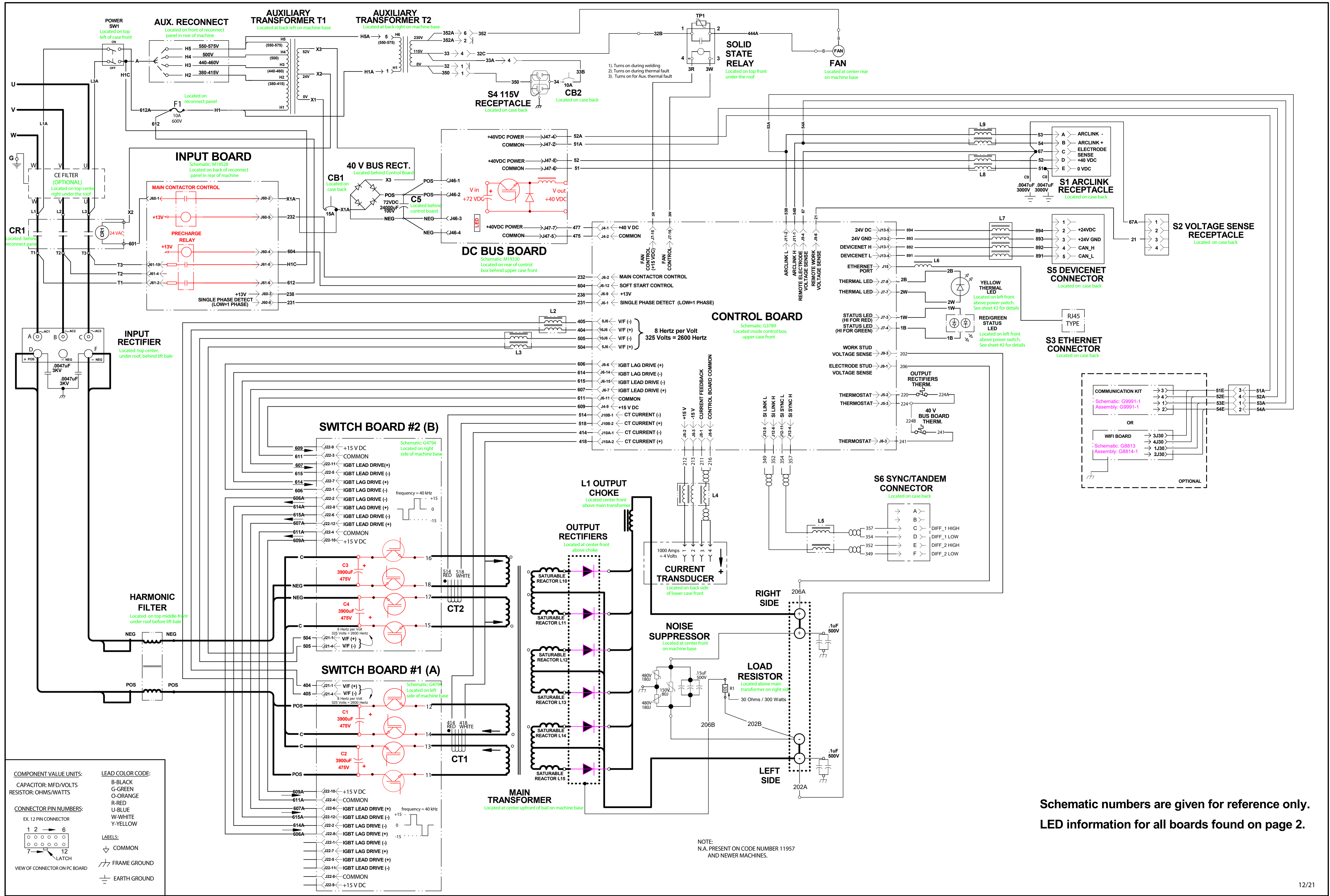


S 700 MACHINE SCHEMATIC G7634 REV: D



Schematic numbers are given for reference only.
LED information for all boards found on page 2.

