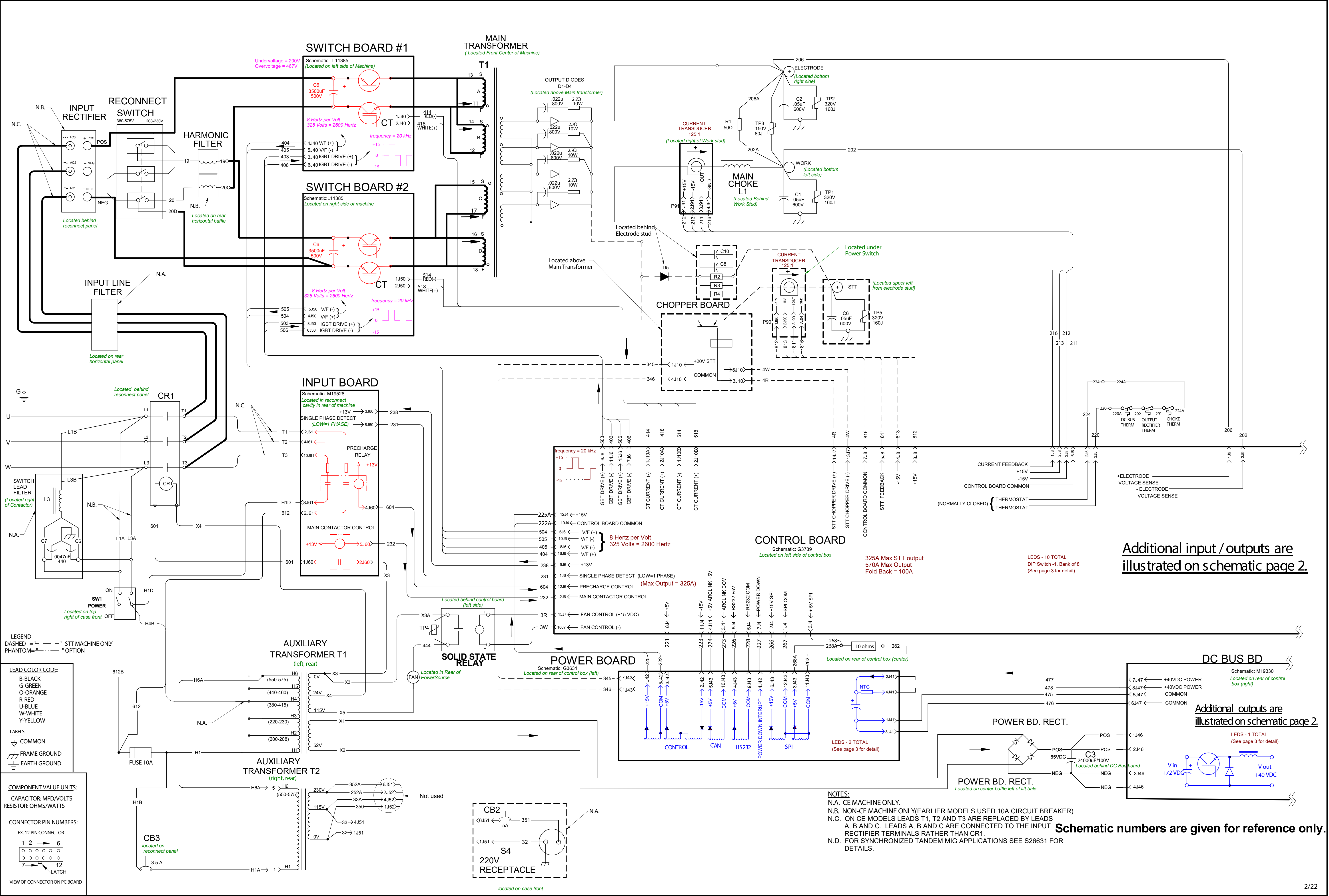
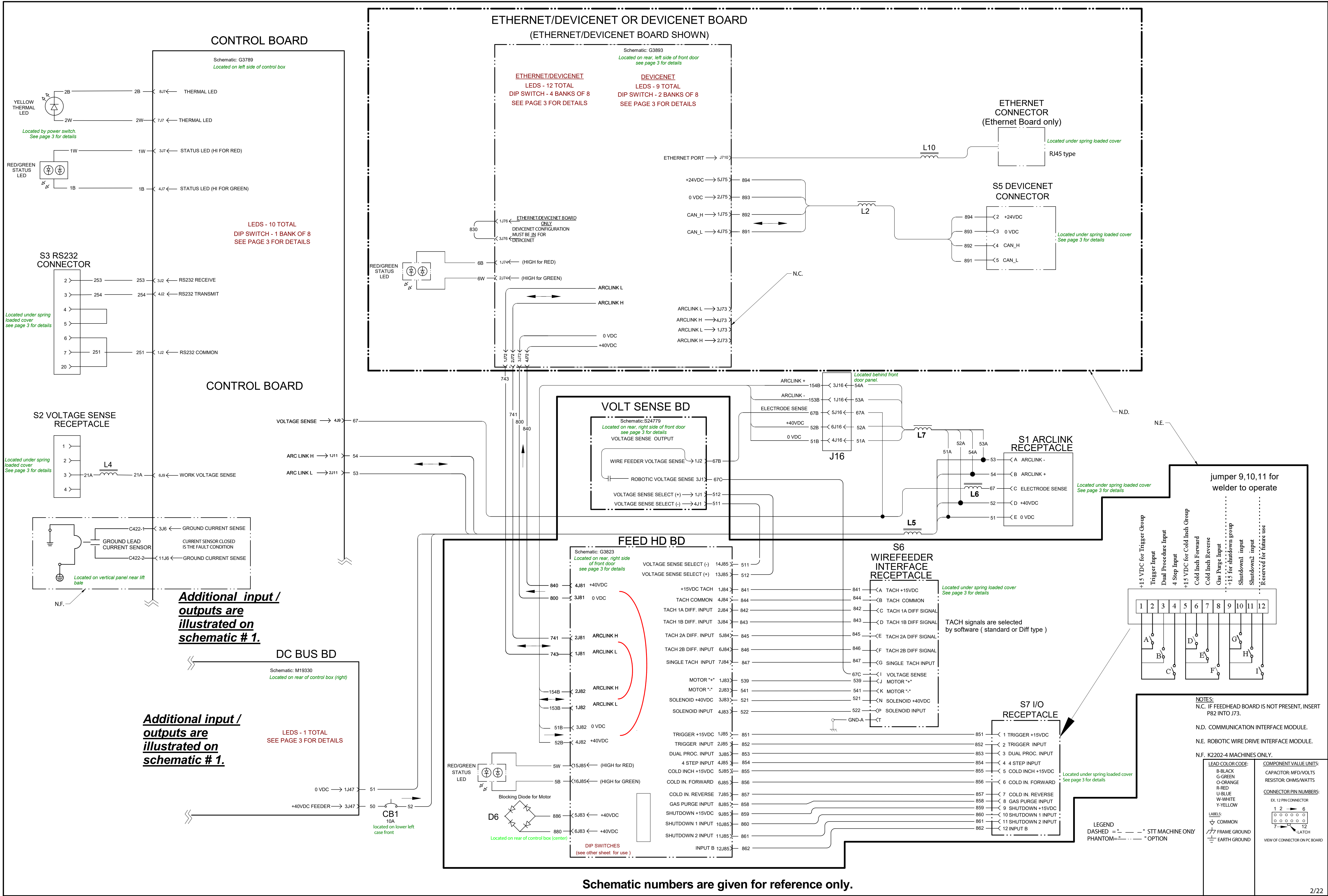


