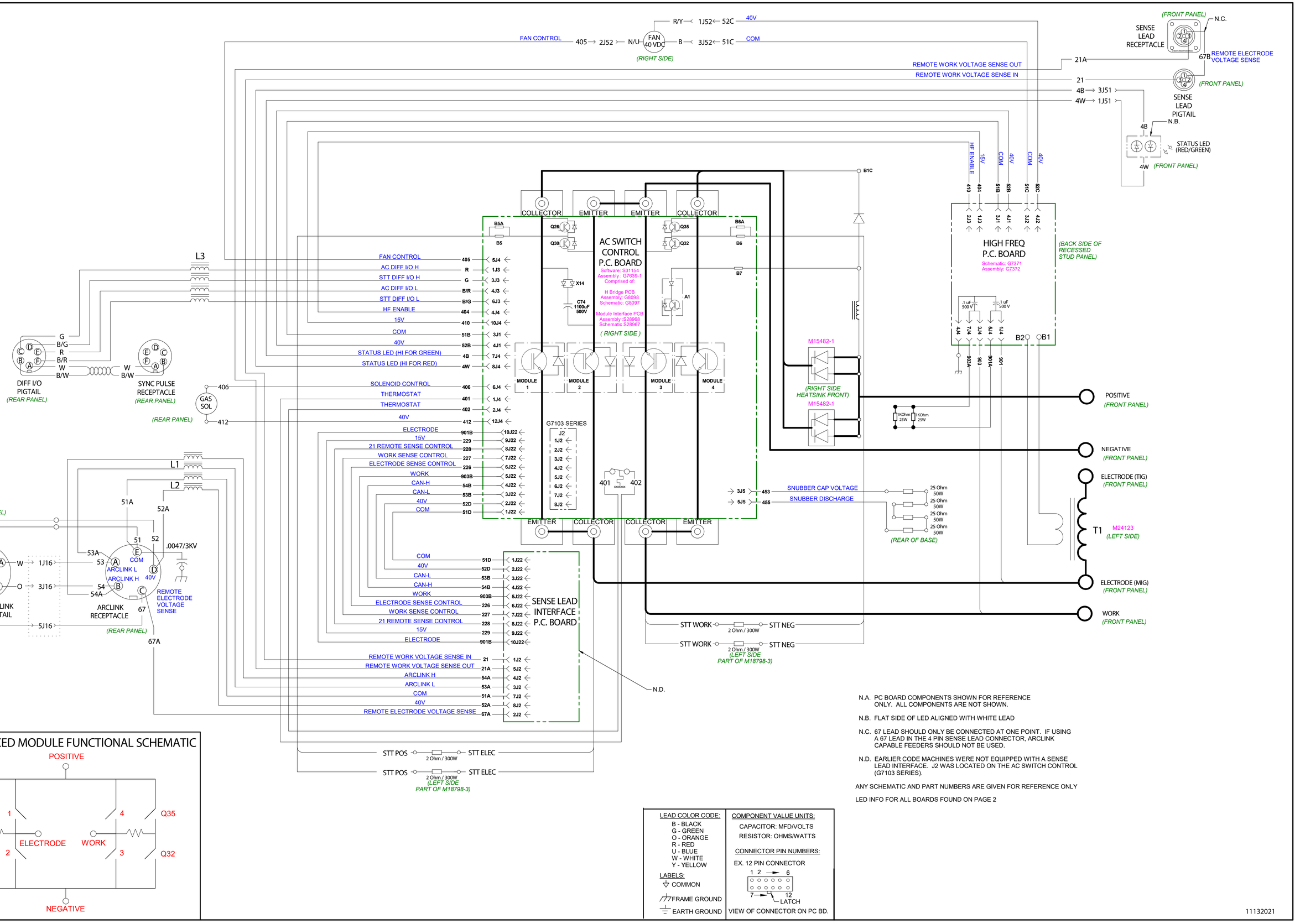
ADVANCED MODULE MACHINE SCHEMATIC G 7701 REV B



ADVANCED MODULE FUNCTIONAL SCHEMATIC

N.A. PC BOARD COMPONENTS SHOWN FOR REFERENCE ONLY. ALL COMPONENTS ARE NOT SHOWN.

