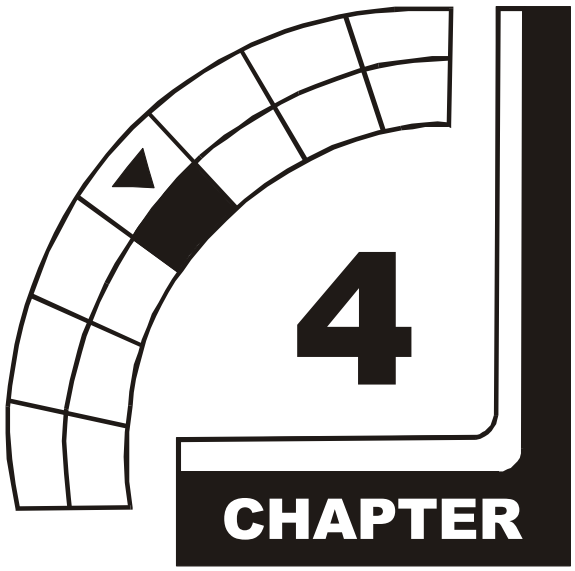
OFFROAD THUNDER™



WIRING & CIRCUIT INFORMATION

	**WARNING:** Failure to reconnect ground wires or replace metal shields may result in radio frequency interference.
	**NOTICE:** The term VGM refers to the video game machine.

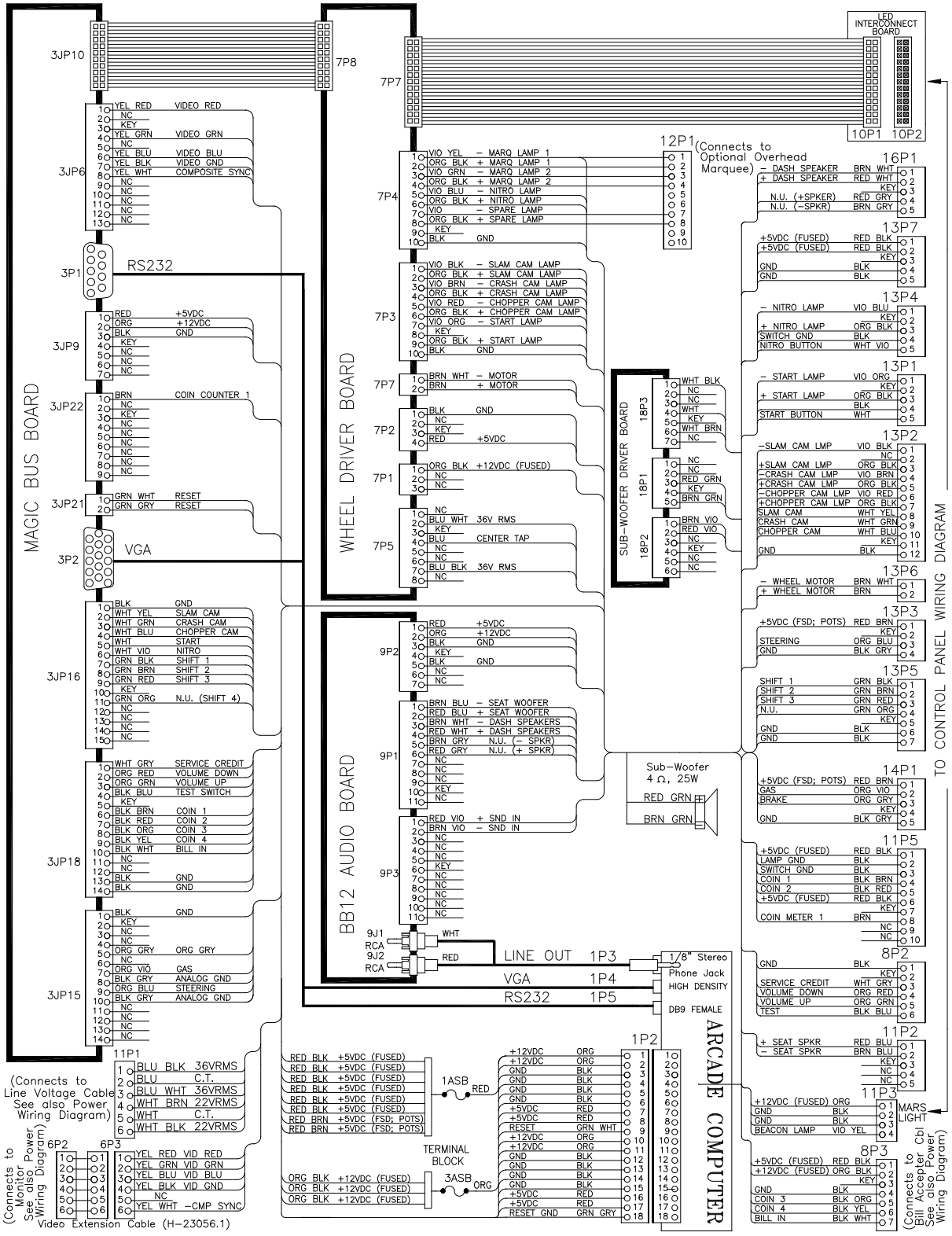
Harness Connector Prefixes

Prefix	Connector Location	Example
1	Arcade Computer	1P1
2	--	--
3	Magic Bus Interface Board	3P1
4	Fluorescent Lamp	4P1
5	Power Supply	5P1
6	Video Monitor	6P1
7	Wheel Driver Board	7P1
8	Coin Door Area	8P1
9	BB12 Audio Board	9P1
10	LED Interconnect Board	10P1
11	Cabinet	11P1
12	Optional Overhead Marquee	12P1
13	Dashboard	13P1
14	Gas Pedal & Brake	14P1
15	Upper Speakers	15P1
16	Seat Speaker	16P1
17	Dash LED Board	17P1
18	Subwoofer Driver Board	18P1

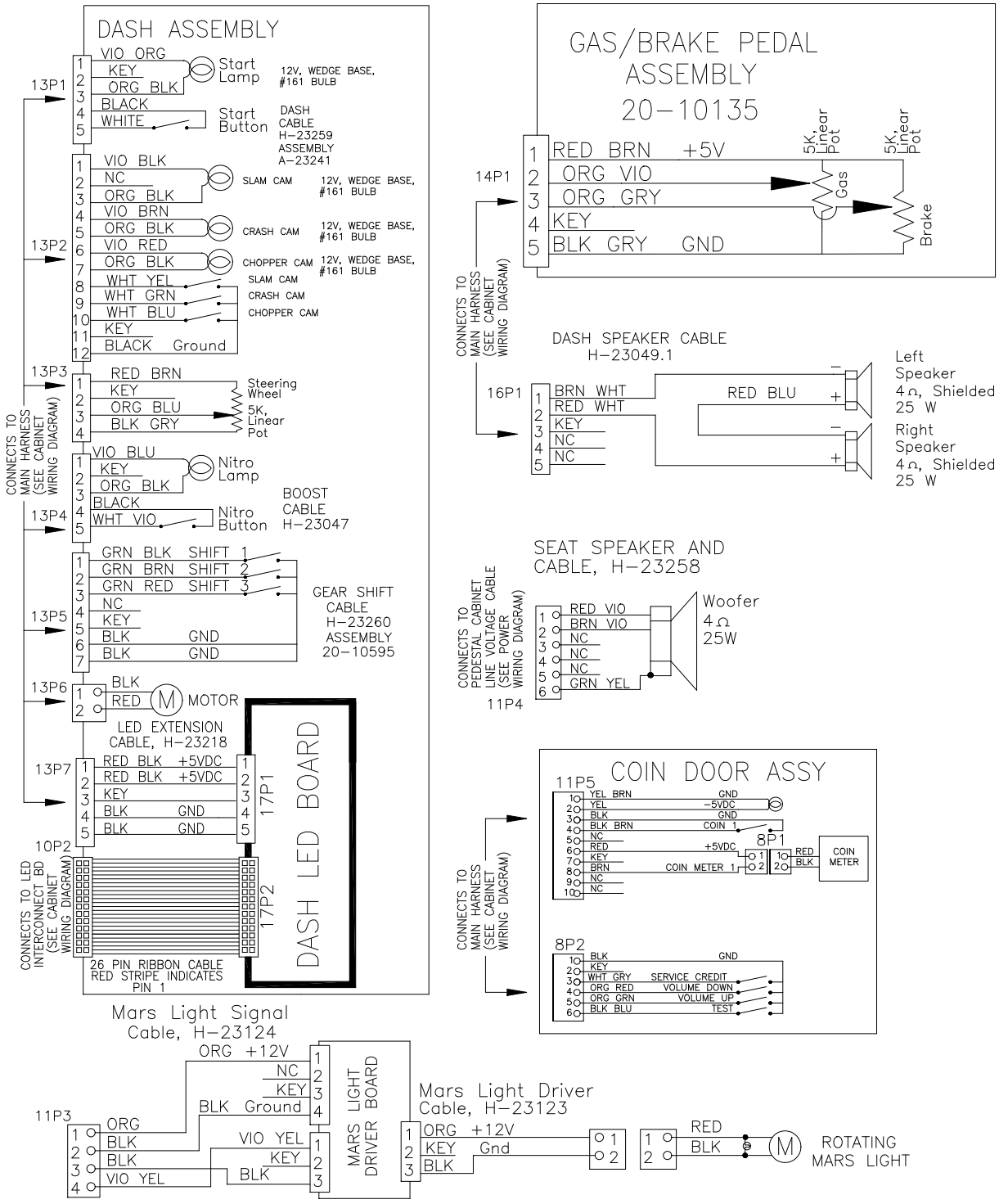
NOTICE: Look for the connector prefix on wiring diagrams. The prefix shows you where you'll find the connector.