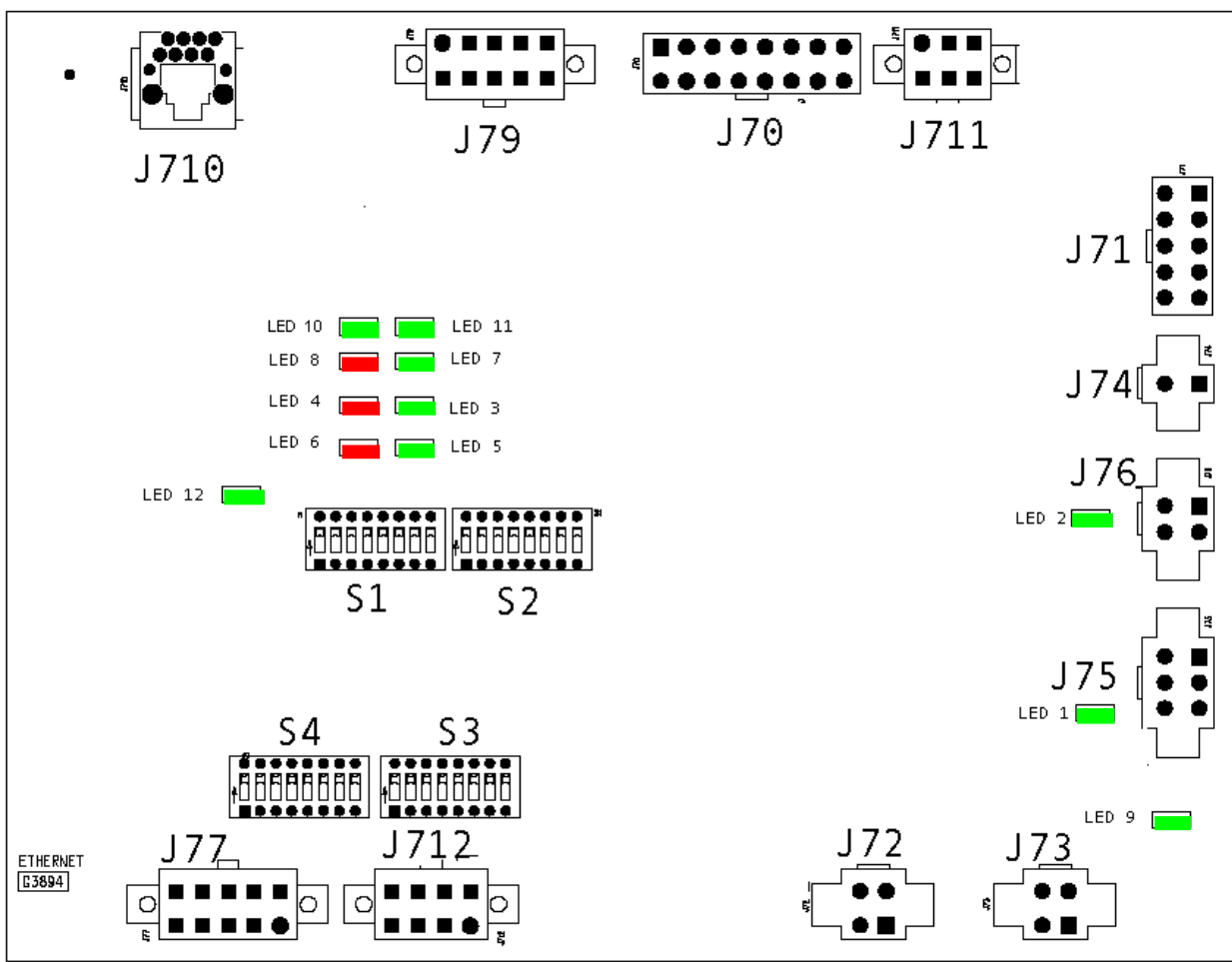
POWER WAVE 455M MACHINE SCHEMATIC G4421-2 REV: A