Troubleshooting the PowerWave S700

Using the Status LED

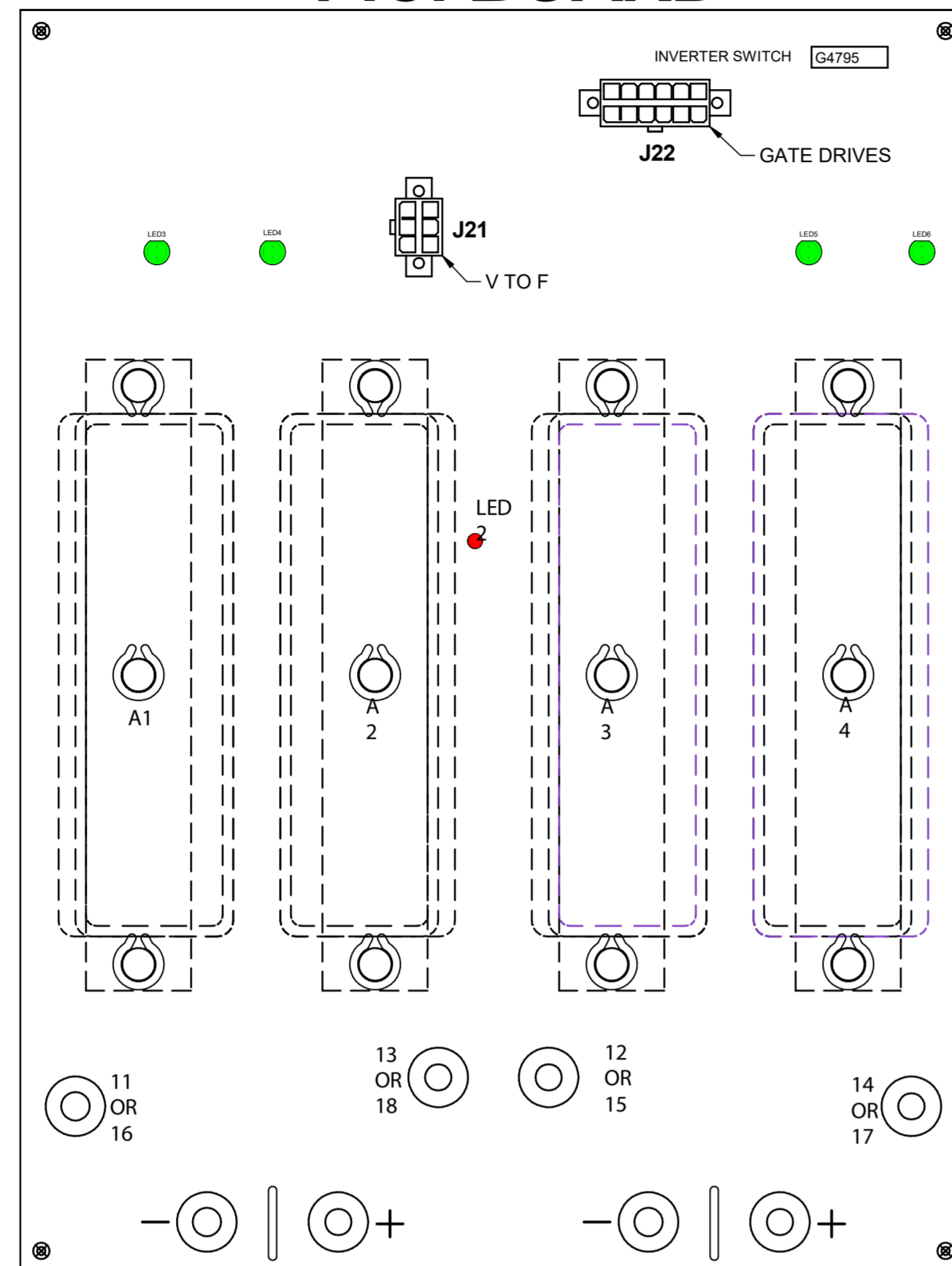
LIGHT CONDITION	MEANING
Steady Green	System OK. Power source communicating normally with wire feeder and its components.
Blinking Green	Occurs during a reset, and indicates the Power Wave S700 is mapping (identifying) each component in the system. Normal for first 1-10 seconds after power is turned on, or if the system configuration is changed during operation.
Alternating Green and Red	Non-recoverable system fault. If the PS Status light is flashing any combination of red and green, errors are present in the Power Wave S700. Read the error code before the machine is turned off. Error Code interpretation through the Status light is detailed in the Service Manual. Individual code digits are flashed in red with a long pause between digits. If more than one code is present, the codes will be separated by a green light. To clear the error, turn power source off, and back on to reset.