Power Wiring Diagram

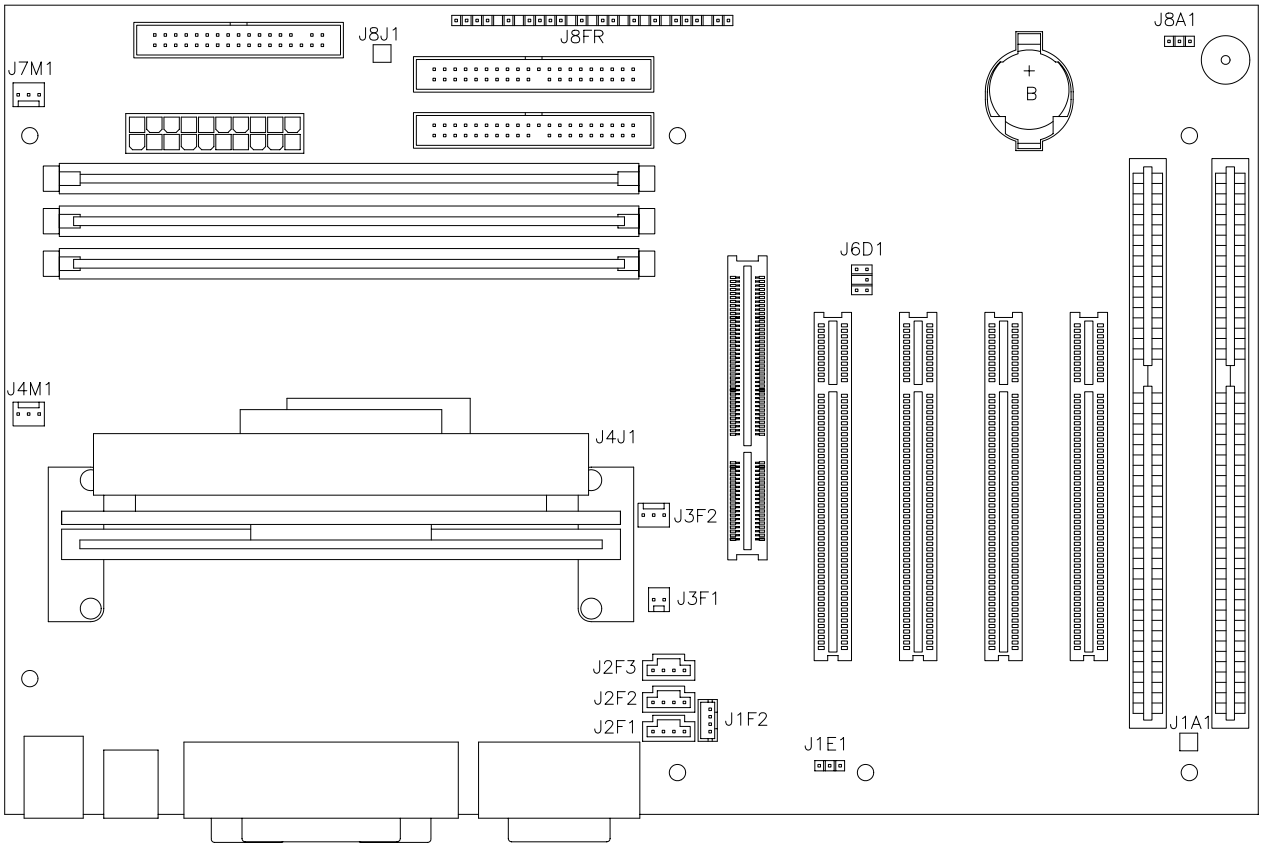
Cabinet Wiring Diagram



Player Panel Wiring Diagram



Computer Motherboard Assembly 20-10554



MOTHERBOARD CONNECTOR AND JUMPER STATUS

(NOTES FOR TABLE ON FOLLOWING PAGE)

	**NOTICE:** The term VGM refers to the video game machine.

NOTES:

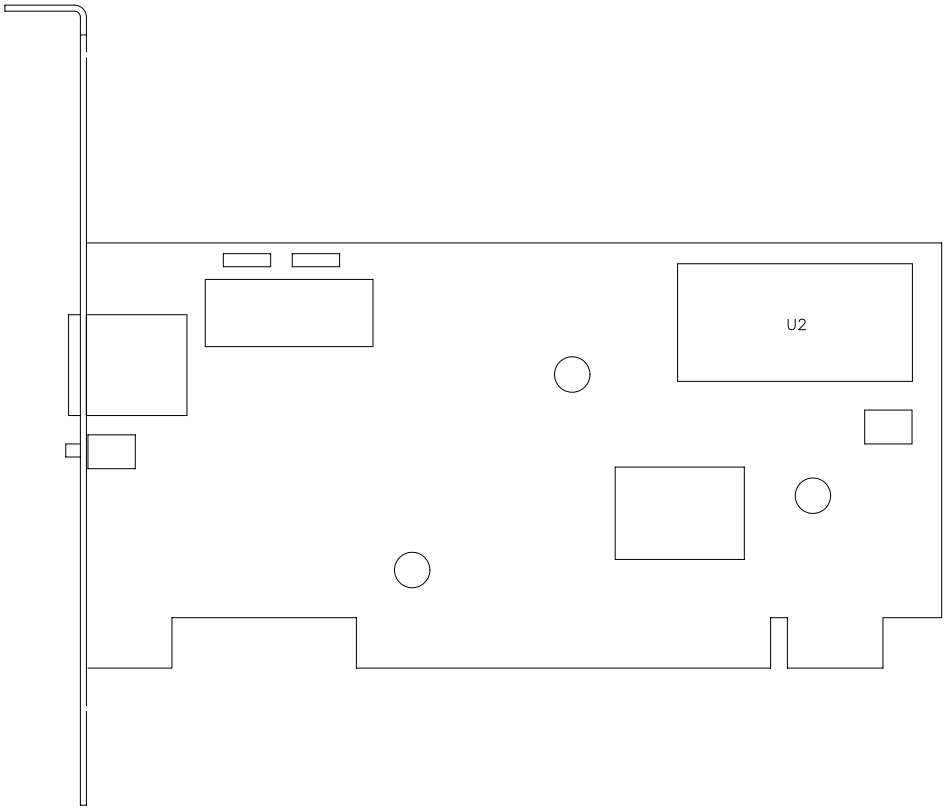
1. VGM doesn't require jumper or telephone connection.
2. VGM doesn't require jumper. VGM uses proprietary network for game linking.
3. VGM doesn't require connections. VGM has no ATAPI devices (CD ROMs).
4. VGM doesn't require jumper. Tamper-detection security feature isn't installed.
5. Connect processor module fan to this jack. Computer may become unreliable if processor overheats.
6. Connect processor module to this jack. 242-pin socket accepts single microprocessor modules.
7. VGM doesn't require connections. Case cooling fans connect directly to power supply.
8. VGM doesn't require connections. VGM doesn't use SCSI devices (Hard Drives).
9. Connect reset cable from Filter Board to this jack. VGM doesn't use front-panel devices.
10. Jumper must be set over pins 1 & 2 for this VGM. VGM won't run with incorrect or missing jumper.

* Replacement Motherboards may not include this jumper. Refer to Parts to order extra shunt jumpers.

Motherboard Connector and Jumper Status Table

Designation	Location	Function	Meaning	Setting	Default
J1A1	Lower Right	Wake	Not Used In This	Open	■
	Near Board	On	VGM (No	1 & 2	
(Note 1)	Expansion Slot	Ring	Telephone)		
J1E1	Lower Center	Wake	Not Used In This	Open	■
	Near Board	On	VGM (No		
(Note 2)	Expansion Slot	LAN	PC LAN)		
J1F2	Lower Center	CD Audio	Not Used In This	Open	■
	Near Board	Input	VGM (No		
(Note 3)	Expansion Slot	Circuit	CD Player)		
J2F1	Lower Center	CD Data	Not Used In This	Open	■
	Near Board	Input	VGM (No		
(Note 3)	Expansion Slot	Circuit	CD Player)		
J2F2	Lower Center	Telephony	Not Used In This	Open	■
	Near Board	Input	VGM (No		
(Note 1)	Expansion Slot	Circuit	Telephone)		
J2F3	Lower Center	Auxiliary	Not Used In This	Open	■
	Near Board	Input	VGM (No		
(Note 3)	Expansion Slot	Circuit	Aux Devices)		
J3F1	Middle Center	Chassis	Not Used In This	Open	■
	Near CPU	Intrusion	VGM (No	1 & 2	
(Note 4)	And Fan	Circuit	Intrusion)		
J3F2	Middle Center	Processor	Two Speed Fan	Open	
	Near CPU	Fan	For Processor	1, 2, & 3	■
(Note 5)	And Fan	Circuit	Cooling		
J4J1	Center Left	System	System	Open	
	Module With	Micro-	Micro-	Filled	■
(Note 6)	Fan Assembly	Processor	Processor		
J4M1	Center Left	Processor	Controlled Fan	Open	■
	Near CPU	Fan	For Processor	1, 2, & 3	
(Note 7)	Module	Circuit	Cooling		
J7M1	Upper Left	Case	Controlled Fan	Open	■
	Near Power &	Fan	For Hard Disk	1, 2, & 3	
(Note 7)	Floppy Jacks	Circuit	Drive Cooling		
J8J1	Upper Left	SCSI	Not Used In This	Open	■
	Between Hard	Drive	VGM (No	1 & 2	
(Note 8)	& Floppy Jacks	Indicator	SCSI Drives)		
J8FR	Upper Center	Front	Only Reset	Open	
	Near Hard Disk	Panel	Pins Are Used	1 & 2	■
(Note 9)	Drive Jacks	Devices	In This VGM		
J8A1	Upper Right	Configur-	Starts System	Open	
	Near Battery	ation	Setup Routine	1 & 2	■
(Note 10)	And Speaker	Select	or Operation	2 & 3	