ETHERNET MODULE

(OPTIONAL K2207)



Description of LED functions on the Power Wave 455M

G3894 Ethernet Gateway PC Board		
LED #	COLOR	FUNCTION
1	Green	Indicates Isolated Module Section Supply is ON
2	Green	Indicates DeviceNet Supply is ON
3	Green	ArcLink Status Indicators (Main System <i>Slave</i> ArcLink Connection)
4	 Red	Solid Green only when functional (See software for error codes)
5	Green	
6	 Red	Reserved For Future Use
7	Green	
8	 Red	
9	Green	Indicates Isolated ArcLink Section Supply is ON
10	Green	10Base-T Link Status ON indicates functional ethernet link has been established
11	Green	Receiver Polarity ON indicates proper external signal polarity
12	Green	Indicates I/O+5V Supply is ON This is used by differential I/O pair 4 circuitry, J712 pins 1 and 2.

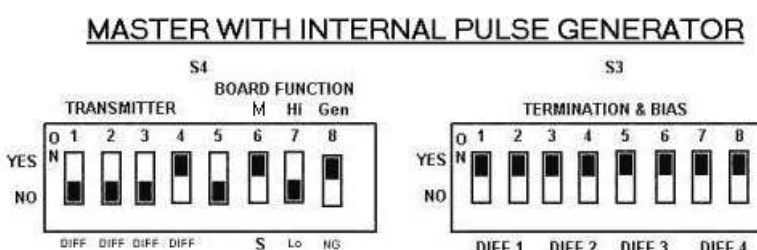
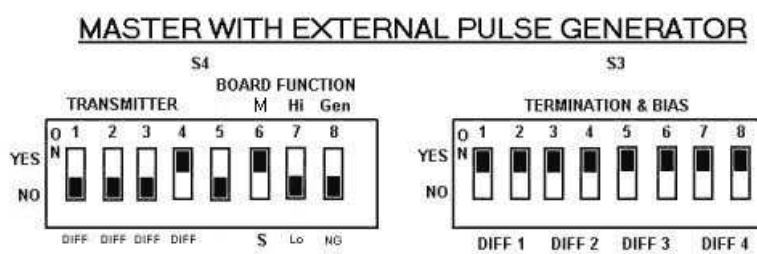
Ethernet Board DIP Switch

Bank S1		
Switch	Description	Comments
1	Object Instance LSB	Used for Arclink Configuration
2	Object Instance MSB	
3	Equipment Group 1 Select	
4	Equipment Group 2 Select	
5	Equipment Group 3 Select	
6	Equipment Group 4 Select	
7	Reserved for future use	
8	Reserved for future use	

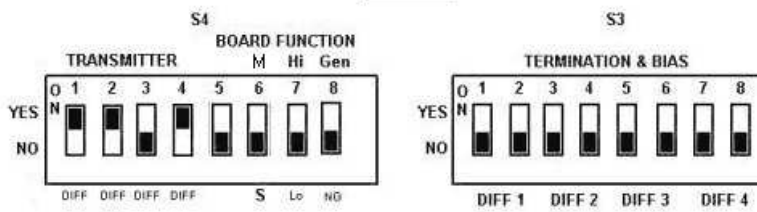
Table 15

Bank S2		
Switch	Description	Comments
1 - 2	Devicenet Baud Rate	Used for DeviceNet configuration
3 - 4	Devicenet Mac ID	

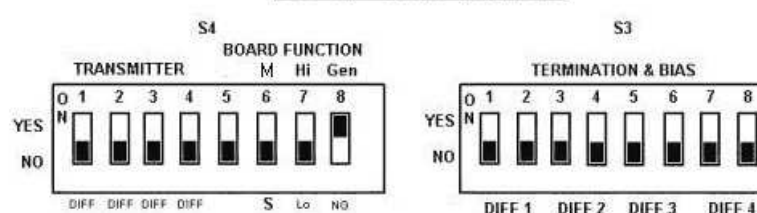
Configuring the DIP Switches on the Ethernet-Gateway Board



