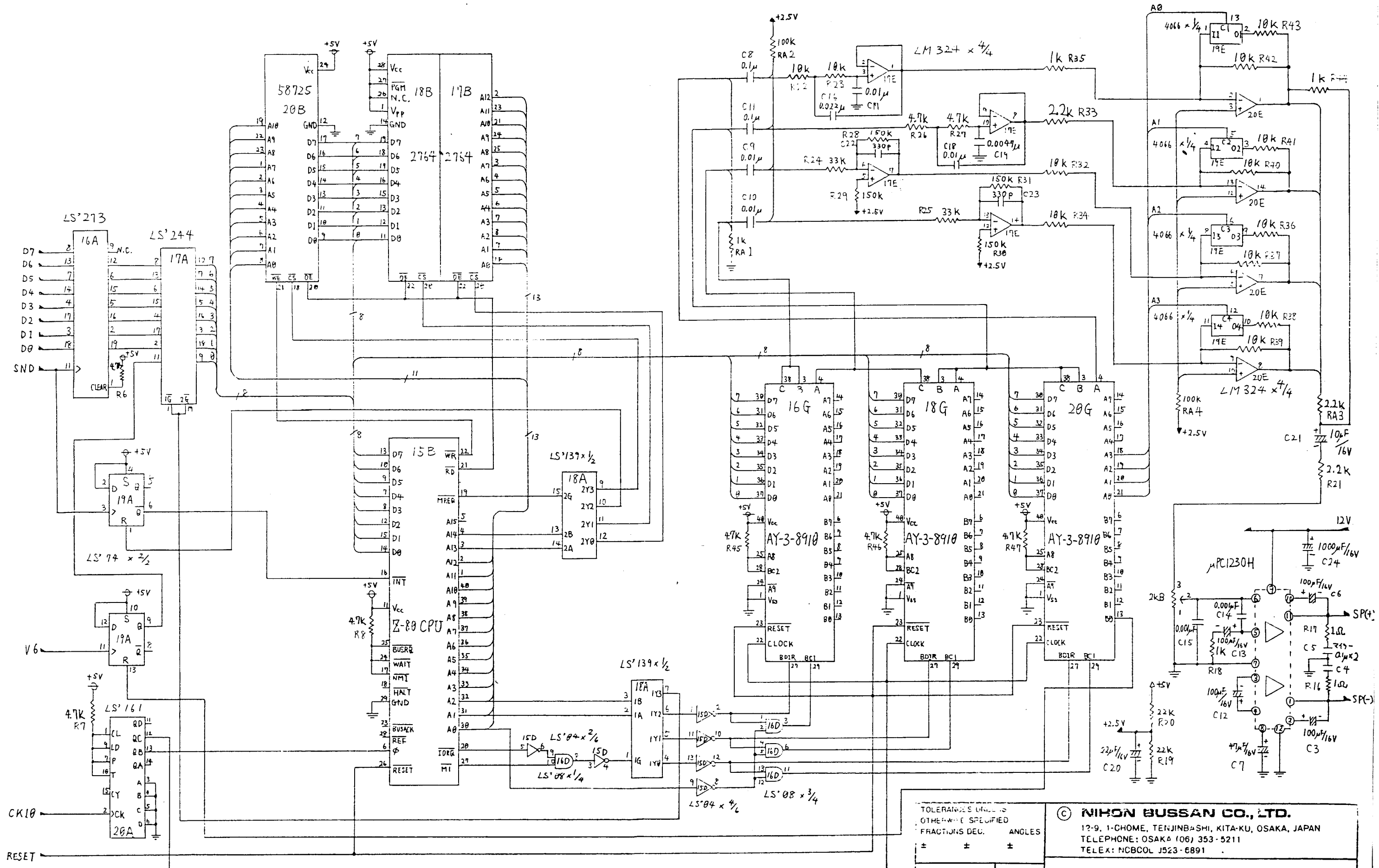
MAGMAX CPU (2)

- D13
- D12
- D11
- D10
- D9
- D8
- D7
- D6
- D5
- D4
- D3
- D2
- D1
- D0
- V7
- V6
- V5
- V4
- V3
- V2
- V1
- V0
- H7
- H6
- H5
- H4
- H3
- H2
- H1
- H0
- SHD