N.B. FLAT SIDE OF LED ALIGNED WITH WHITE LEAD

N.C. 67 LEAD SHOULD ONLY BE CONNECTED AT ONE POINT. IF USING A 67 LEAD IN THE 4 PIN SENSE LEAD CONNECTOR, ARCLINK CAPABLE FEEDERS SHOULD NOT BE USED.

N.D. EARLIER CODE MACHINES WERE NOT EQUIPPED WITH A SENSE LEAD INTERFACE. J2 WAS LOCATED ON THE AC SWITCH CONTROL (G7103 SERIES).

ANY SCHEMATIC AND PART NUMBERS ARE GIVEN FOR REFERENCE ONLY

LED INFO FOR ALL BOARDS FOUND ON PAGE 2

LEAD COLOR CODE:
B - BLACK
G - GREEN
O - ORANGE
R - RED
U - BLUE
W - WHITE
Y - YELLOW

LABELS:
COMMON
FRAME GROUND
EARTH GROUND

COMPONENT VALUE UNITS:
CAPACITOR: MFD/VOLTS
RESISTOR: OHMS/WATTS

CONNECTOR PIN NUMBERS:
EX. 12 PIN CONNECTOR

VIEW OF CONNECTOR ON PC BD.

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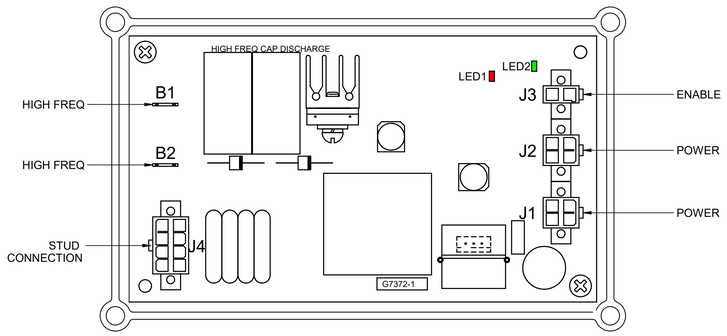
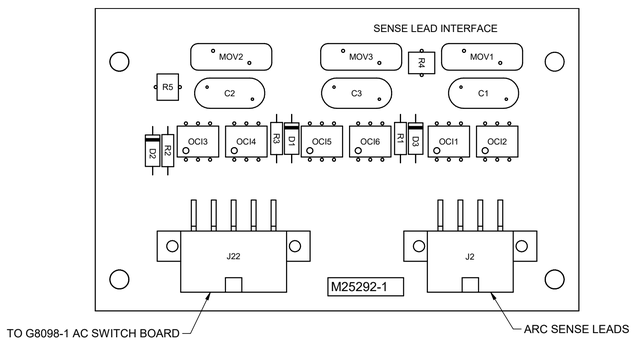
HIGH FREQUENCY P.C. BOARD