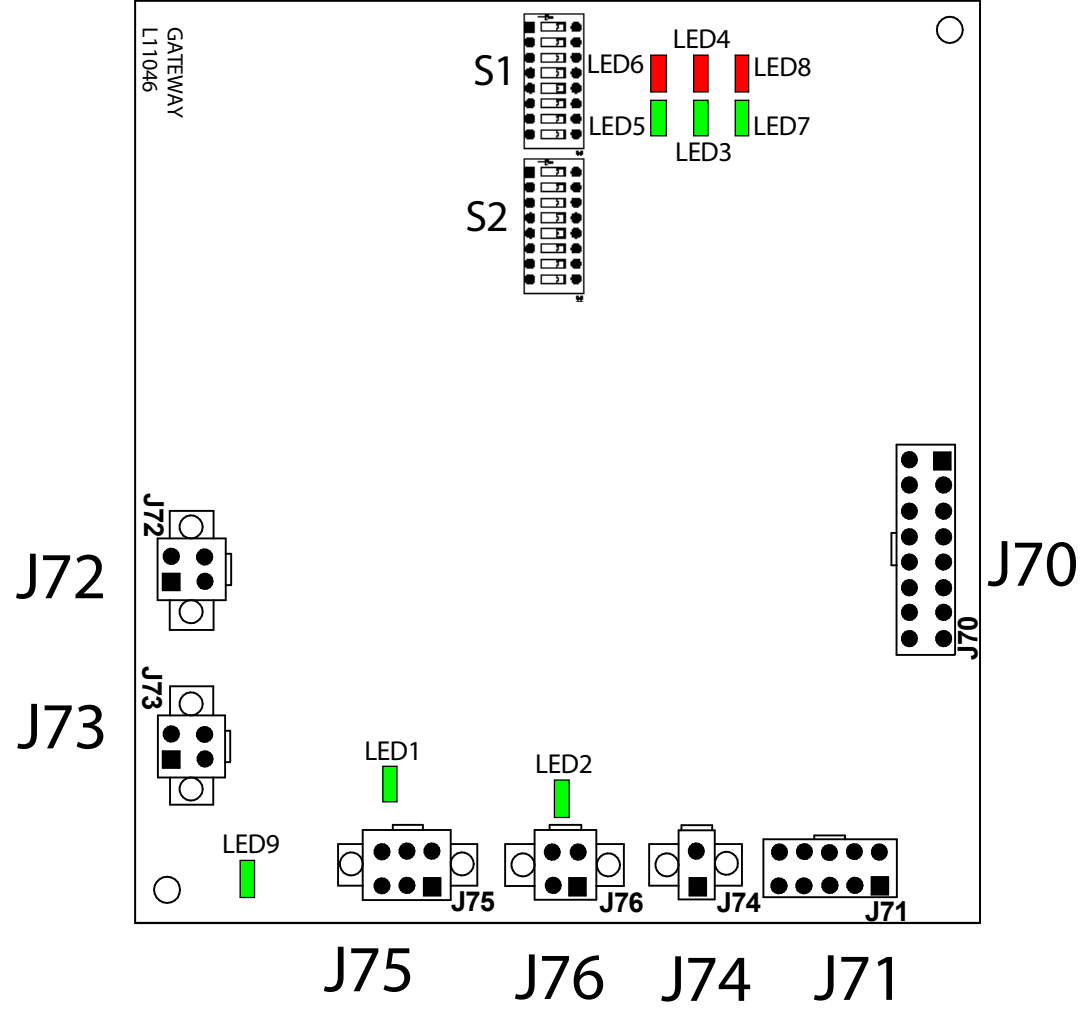
SLAVE



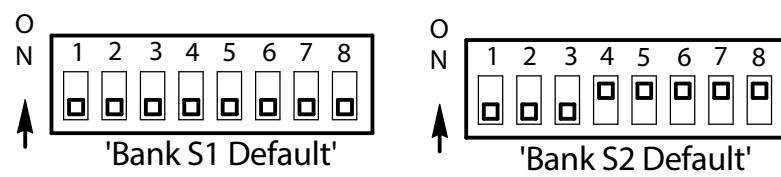
PULSE GENERATOR



DEVICENET MODULE (OPTIONAL K2206)



Configuring the DIP switches on the Devicenet Board



Description of LED functions on Power-Wave type systems

Devicenet Board DIP Switch

Bank (S1)	
Switch	Description
1	Object Instance LSB (see Table 1)
2	Object Instance MSB (see Table 1)
3	Equipment Group 1 Select
4	Equipment Group 2 Select
5	Equipment Group 3 Select
6	Equipment Group 4 Select
7	Reserved for future use
8	Reserved for future use

