

## Alpha 9500 Fault Codes and Troubleshooting Guide

Fault	Description	Explanation	Resolution
1	<b>Gain Fault</b>	Output power is lower than expected with given input power	Re-tune amp or reduce drive power
2	<b>Mains Board could not find a tap to match line voltage</b>	AC mains are Fluctuating too much or amp was not given 30 seconds for the detection circuit to stabilize	Allow amp mains circuit to stabilize before powering back on. Or, force amp to use a fixed tap.
3	<b>Soft Ip fault trip</b>	Plate current above 1.5 amps.	Reduce drive or re-tune
4	<b>Hard Ip fault trip</b>	Plate current above 2 amps.	Reduce drive or re-tune
5	<b>Vp did not reach specified value in specified time</b>	High Voltage did not reach 3500 volts in specified time.	Check transformer connections and AC mains connections. Check that auto tap selection is enabled or that amp is correctly reading ac line voltage.
6	<b>Output relay did not close in time</b>	Output T/R relay did not close, or relay sensing circuit has been damaged by overload or transmitting into an open.	Amplifier is in operate and no key line detected. Check Key line by shorting center conductor to screw on amp. Check RF choke or 100 ohm resistor on Master Controller board. V at PIC must be 4.85 vdc.
7	<b>Output relay apparently stuck on</b>	Amplifier is keyed with no key line connected.	You should not see this fault in the field.
8	<b>Bandswitch failed to reach target setting</b>	Bandswitch failed to move during power up.	Turn amp off and back on. If fault does not clear. turn amp off and unplug it from AC Mains. Plug amp back in and power up. If fault still does not clear. while amp is on press a bandswitch on the front of the amp and fault should clear.
9	<b>Tune cap could not locate zero</b>	Cap needs to be re-initialized	Turn the amp off and back on.
10	<b>Load cap could not locate zero</b>	Cap needs to be re-initialized	Turn the amp off and back on.
11	<b>Temperature fault</b>	Tube deck reached a temp of 45 deg C.	Check air flow from behind and over the amplifier. Check tube for blockage. fault will clear when amp temp is within limits.
12	<b>Reflected power trip</b>	SWR above 3:1	Check antennas and other equipment installed after amp.
13	<b>Clear temperature fault</b>	Amp had faulted for a fault 11 and recovered.	See fault 11
14	<b>Plate voltage too high</b>	Plate voltage above 3800 Vdc.	Check AC mains voltage. Unplug amp, wait 30 seconds, plug back in, wait 30 seconds before turning on. Check that auto tap selection is enabled or that correct fixed tap has been forced.
15	<b>Grid current trip</b>	Grid current above 150 mA	Reduce drive or retune
16	<b>Auto-tune algorithm failed to resolve</b>	Auto tune was unable to find a good tune point given the input power.	Reduce drive and re-start the auto tune.
17	<b>Plate current too high with amp unkeyed</b>	Amplifier has been turned on and the plate current in idle is too high with no RF drive and amp unkeyed	Tube may be shorted or HV Circuit is not functioning correctly
18	<b>Input power greater than 100W</b>	Enough said!	
19	<b>Transmit Frequency out of range</b>	Radio too far out of Amateur bands	Change frequency to be inside Amateur bands
20	<b>AC Input Voltage out of range for AC tap setting</b>	Microprocessor not able to resolve AC Input voltage setting.	Missing one leg of AC, blown primary fuse, loose wire in power plug, or amp is in Forced Tap setting and voltage is now out of that range. Use 9500 Remote software to put amp in AUTO TAP mode, unplug from AC, plug back in.
21	<b>Cathode bias (+40vdc) did not come up</b>	Cathode bias cutoff voltage not detected after amp turned on.	Tube may be shorted, check 40v Fuse on HV Board
<b>During amp warmup, if STBY and ON are blinking in sync then amp is in AUTO TAP. If alternating blinking, then amp is in FORCE TAP mode.</b>			
<b>Fast Warmup: Press RCL then DIM button, amplifier will sample Ip and once tube emissions are detected will switch to 30 seconds remaining.</b>			
<b>Frequency counter ignore in bypass: Press RCL button followed by SND, amplifier will ignore the frequency counter in Standby.</b>			
<b>This is a sticky control, once enabled it will remain in that mode (through multiple on/off cycles) until you toggle it back on again with the same key sequence.</b>			
<b>Display waste heat on Vp LED bargraph. Push RCL then Vp, plate voltage LED's will now display waste heat in watts.</b>			
<b>Use this to get amp properly tuned with key down output, switch back to the Vp display by pushing RCL then Vp again.</b>			