Network Interface Board Assembly 20-10550



Network Interface LED Indicator Table

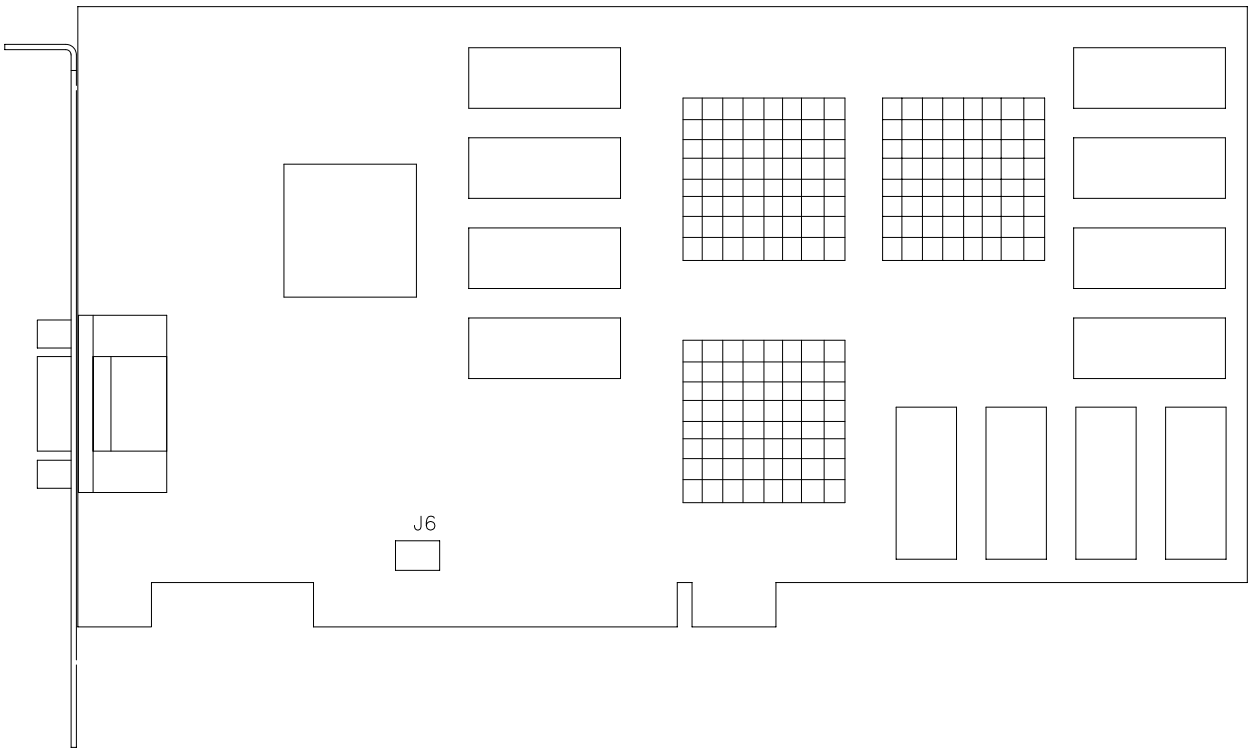
Designation	Location	Function	Color	State	Meaning
LED 1 (LNK)	Left Center Under Jack	Link Verify Indicator	Green	Off	Not In Use (No Game Link)
				On	Normal Operation
				Blinking	Link Fault (Note 1)
LED 2 (ACT)	Right Center Under Jack	Activity Indicator	Green	Off	Not In Use (No Data)
				On	Receiving Data (Note 2)
				Blinking	Normal Operation

Notes:

1. Intermittent cable or hub problems may cause blinking. Blinking must be continuous during linked operation.

2. Blinks during data packet exchange. Blinking may appear continuous during heavy network activity.

Video Graphics Board Assembly 20-10551



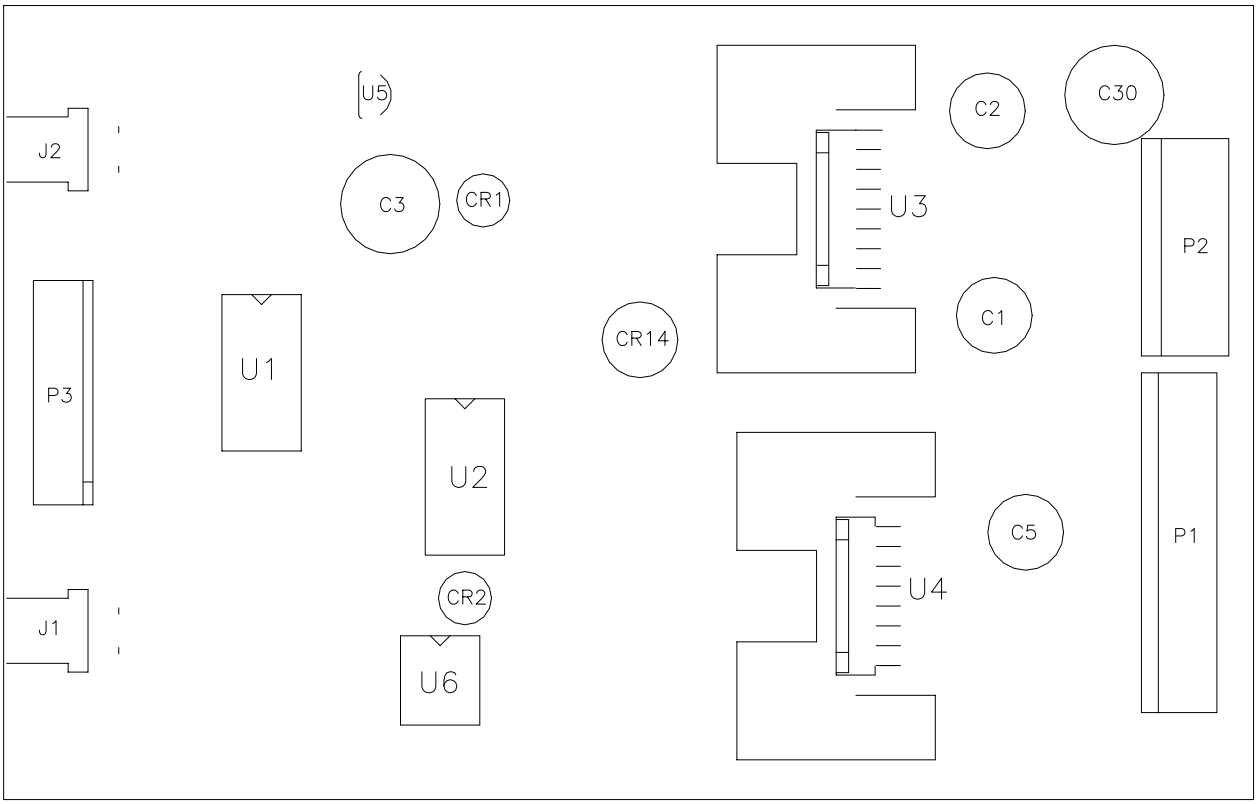
Video Graphics Connector And Jumper Table

Designation	Location	Function	Meaning	Setting	Default
J1	Left Center	Video	Graphic	Open	
	(DB-15 on	Signal	Information	1-15	■
(Note 1)	Bracket)	Output	To Interface		
J2-J7	None	---	Not Used	Open	■
(Note 2)					
JP2	None	---	Not Used	Open	■
(Note 2)					

Notes:

1. Connects to Interface Board through shielded cable. Doesn't connect directly to monitor.
2. Manufacturer option connectors and jumpers. Not required for this VGM.

Audio Amplifier Board Assembly 04-12529.1



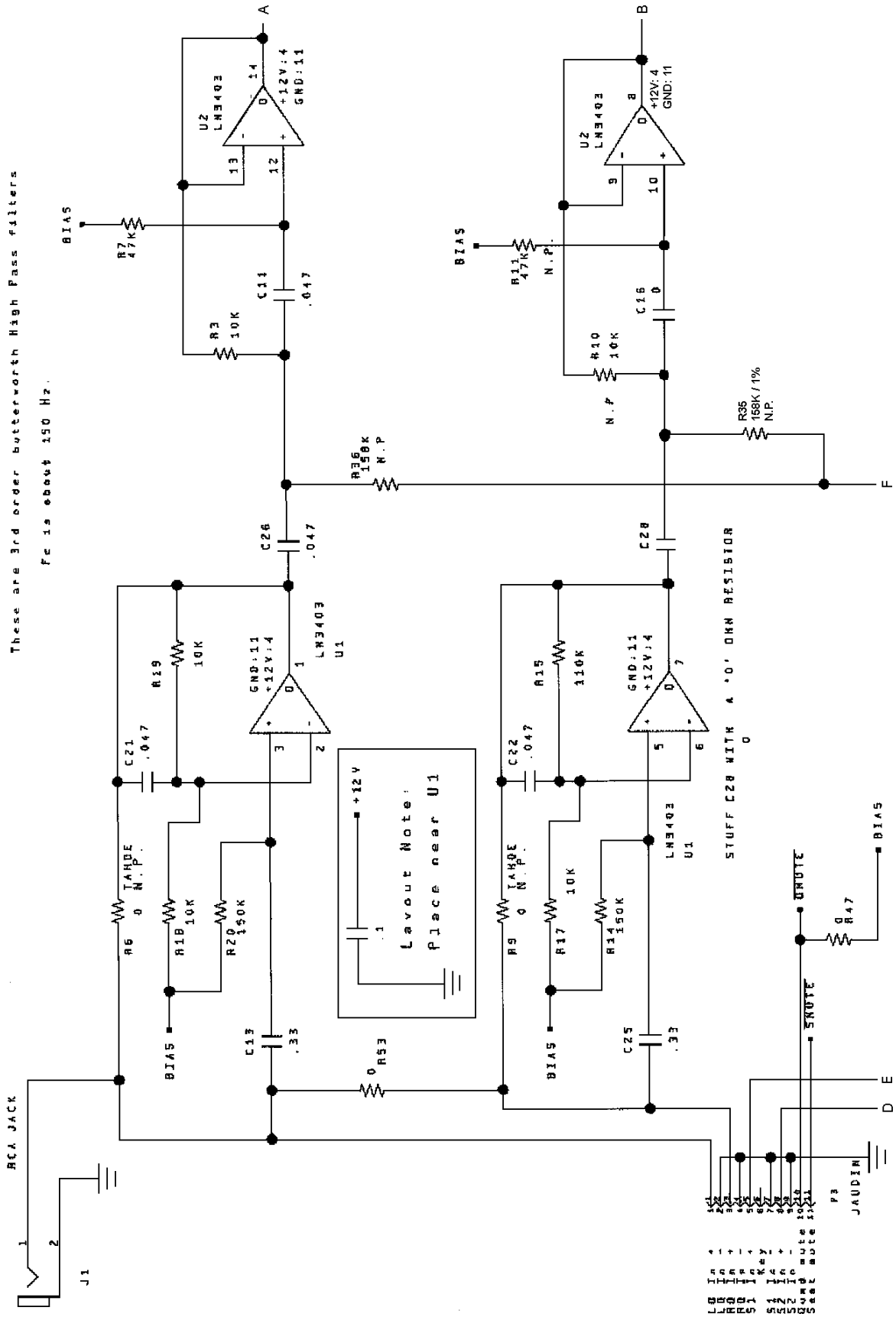
BB12 Audio Amplifier LED Indicator Table