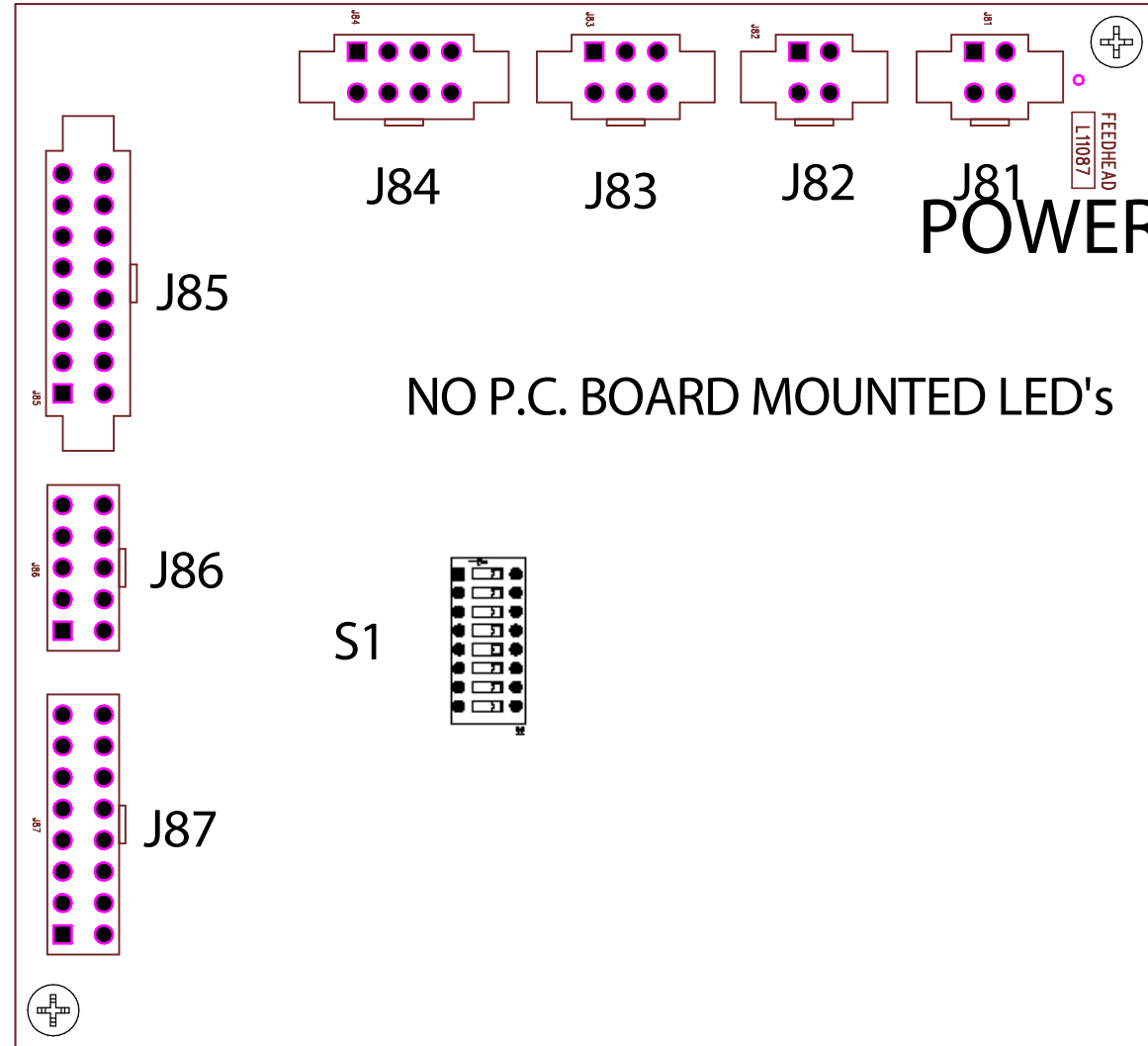
Bank (S1)	
Switch	Description
1	DeviceNet Baud Rate
2	
3	
4	
5	DeviceNet Mac ID Default ID=62
6	
7	
8	

on the Devicenet Board

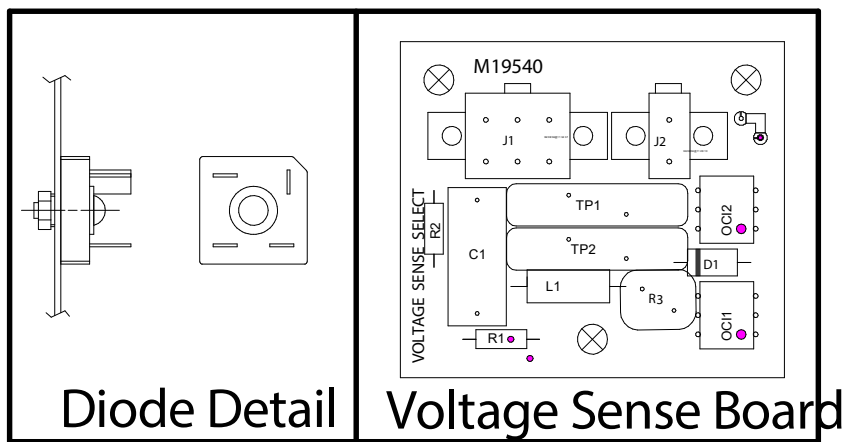
Description of LED functions on Power-Wave type systems

L11046 DeviceNet Gateway PC Board		
LED #	COLOR	FUNCTION
1	Green	Indicates Isolated Module Section Supply is ON
2	Green	Indicates DeviceNet Supply is ON
3	Green	ArcLink Status Indicators (Main System Slave ArcLink Connection) Solid Green only when functional. (See software for error codes)
4	Red	Module Status Indicators (See software group)
5	Green	
6	Red	
7	Green	DeviceNet Status Indicators (See software group for coding)
8	Red	
9	Green	Indicates Isolated ArcLink Section Supply is ON

WIRE DRIVE MODULE (OPTIONAL K2205)