Error codes for the PowerWave

The following is a list of possible error codes that the Power Wave S700 can output via the status light

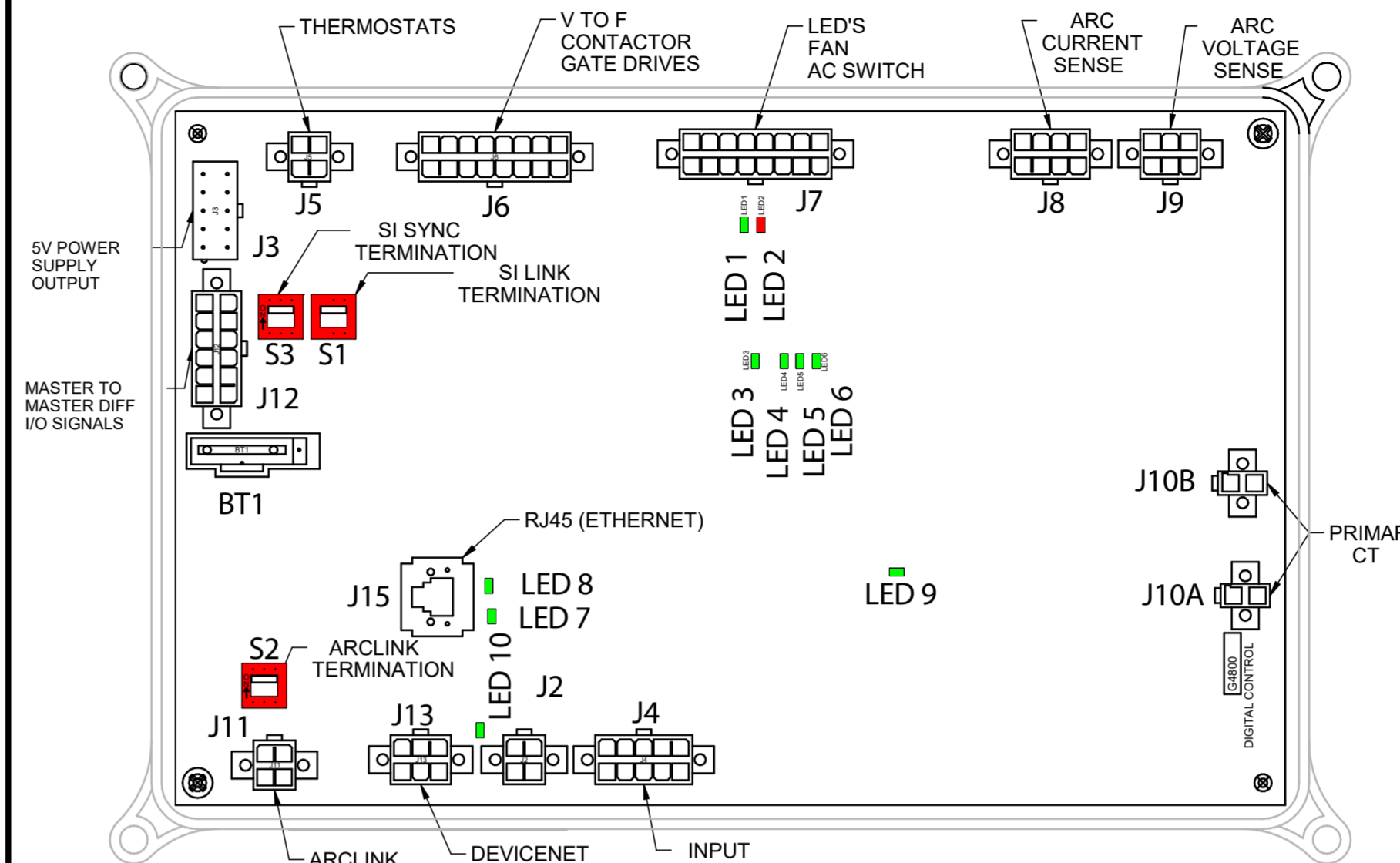
Error Code #	Indication
11 ArcLink communication bus off.	Probably due to excessive number of communication errors.
12 User Interface time out error.	UI is no longer responding to the Power Source. The most likely cause is a fault/bad connection in the communication leads or control cable.
31 Primary 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)	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.
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)	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.
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.
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.