Designation	Location	Function	Color	State	Meaning
LED 1 (CR1)	Upper Center Near C3	Fault Indicator	Red	Off	Normal Operation
				On	Locked Up (Note 1)
				Blinking	Overload (Note 2)
LED 2 (CR2)	Lower Center Near U2 & U6	Fault Indicator	Red	Off	Normal Operation
				On	Locked Up (Note 1)
				Blinking	Overload (Note 2)

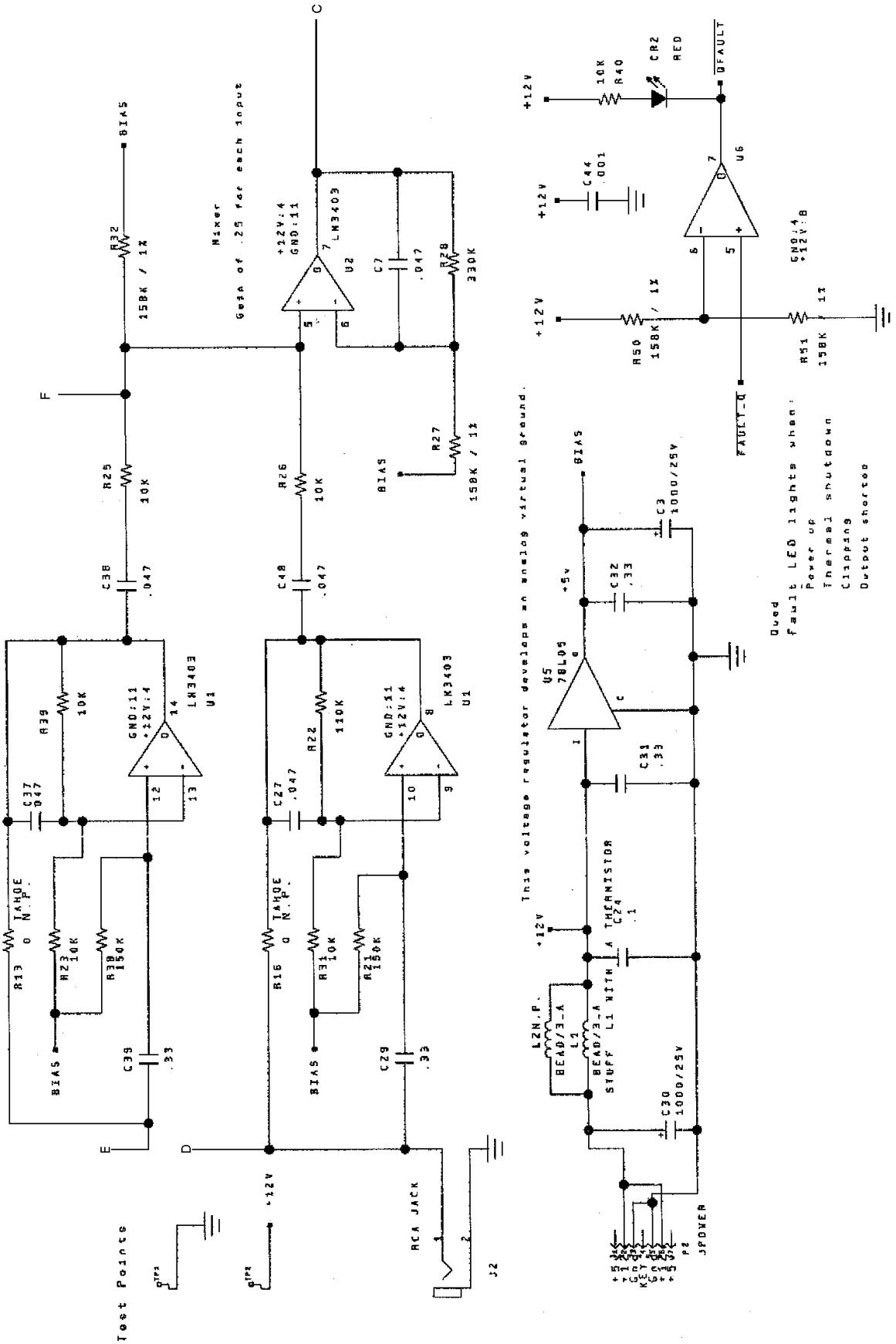
NOTES:

1. Active output protection circuit. Attempt to reset circuit by clearing fault and removing power.
2. Intermittent audio overload or overheating may cause blinking. LED should flash only during startup.