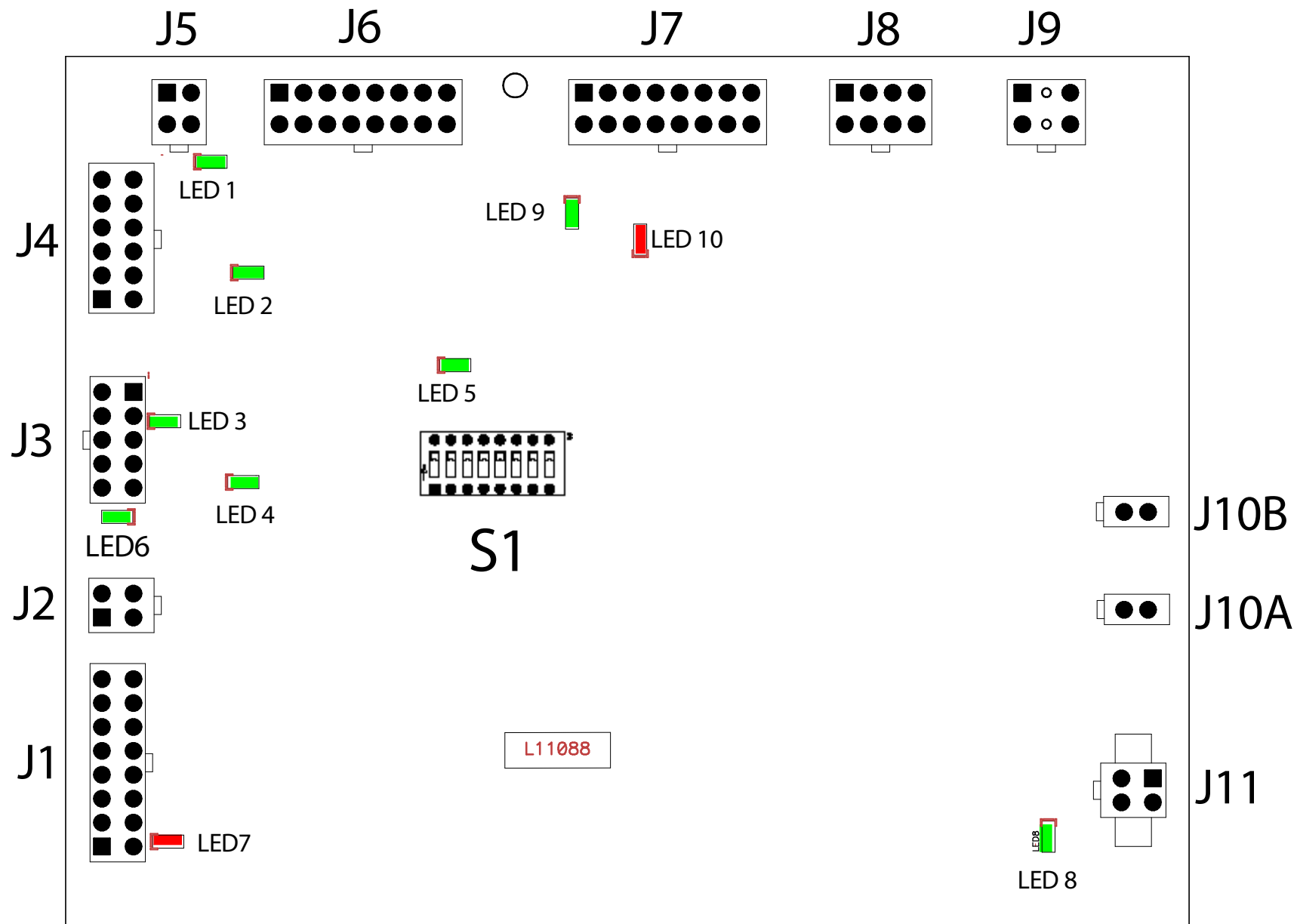
NO P.C. BOARD MOUNTED LED's



Feed Head Board DIP Switch:

Switch	Description	Comments
1	Object Instance LSB	Used for ArcLink Configuration
2	Object Instance MSB	
3	Equipment Group 1 Select	
4	Equipment Group 2 Select	
5	Equipment Group 3 Select	
6	Equipment Group 4 Select	
7	off Electrode polarity positive (default) on Electrode polarity negative	Used for configuring electrode polarity
8	off Low speed gear (default)	Used for configuring wirefeeder gear ratio

CONTROL BOARD



Control Board DIP Switch:

Switch	Description	Comments
1	Object Instance LSB	Used for Arclink configuration
2	Object Instance MSB	
3	Equipment Group 1 Select	
4	Equipment Group 2 Select	
5	Equipment Group 3 Select	
6	Equipment Group 4 Select	
7	Reserved for future use	
8	work sense lead not connected	Used for configuring work sense lead
off	work sense lead connected	