SWITCHBOARD P.C. BOARD



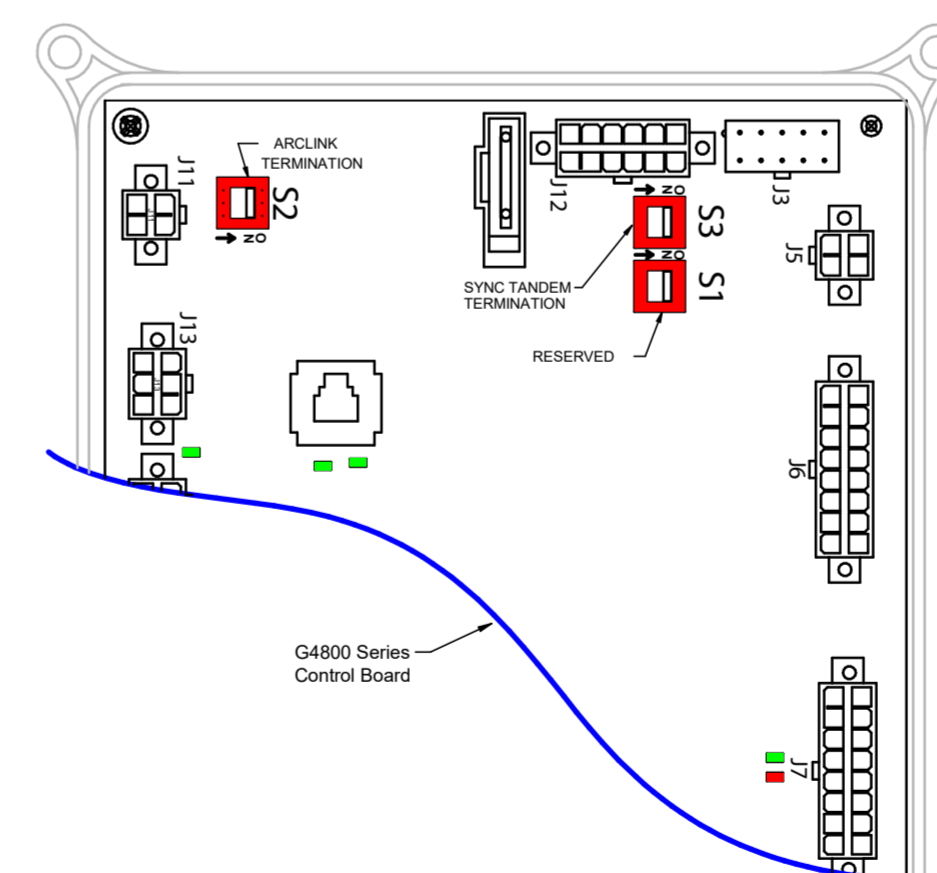
LED #	COLOR	FUNCTION
2	RED	INDICATES > 40VDC PRESENT ON CAPACITORS
3	GREEN	INDICATES A1 MODULE GATE DRIVES FIRING
4	GREEN	INDICATES A2 MODULE GATE DRIVES FIRING
5	GREEN	INDICATES A3 MODULE GATE DRIVES FIRING
6	GREEN	INDICATES A4 MODULE GATE DRIVES FIRING

CONTROL P.C. BOARD

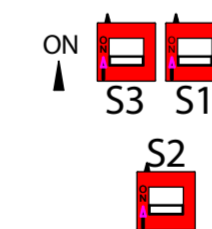


Description of LED functions on the Power Wave S700
For reference only

LED #	COLOR	FUNCTION
1	GREEN	STATUS "OK"
2	RED	STATUS "ERROR" (CHECK CODE FOR SPECIFIC ERROR)
3	GREEN	OUTPUT ENABLE
4	GREEN	SINGLE PHASE FAULT
5	GREEN	ELECTRODE SENSE
6	GREEN	WORK SENSE
7	GREEN	ETHERNET LINK/ACTIVITY STATUS
8	GREEN	ETHERNET SPEED STATUS
9	GREEN	INPUT SUPPLY 30 VDC TO 55 VDC
10	GREEN	DEVICENET EXTERNAL 24 VDC PRESENT