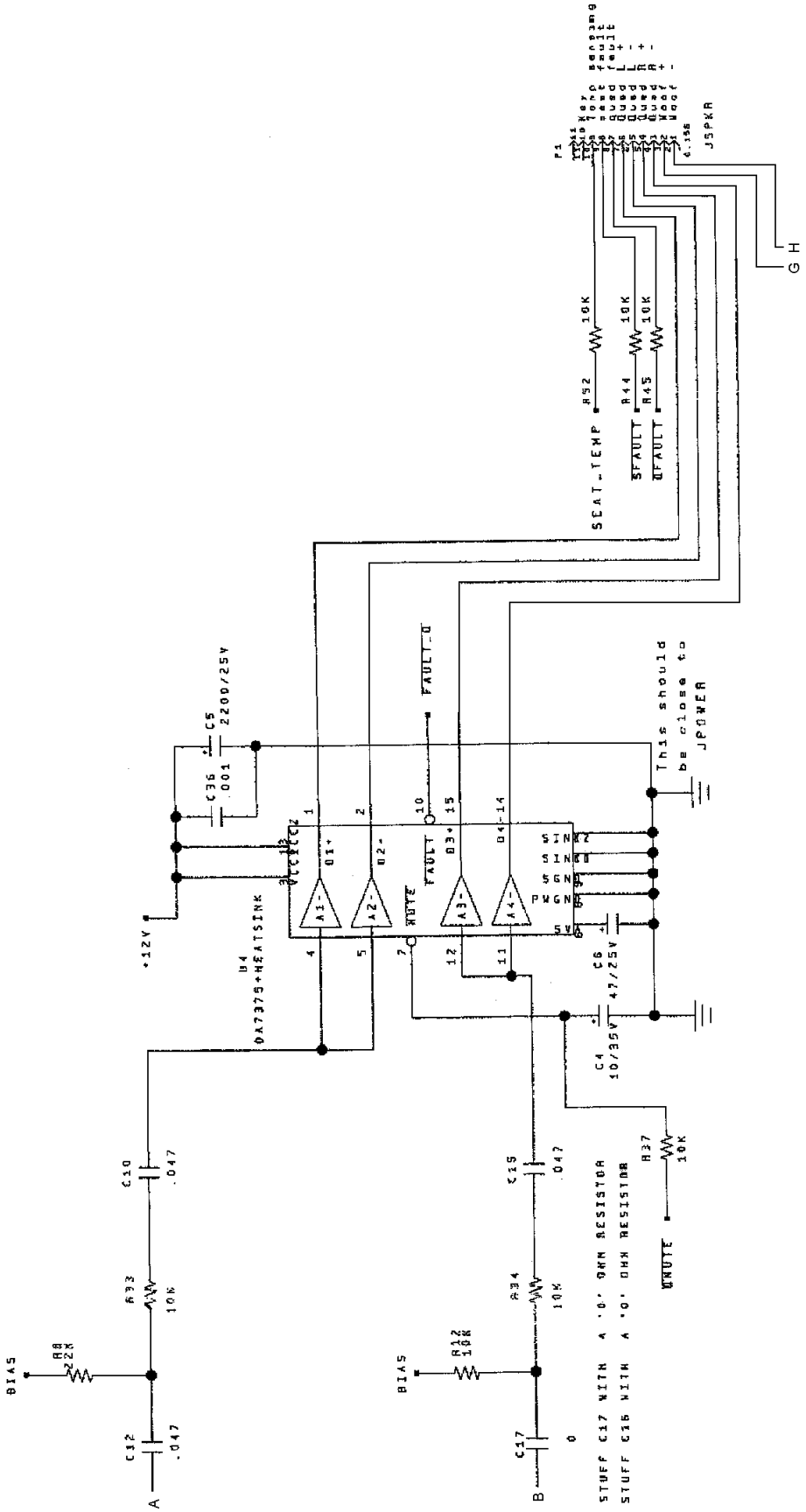
Audio Amplifier Board Schematic, 1/4



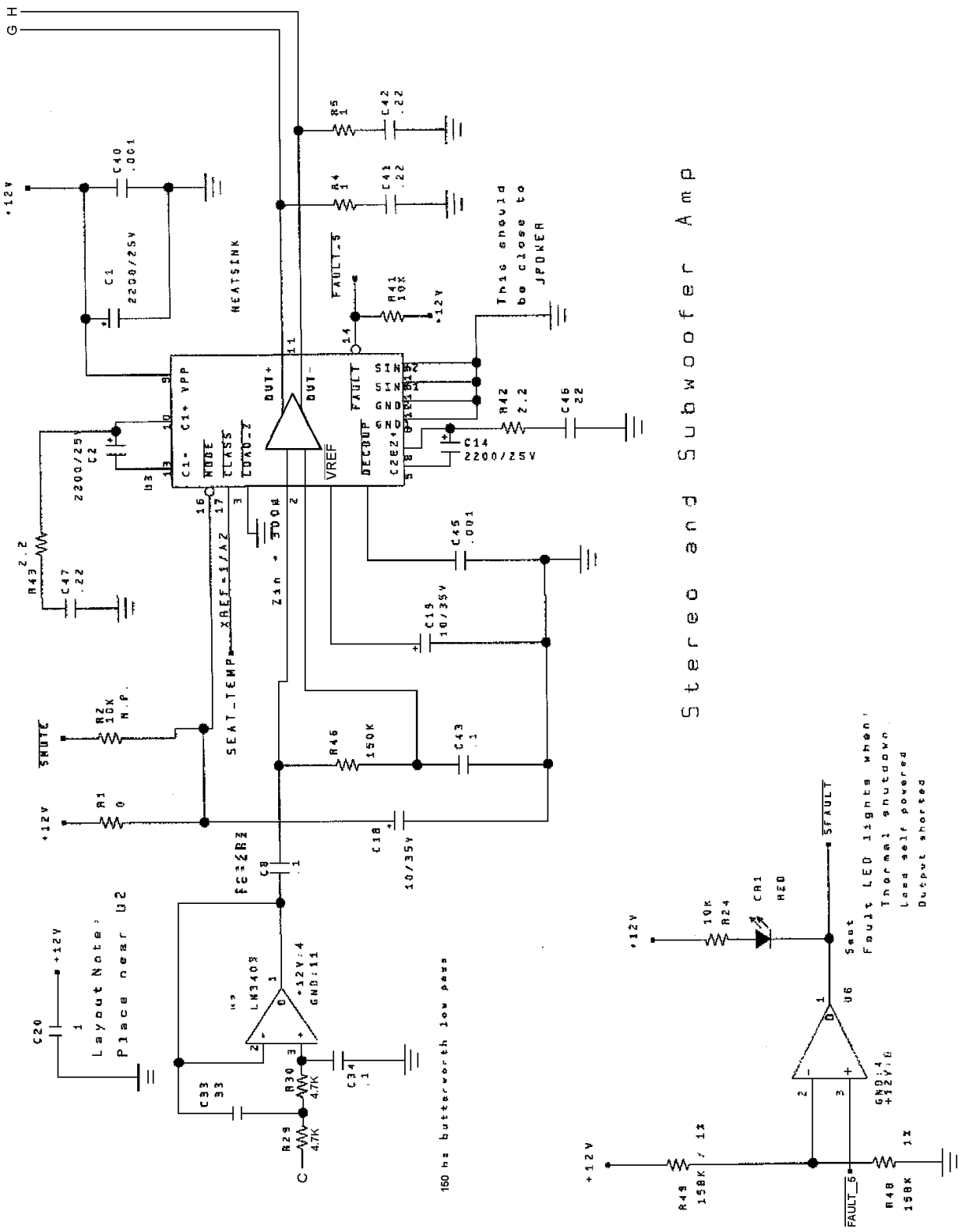
Audio Amplifier Board Schematic, 2/4



Audio Amplifier Board Schematic, 3/4



Audio Amplifier Board Schematic, 4/4



MagicBus™ Interface Board Assembly 04-12697.3

MagicBus™ Interface Board Switches

Designation	Location	Function	Positions	State	Meaning
S1-7	Right Center Near D19 – D26	USB / UART Mode Selector	2	Off*	UART Mode (Offroad VGMs)
				On	USB Mode
S1-8	Right Center Near D19 – D26	Host Watchdog Reset	2	Off*	Watchdog Enabled
				On	Watchdog Disabled

Notes:

1. Bank 1, Switch 7 should be off for *Offroad Thunder.* This switch selects USB or UART mode. USB mode is for factory testing only, and is not supported. Leave this switch in the off position.

2. Bank 1, switches 1 through 6 have no assigned function. Leave these switches off.

3. Bank 2, switch 1 through 8 have no assigned function. Leave these switches off.

MagicBus™ Board LED Indicator Table, 1/2

LED #	Location	Function	Color	State	Meaning
LED 28 +12V Power for Output Lamps	Left Center, Near Fuse F2 & Connector JP12	Indicator	Red	Off	No +12V
				On	+12V Present
				Blinking	Intermittent +12V
LED 27 +5V Power for Analog Inputs	Right, Near DIP Fuse F1	Indicator	Red	Off	No +5V
				On	+5V Present
				Blinking	Intermittent +5V
LED 10 Communi-cation	Right Center, Near DIP Switch S1	Indicator	Red	Off	Not In Use
				On	Communication Error
				Blinking	Normal Operation
LED 9 EEPROM	Right Center, Near DIP Switch S1	Indicator	Red	Off	Not In Use
				On	EEPROM not responding
				Blinking	Normal Operation
LED 8 Security	Right Center, Near DIP Switch S1	Indicator	Red	Off	Not In Use
				On	Security error
				Blinking	Normal Operation
LED 7 MagicBus Reset	Right Center, Near DIP Switch S1	Indicator	Red	Off	Not In Use
				On	MagicBus Reset
				Blinking	Normal Operation
LED 6 MagicBus Program Running	Right Center, Near DIP Switch S1	Indicator	Green	Off	Faulty MagicBus Board
				On	Faulty MagicBus Board
				Blinking	Normal Operation
LED 5 UART / USB Mode	Right Center, Near DIP Switch S1	Indicator	Green	Off	Not In Use
				On	Faulty MagicBus Board
				Blinking	With 4 & 3: UART; Individually: USB

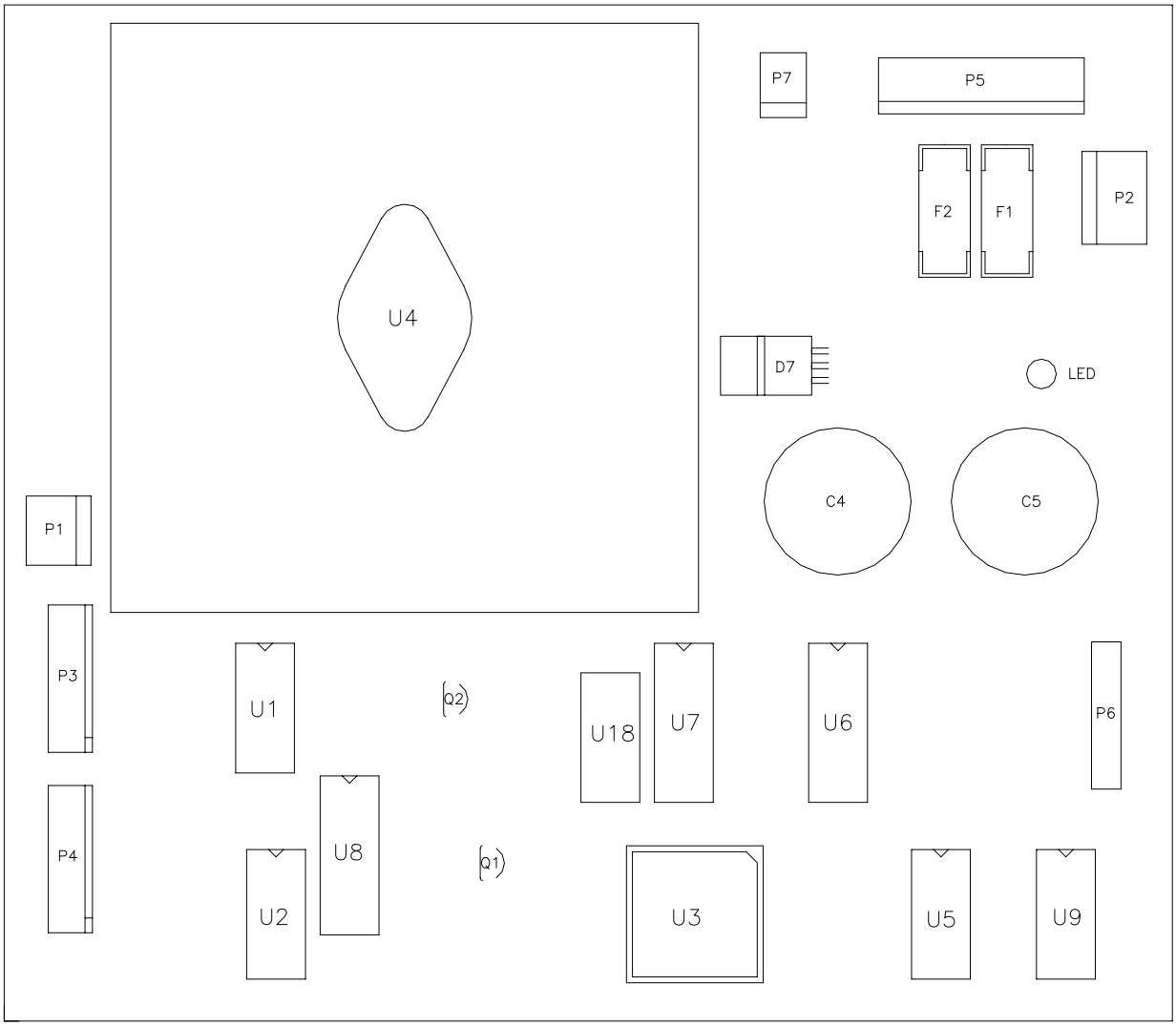
MagicBus™ Board LED Indicator Table, 2/2