5 WIRING DIAGRAM G5570 REV: C


Description of LED functions on the Power Wave 455M

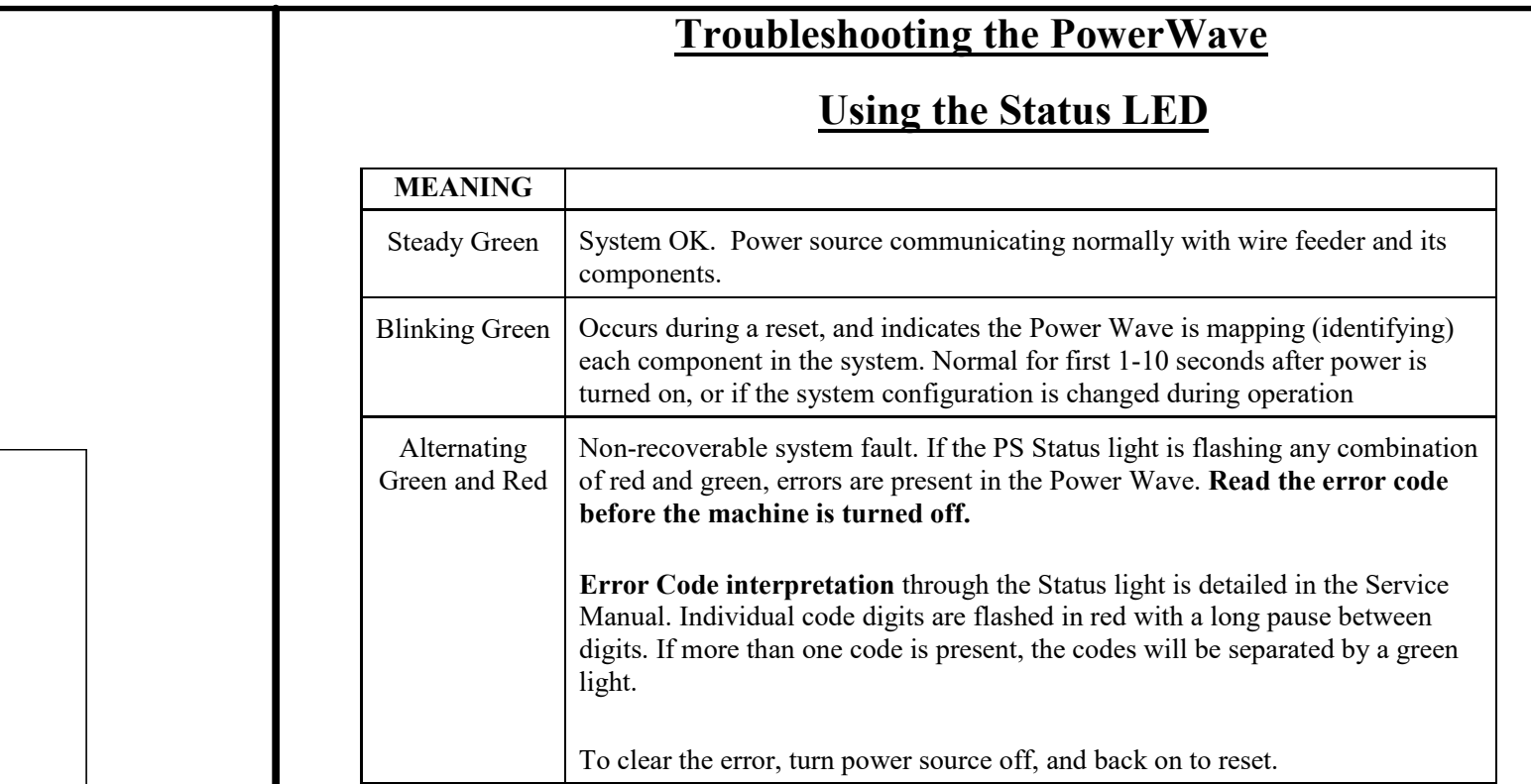
L11088 Digital Control PC Board		
LED #	COLOR	FUNCTION
1	Green	Indicates +15VDC from power supply board is present
2	Green	Indicates -15VDC from power supply board is present
3	Green	Indicates +5VDC for +5SPI from power supply board is present
4	Green	Indicates +15VDC for +1SSPI from power supply board is present
5	Green	Indicates +5VDC for +5V from power supply board is present
6	Green	Indicates +5VDC for +5VRS232 from power supply board is present
7	Red	FAULT Signal (See software group for coding)
8	Green	Indicates +5VDC for +5CAN from power supply board is present
9	Green	Arclink Status Indicators (Main System Master Arclink Connection) Solid
10	Red	Green only when functional (See software for error codes)

POWER BOARDS

Description of LED functions on the Power Wave 455M

G3632 Digital Power Supply Board		
LED #	COLOR	FUNCTION
1	 Red	Indicates +5VDC SPI supply is present
2	 Red	Indicates +5VDC control supply is present

