Galaxy DX Radios DX98VHP

Documentation Project

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Transmitter Alignment
See Alignment Locations

SETTINGS	CONNECTION	ADJUST	ADJUST FOR
Remove TP7-TP9 Jumper PCB.			
TX CARRIER OSCILLATORS: AM TX Mode Band E CH. 1	Connect Frequency Counter to TP6	L25	LSB/TX mode: Adjust for 10.6975MHz ±20Hz.
	Connect Frequency Counter to TP6	L24	USB/TX mode: Adjust for 10.6925MHz ±20Hz.
	Connect Frequency Counter to TP5	L23	AM/TX mode: Adjust for 10.6950MHz ±20Hz.
DRIVER BIAS: (IRF520 Vg) Set Radio to: Band E, Ch.1 Mode to USB MIKE GAIN at minimum.	Connect DC Ammeter between TP7 and TP9.	VR12	Key TX adjust for 50mA. Verify 3.75vdc max.on bare lead of resistor in L37.
FINAL BIAS: (IRF520 Vg) Set Radio to: Band E, Ch.1 Mode to USB MIKE GAIN at minimum	Connect DC Ammeter between TP7 and TP8. ****Warning**** Setting these adjustments are critical and exceeding the maximin voltage and current settings will cause damage to the transmitter and void the warranty.	VR10 VR11	Preset both VR10 & VR11 for zero mA in TX mode. Key TX & adjust for 50mA. Verify 3.50vdc max on bare lead of resistor in L34. Key TX & adjust for 100mA. (total for both VR10 & VR11) Verify 3.50vdc max on bare lead of resistor in L33.
Replace TP7-TP9 Jumper PCB.			
RF AMP CHAIN: Set mode to AM. Set RF power control fully clockwise.	Connect wattmeter to ANT output.	L44, L43, L42, L40, L44	Key TX & adjust (in order) for maximum RF output . Recheck power across entire freq range. Re-adjust L44 for minimum SSB distortion.
SSB CARRIER BALANCE: Set mode to USB Set RF power control fully clockwise MIKE GAIN to minimum.	Connect wattmeter to ANT output.	VR6	Key TX, adjust for min. carrier leakthrough on scope or wattmeter. Recheck on LSB mode. If necessary readjust for best balance of sideband suppression between LSB & USB
SSB APC: Set mode to USB Set RF power fully clockwise. MIKE GAIN to minimum.	Connect DC voltmeter from pcb ground to TP7	VR17	In TX, adjust for 12.5vdc

SSB ALC: Mode to USB. MIKE GAIN to maximum. Inject two-tone audio signal of 700Hz and 1900Hz, 30 mV to Mic input.	Connect wattmeter to ANT output.	VR13 L44	In TX, adjust for 200 watts PEP. Adjust for minimum distortion on scope
AM CARRIER POWER: Set mode to AM, MIKE GAIN at minimum. RF Power SW to HI.	Connect wattmeter to ANT output. **CAUTION!** Do not exceed power levels. Damage to power transistors and inability to achieve 100% modulation from insufficient audio power will result.	VR14 VR18	Set RF PWR fully clockwise adjust VR14 for 65 watts Set RF PWR fully counter clockwise. Adjust for 10 watts
RF METER: Set mode to AM, RF Power fully clockwise MIKE GAIN at minimum. Meter Switch to PWR	Connect wattmeter to ANT output.	VR9	Adjust so meter agrees with Wattmeter.
AMC: Mode to AM. RF Power fully clockwise MIKE GAIN to maximum. Inject audio signal of 1KHz at 30mV to Mic input.	Connect modulation meter to ANT output.	VR16	Adjust for 100% modulation depth.
VR PCB (EPT99HP40A) Adjustment			
Mod Lamp Adjust: Mode to AM. RF Power fully clockwise MIKE GAIN to maximum. Front Panel Switch to Mod Lamp Inject audio signal of 1KHz at 30mV to Mic input.	Connect modulation meter to ANT output.	VR406	Adjust so that lamp illuminates at approx. 75% modulation
RF Amp PCB (EPAC40010A) Adjustment			
Gate Voltage Adjust: Set MIC GAIN to minimum. SSB mode (either LSB/USB).	Connect DC voltmeter from Amp PCB ground to gate of Q6. Key radio. Connect DC voltmeter from Amp PCB ground to gate of Q13. Key radio.	VR2 VR3	4.00VDC 4.00VDC
SWR Meter Adjust: Set MIC GAIN to minimum. Mode to AM. Unkey radio PWR/SWR/RB switch to SWR.	Connect wattmeter / 50-ohm resistive dummy load to ANT output. Remove 50-ohm dummy load and connect 100-ohm 100 watt load to radio antenna output	PWR Control	Adjust to max (65 watts).

Key radio.	connector.	VR1	Adjust for 2:1 reading on radio SWR scale. **NOTE:** If a 100-ohm 100 watt load is not available just use 50-ohm dummy load and set VR1 for 1:1 on SWR scale.