LED 4 UART / USB Mode	Right Center, Near DIP Switch S1	Indicator	Green	Off	Not In Use
				On	Faulty MagicBus Board
				Blinking	With 5 & 3: UART; Individually: USB
LED 3 UART / USB Mode	Right Center, Near DIP Switch S1	Indicator	Green	Off	Not In Use
				On	Faulty MagicBus Board
				Blinking	With 5 & 4: UART; Individually: USB
LED 1 Power to MagicBus™ Board	Center, Near Fuse F2	Indicator	Red	Off	No Power
				On	Power Present
				Blinking	Intermittent Power

MagicBus™ Interface Connector & Jumper Table

Jumper	Location	Function	Meaning	Setting	Default
JP 1	Upper Right	Blue	High Impedance	Open	■
	Between	Video	Low Impedance	1 & 2	
(Note 1)	JP4 and JP2	Impedance	High Impedance	2 & 3	
JP 2	Upper Right	Green	High Impedance	Open	■
	Between	Video	Low Impedance	1 & 2	
	JP1 & JP3	Impedance	High Impedance	2 & 3	
JP 3	Upper Right	Red	High Impedance	Open	■
	Between	Video	Low Impedance	1 & 2	
(Note 3)	JP2 & JP5	Impedance	High Impedance	2 & 3	
JP 4	Upper Right	Video	Positive Sync	Open	
	Near	Sync	Negative Sync	1 & 2	■
(Note 3)	JP1 & JP2	Polarity	Positive Sync	2 & 3	

Wheel Driver Board Assembly 04-12770.1



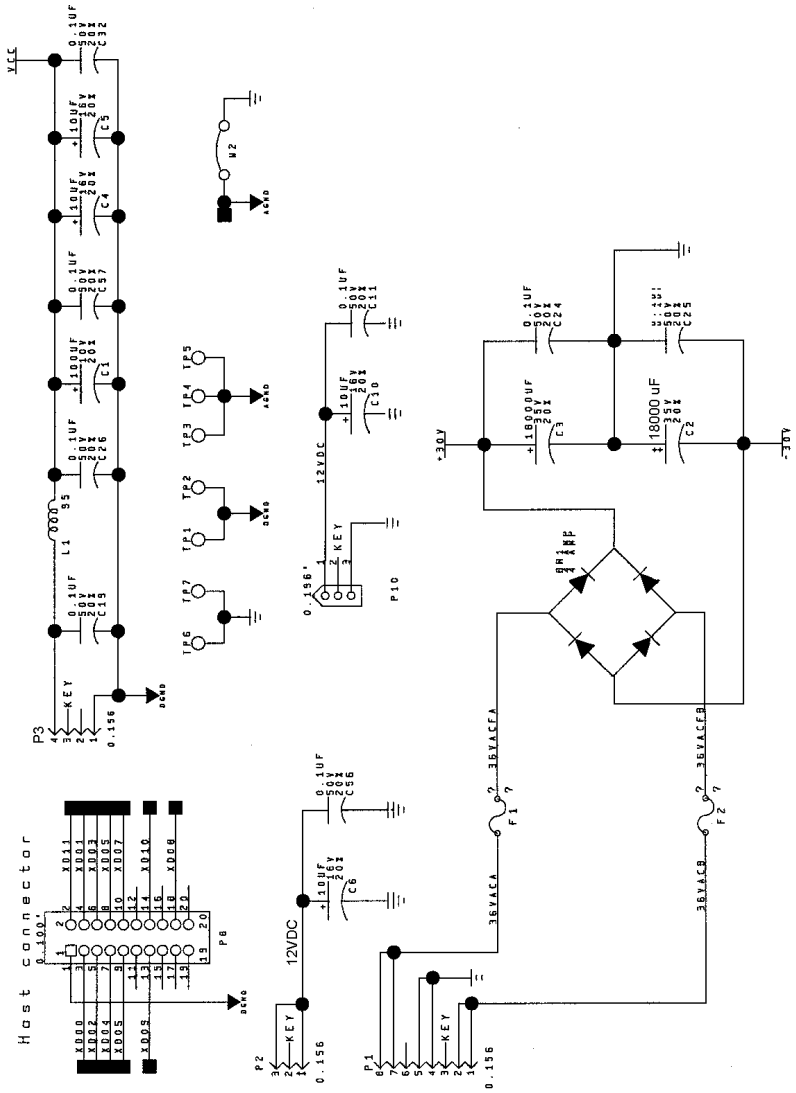
Wheel Driver Board Led Indicator Table

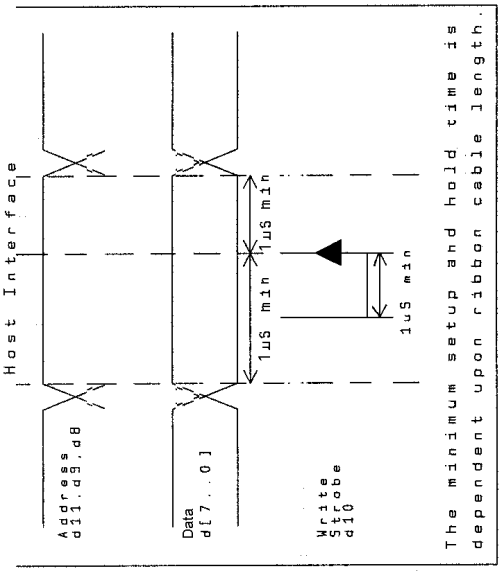
Designation	Location	Function	Color	State	Meaning
LED 1	Right Center, Near C5 & P2	Indicator	Red	Off	Not In Use
				On	Normal Operation
				Blinking	Power Fault (Note 1)

Notes:

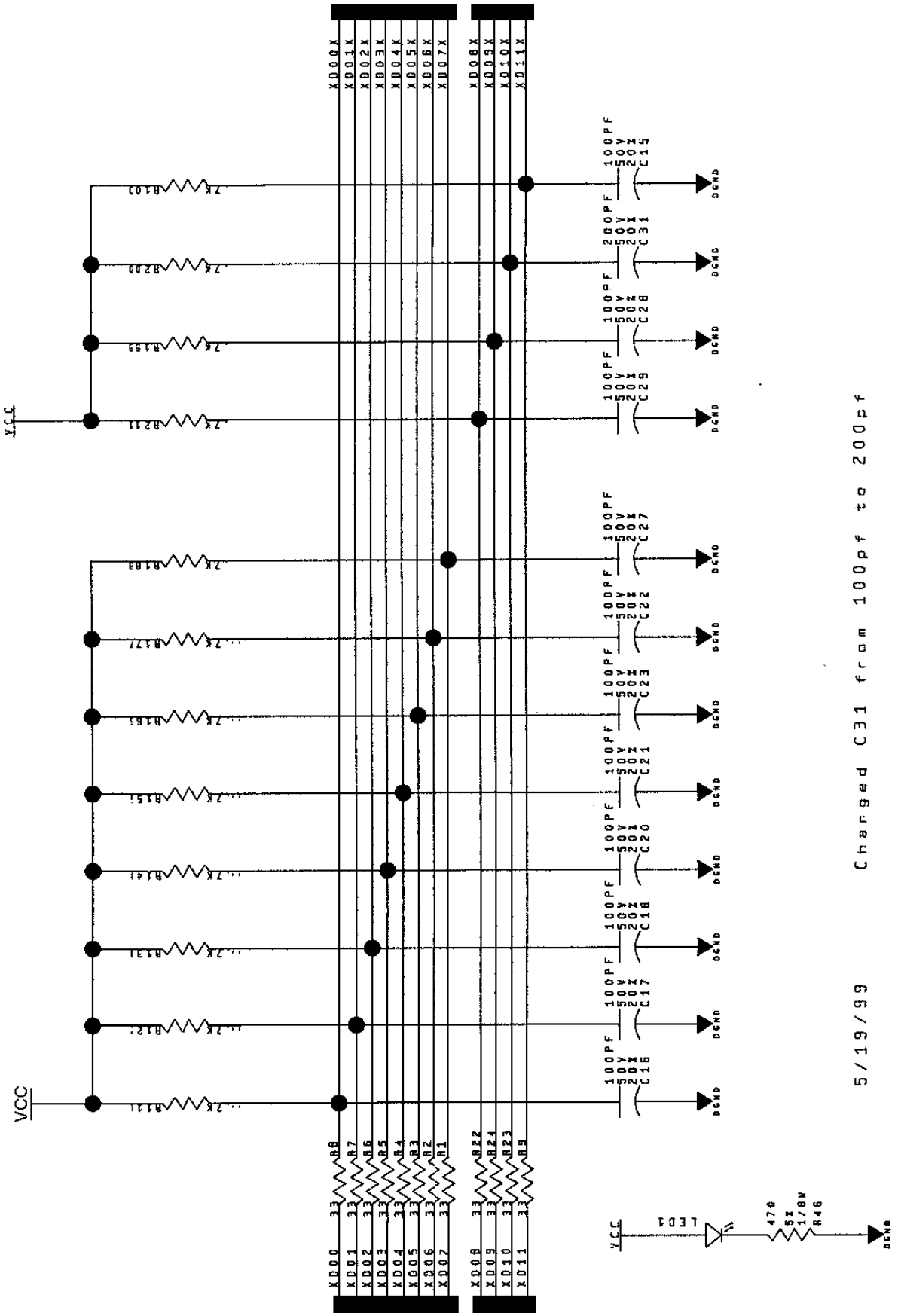
1. LED 1 monitors regulated power supply voltage source. Must be on continuously. Flash or blinking indicates intermittent connection, power problem, circuit fault, etc.