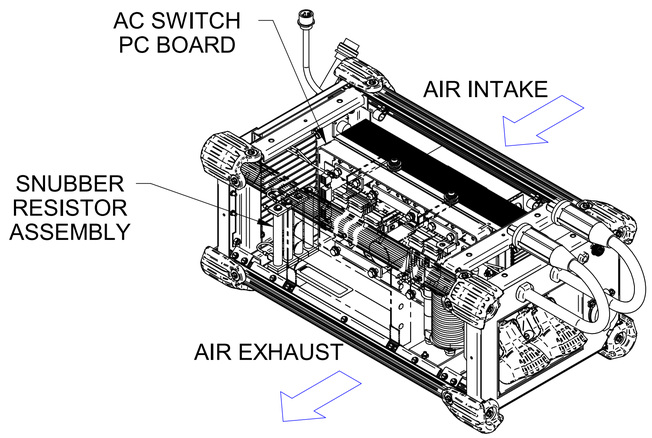


SENSE LEAD INTERFACE P.C. BOARD

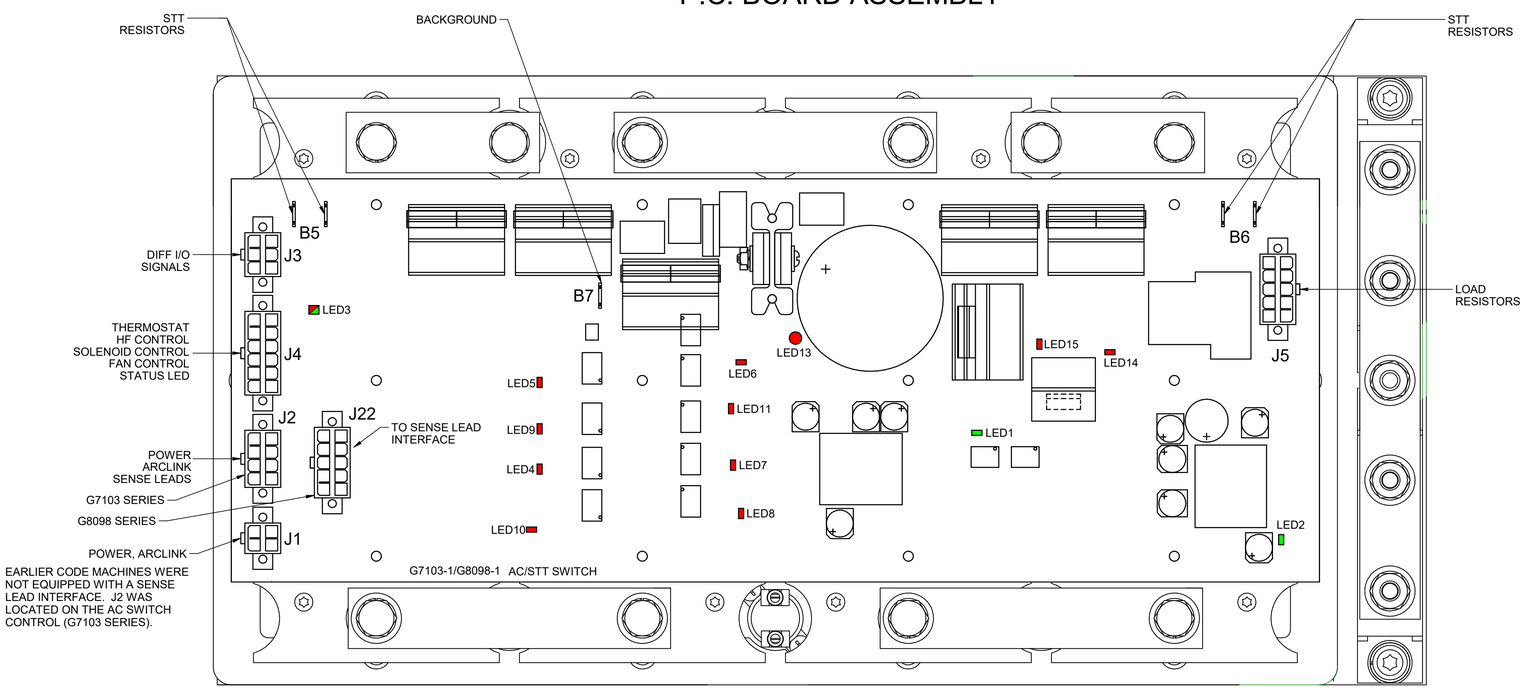
(USED WITH G8098 SERIES ONLY)