- V.BLNK 15
- H.BLNK 14
- V.SYNC 10
- H.SYNC 4

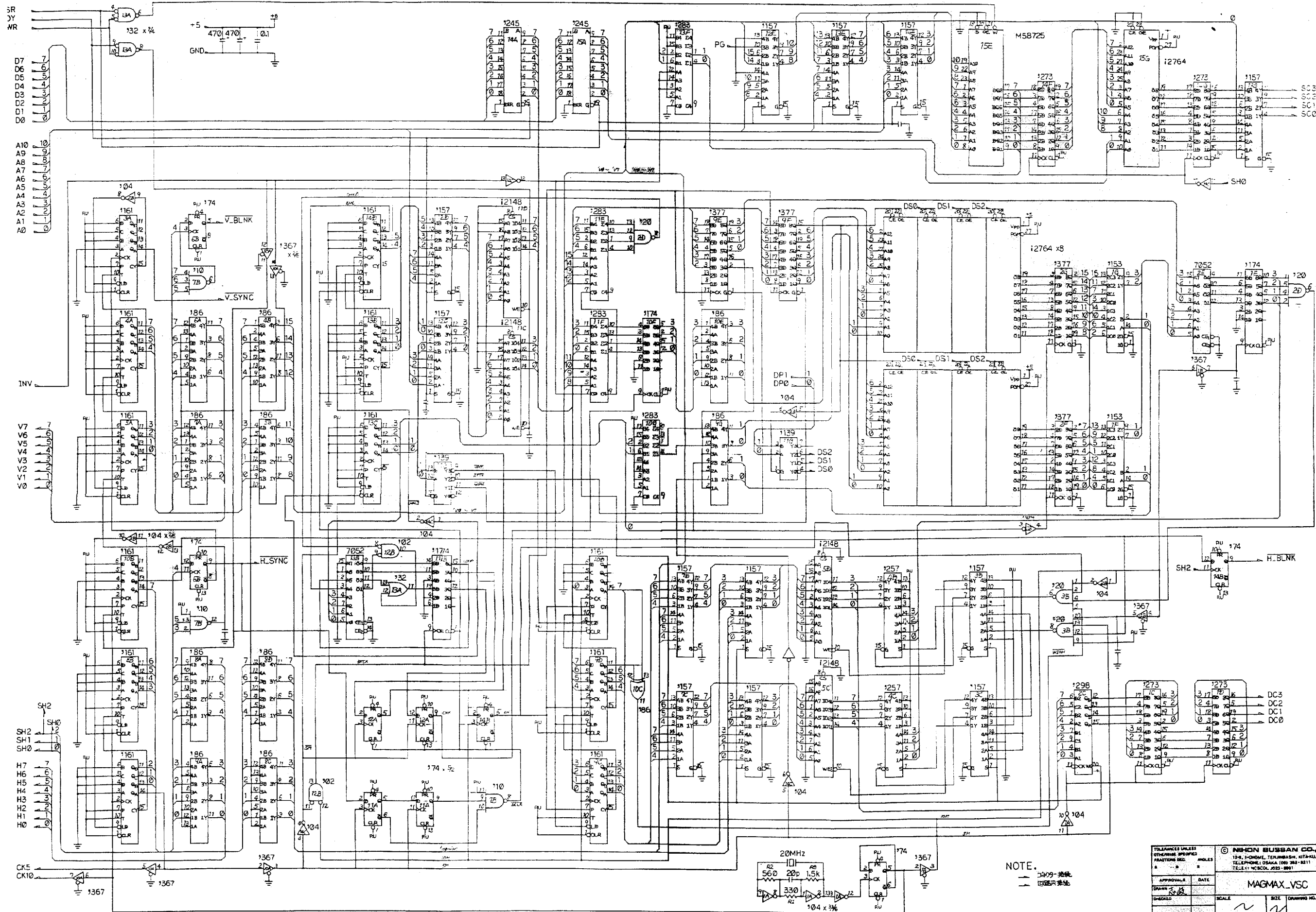
- DC3 2
- DC2 1
- DC1 1
- DC0 1

- HR
- CK5



注: 167-I.C. 後部には 放熱板取付スペースとして 10mm x 40mm のスペースを空けて 前部に放熱板を貼る。 注: 100Ω は CMOS 対応。 注: 抵抗値の下に RAZ 記号は 0.1% 精度。 注: OP Amp は 全 7 LM324

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APPROVALS	DATE	MAGMAX SOUND	
DRAWN R. YAMADA	85' 1. 7.		
CHECKED		SCALE	SIZE A3
		DRAWING NO.	



NOTE.
 1. 20MHz 発振回路
 2. 20MHz 発振回路

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DESIGNED	SCALE	SIZE	DRAWING NO.
DRAWN		DATE	
CHECKED		DATE	