Wheel Driver Board Schematic, 1/8

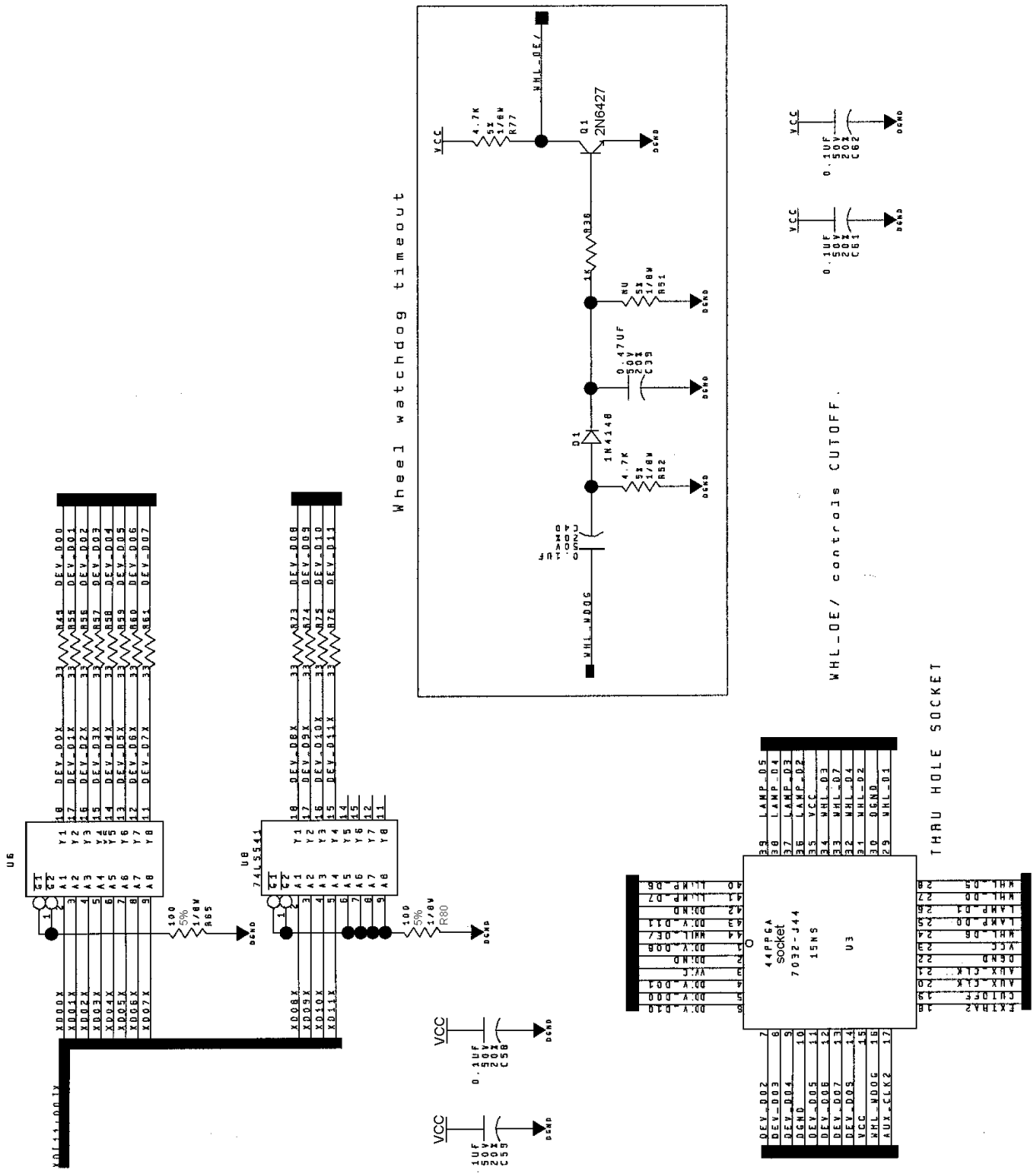




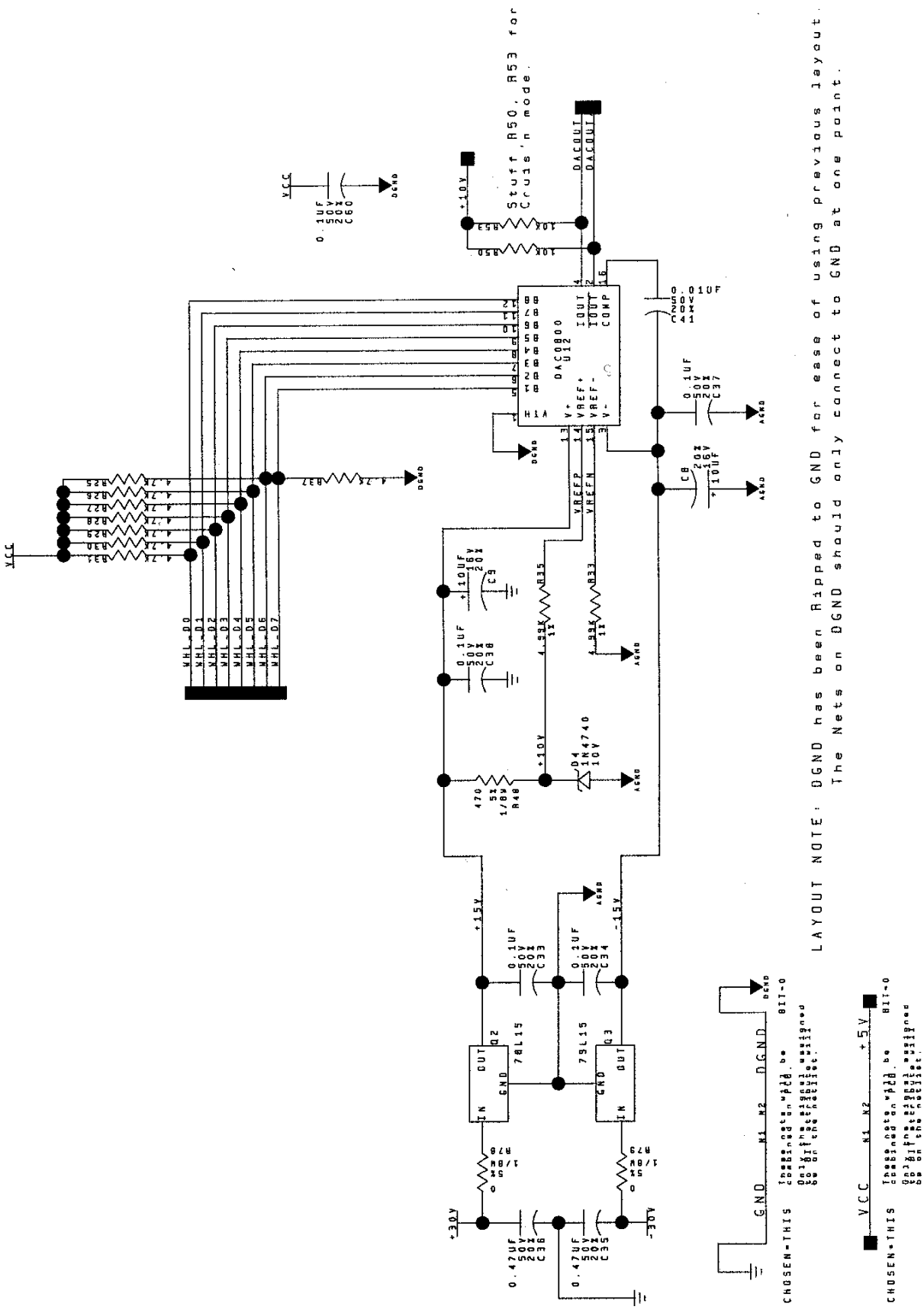
Wheel Driver Board Schematic, 2/8



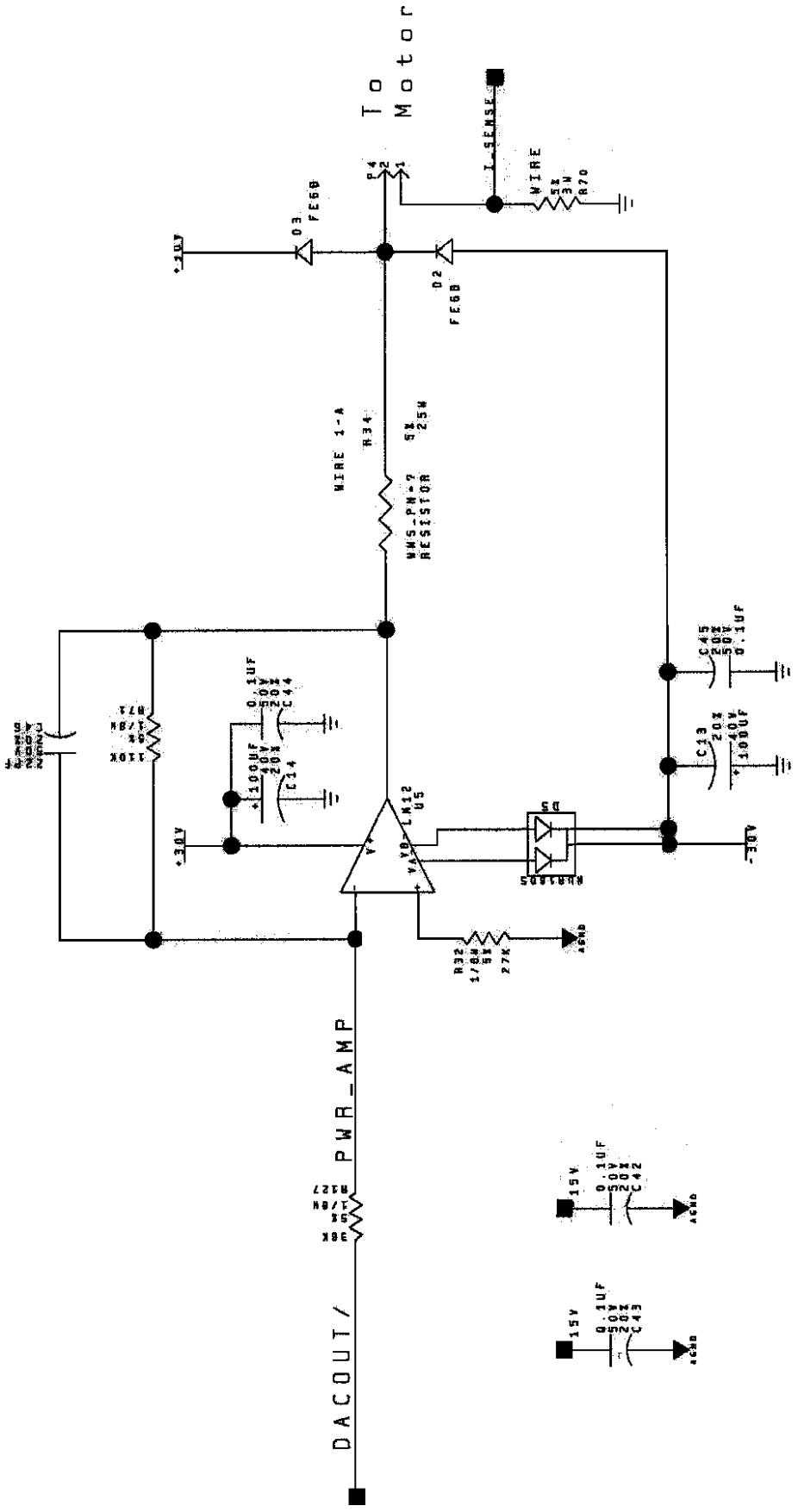
Wheel Driver Board Schematic, 3/8