COMPONENT LOCATION DETAIL



AC SWITCH P.C. BOARD ASSEMBLY



Troubleshooting the Power Wave Advanced Module

Using the External Status LED

LIGHT CONDITION	MEANING
Steady Green	System OK. Power source is operational, and is communicating normally with all healthy peripheral equipment connected to its ArcLink network.
Blinking Green	Occurs during power up or a system reset, and means the power source is mapping (identifying) each component in the system. Normal for the first 1-30 seconds after power is turned on, or if the system configuration is changed during operation.
Fast Blinking Green	Under normal conditions indicates Auto-mapping has failed. Also used by the diagnostic utility (included in the Power Wave Manager Utilities available at www.powerwavesoftware.com) to identify the selected machine when connecting to a specific IP address.
Alternating Green and Red	Non-recoverable system fault. If the Status light is flashing any combination of red and green, errors are present. Read the error code(s) 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 pause between digits. If more than one code is present, the codes will be separated by a green light. Only active error conditions will be accessible through the Status Light. Error codes can also be retrieved with the diagnostic utility (included in the Power WaveManager Utilities available at www.powerwavesoftware.com). This is the preferred method, since it can access historical information contained in the error log. To clear the active error(s), turn power source off, back on to reset.
Steady Red	Not applicable (check polarity of LED).
Blinking Red	Not applicable (check polarity of LED).

Error codes for the Power Wave Advanced Module

Advanced Module	
Error Code #	Indication
36 Thermal error	Indicates over temperature. Usually accompanied by a thermal LED on the host power source. Check fan operation. Be sure process does not exceed duty cycle limit of the machine.
39 Misc. hardware fault	Unknown glitch has occurred on the fault interface circuitry. Sometimes caused by intermittent connections in the thermostat circ
54 Secondary (Output) Over Current	The long term average secondary (weld) current limit has been exceeded. The error will immediately turn off the machine output. NOTE: The long term average secondary current limit is 375 amps.
99 STT Status error	Error reported by the Advanced Module Switch PC Board. Generally caused by misconnection of welding leads (reverse polarity). May also be caused by loss of input voltage or bad STT. Observe diagnostic LEDs on the Advanced Module Switch PC Board to determine the exact cause.
Other	A complete list of error codes is available Power Wave ManageUtility (available at www.powerwavesoftware.com). Error codes that contain three or four digits are fired as fatal errors. These codes generally indicate internal errors on the Power Source Control Board. If cycling the input power on the machine does not clear the error, contact the Service Department.

On Board LEDs for the Advanced Module AC Switch PC Board

AC Switch PC Board			
LED	COLOR	FUNCTION	INDICATION
1	GREEN	H-BRIDGE STATUS	**Normal Status**: ON **Fault Condition:** If the snubber capacitor voltage exceeds its threshold, the acceptable voltage across the Switch is exceeded, or the power supplies voltages are insufficient, the LED will be OFF
2	GREEN	POWER SUPPLY	**Normal Status**: ON **Fault Condition:** If there is a short on any of the power supplies, this LED will blink, If no power is present, this LED will be OFF
3	RED/GREEN	STATUS	**Normal Status**: SOLID GREEN **Fault Condition:** If the switch encounters an error, this LED will flash an ERROR CODE
4 & 7	RED	NEG. SWITCH	Indicates switch is configured for NEGATIVE polarity or AC output.
5 & 6	RED	POS. SWITCH	Indicates switch is configured for POSITIVE polarity or AC output
8 & 10	RED	NEG. STT	Indicates switch is closed in NEGATIVE polarity, Will detect slight dimming if performing NEGATIVE STT
9 & 11	RED	POS. STT	Indicates switch is closed in POSITIVE polarity Will detect slight dimming if performing POSITIVE STT
13	RED	SNUBBER VOLTAGE	Indicates that high voltage is present on the snubber capacitor
14	RED	MAIN BUS OVERVOLTAGE	**Fault Condition:** Indicates that a voltage > 120 VDC was present across the bridge. Latched Error.
15	RED	SNUBBER CAP OVERVOLTAGE	**Fault Condition:** Indicates that a voltage > 500 VDC was present on the snubber capacitor

On Board LEDs for the Advanced Module High Freq Board

High Freq PC Board			
LED	COLOR	FUNCTION	INDICATION
1	RED	POWER SUPPLY	Indicates that the power supply is functioning
2	GREEN	ENABLE	Indicates that the board is being commanded to turn on

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