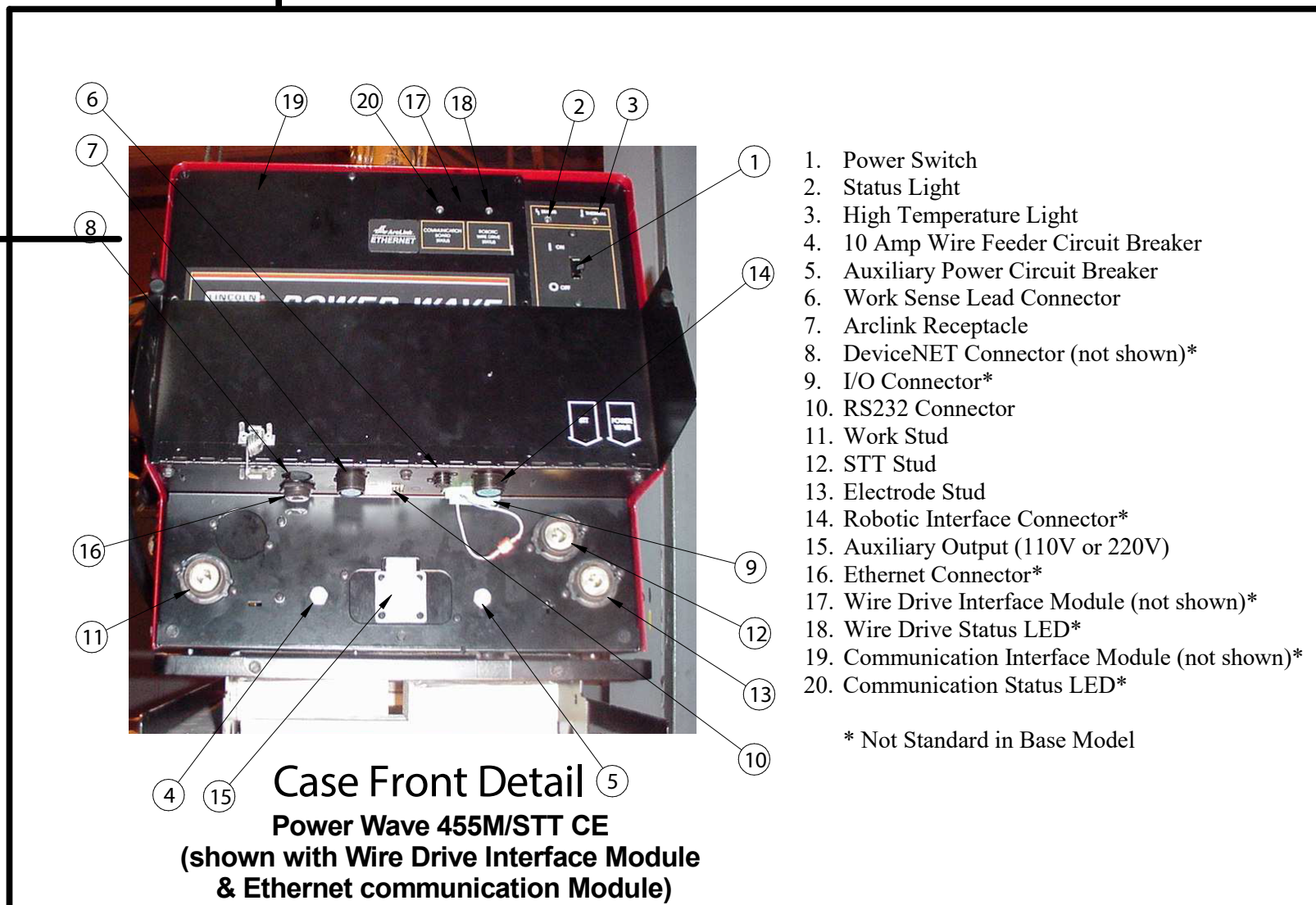
L11078 +40 Volt DC Bus Board		
LED #	COLOR	FUNCTION
1	 Red	Indicates +40 VDC supply is present



Error codes for the PowerWave

The following is a list of possible error codes that the Power Wave can output via the status light

Error Code #	Indication
11 CAN communication bus off.	Probably due to excessive number of communication errors.
12 User Interface time out error.	UI is no longer responding to the Power Source. The most likely cause is a fault/bad connection in the communication leads or control cable.
21 Unprogrammed Weld Mode.	Contact the Service Department for instructions on reloading the Welding Software.
22 Empty Weld Table.	Contact the Service Department for instructions on reloading the Welding Software.
23 Weld Table checksum error.	Contact the Service Department for instructions on reloading the Welding Software.
31 Primary overcurrent error.	Excessive Primary current present. May be related to a switch board or output rectifier failure.
32 Capacitor "A" under voltage (Left side facing machine)	Low voltage on the main capacitors. May be caused by improper input configuration, or an open/short circuit in the primary side of the machine.
33 Capacitor "B" under voltage (Right side facing machine)	
34 Capacitor "A" over voltage (Left side facing machine)	Excess voltage on the main capacitors. May be caused by improper input configuration, or an open/short circuit in the primary side of the machine.
35 Capacitor "B" over voltage (Right side facing machine)	
36 Thermal error	Indicates over temperature. Usually accompanied by Thermal LED. Check fan operation. Be sure process does not exceed duty cycle limit of the machine.
37 Softstart error	Capacitor precharge failed. Usually accompanied by codes 32-35.
41 Secondary overcurrent error	The secondary (weld) current limit has been exceeded. When this occurs the machine output will phase back to 100 amps, typically resulting in a condition referred to as "noodle welding"
42 Ground lead Current Shutdown (On K2202-4 machines only)	The K2202-4 has a special circuit installed that monitors current flowing on the input ground lead. When current is sensed, the machine will turn the welding output off. The machine will need to be turned off for several seconds and then back on to clear this error.
43 Capacitor delta error	The maximum voltage difference between the main capacitors has been exceeded. May be accompanied by errors 32-35.
49 Single phase error	Indicates machine is running on single phase input power. Usually caused by the loss of the middle leg (L2).
Other	Error codes that contain three or four digits are defined as fatal errors. These codes generally indicate internal errors on the PS Control Board. If cycling the input power on the machine does not clear the error, try reloading the operating system. If this fails, replace the control board.



* Not Standard in Base Model