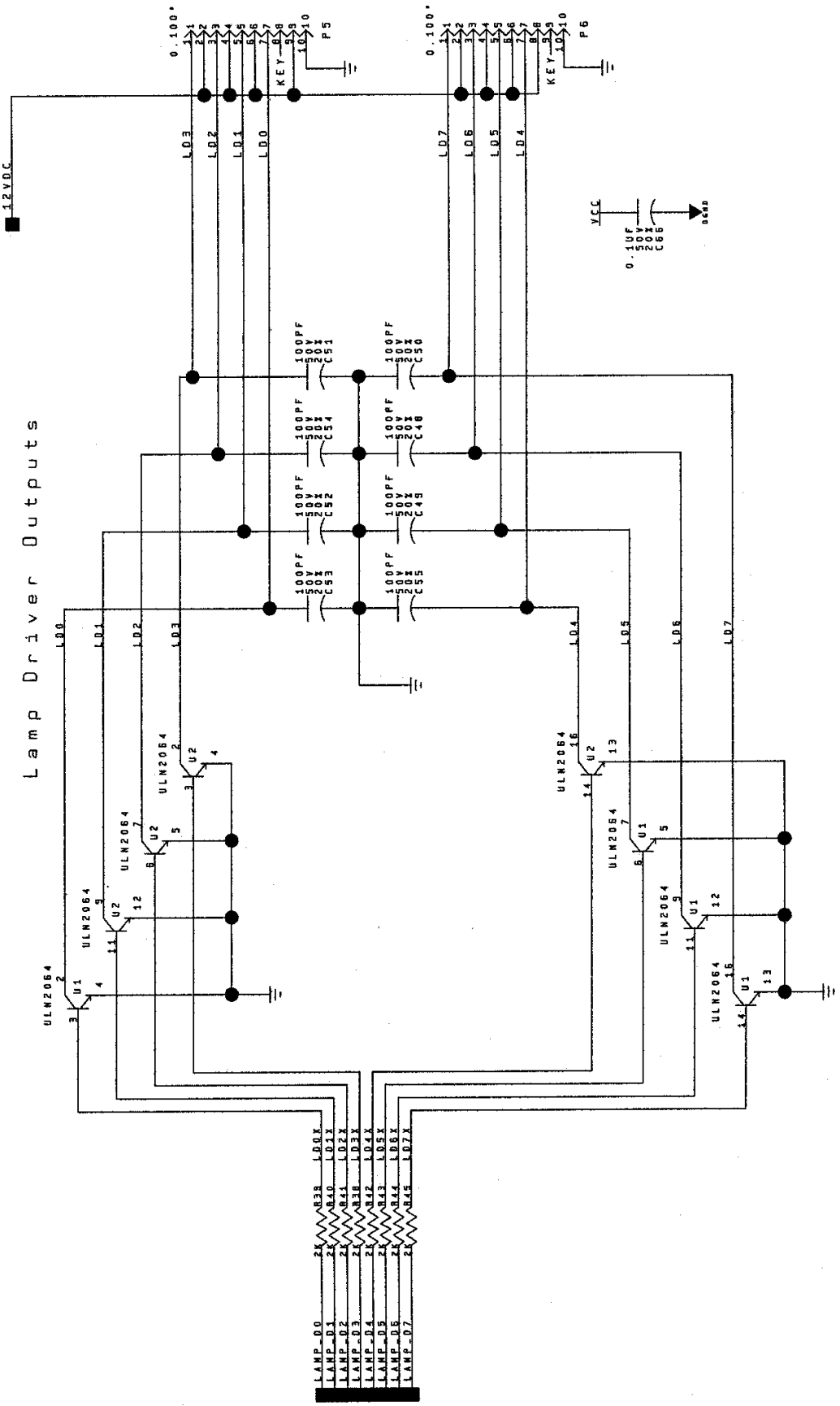
Wheel Driver Board Schematic, 4/8



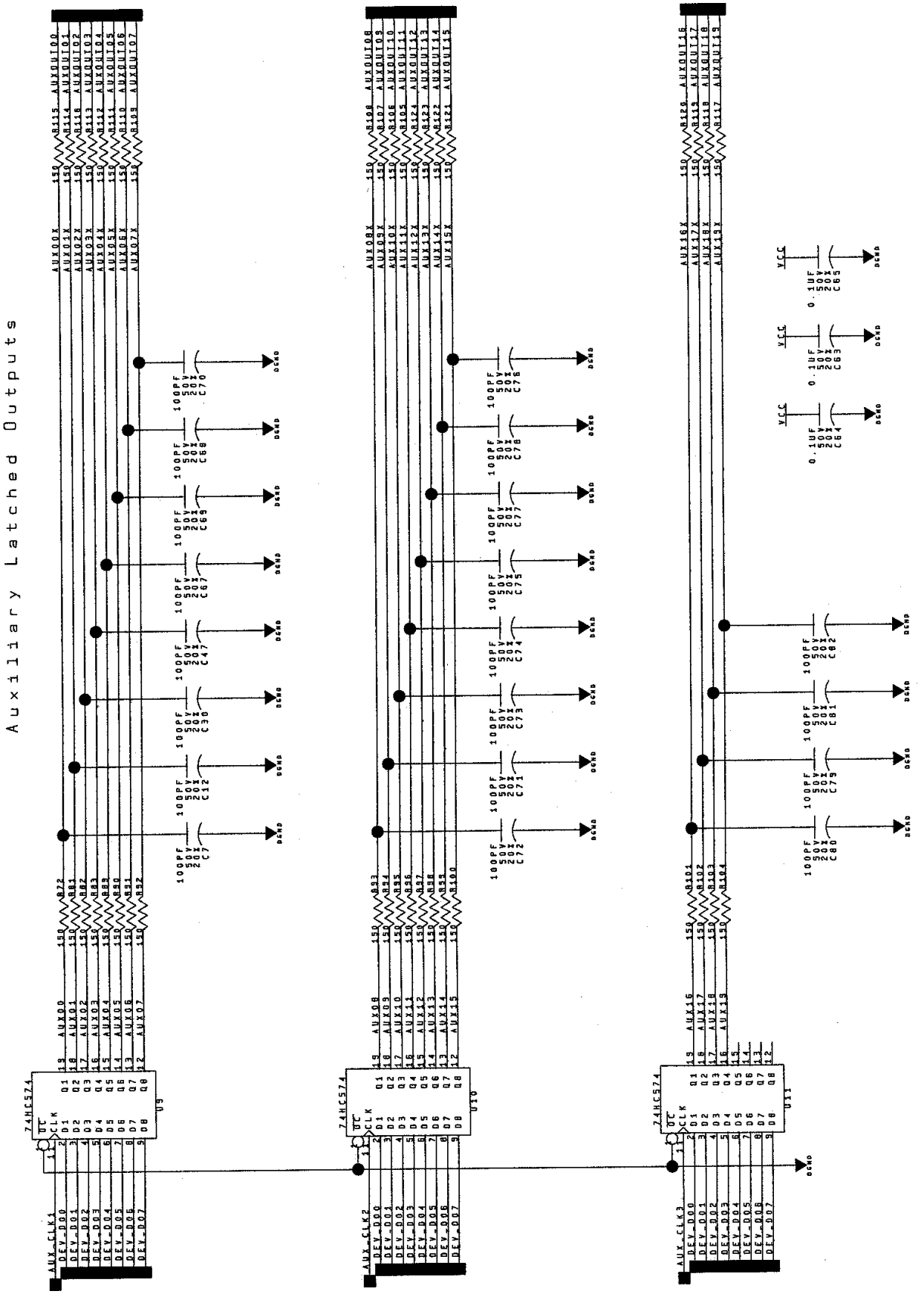
Wheel Driver Board Schematic, 5/8



Wheel Driver Board Schematic, 6/8



Wheel Driver Board Schematic, 7/8



Wheel Driver Board Schematic, 8/8