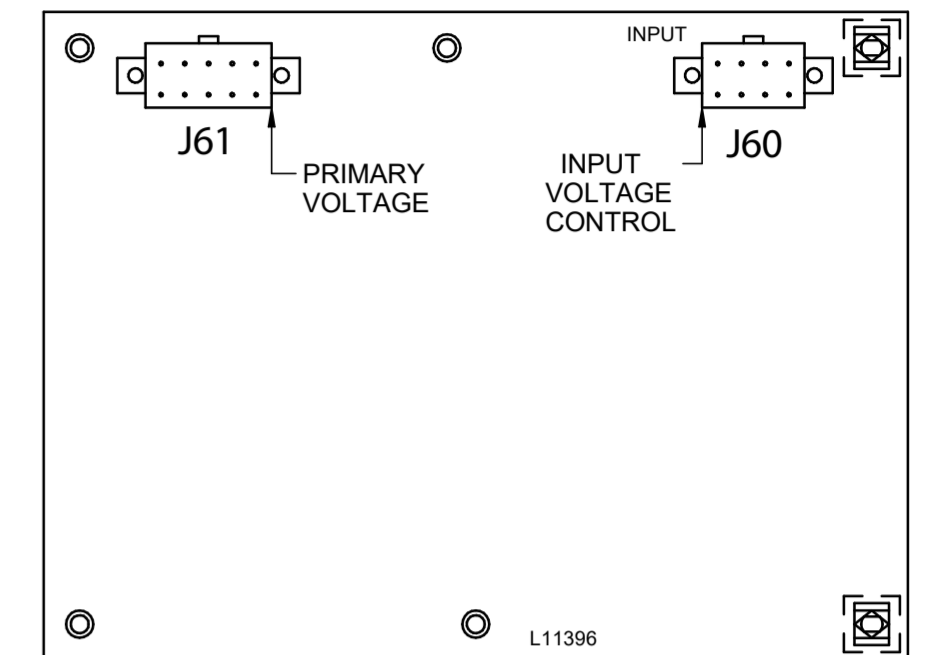


SYNC. TANDEM DIP SWITCH CONFIGURATION

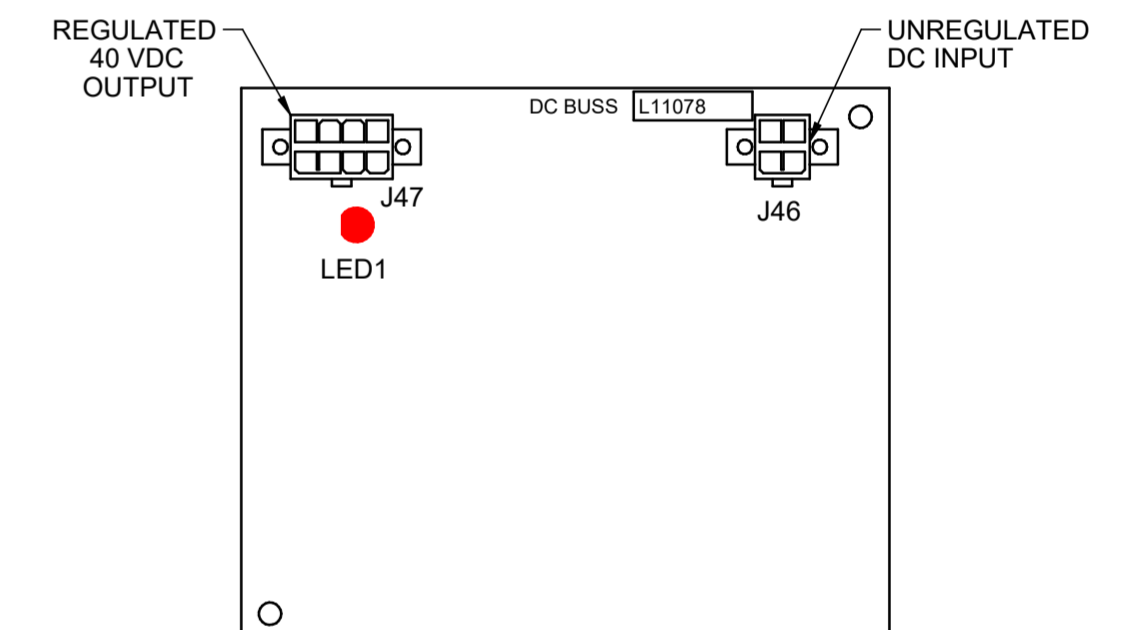


DIP SWITCH	MACHINE 1	MACHINE 2
S1 (RESERVED)	ON (Default)	ON (Default)
S2 (ARCLINK)	ON (Default)	ON (Default)
S3 (SYNC TANDEM)	ON (Default)	OFF

INPUT POWER P.C. BOARD



+40 VDC BUS P.C. BOARD



L11078 +40 V DC BUS BOARD

LED #	COLOR	FUNCTION
1	RED	INDICATES +40 VDC SUPPLY IS PRESENT