

Engineering Bulletin

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ECLIPSE
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Product : Series 50 Exciter and Power Amplifier

Topic : Reverse Power Threshold Setting

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A request from the field on RF Technology's 50 Series Power Amplifier to monitor possible condition of connecting a PA to a "Bad Antenna".

We tested this situation by connecting the PA with open load, after one hour, we found the PA failed due to one of the output stage transistors being destroyed.

The forward and reverse power of the PA are monitored by T50 exciter, the exciter changes its output to drive the PA for a proper power output level. The default reverse power setting is 25% of rated output power. In worst case, the PA might be damaged because of a long period bad load connection.

Decreasing the reverse power setting to 10% of the rated output power, and further testing of the PA with open load for at least 16 hours, no fault was found. The output transistors were still in good condition.

For safe working margin of the PA, we suggest users to change the reverse power setting as following:

1. Power up the exciter and PA, connect the exciter front panel connector to the PC serial port.
2. Start the Wintekhelp software. In the main menu click the "View/Edit Parameters" button. The sub menu will appear as shown in figure 1:

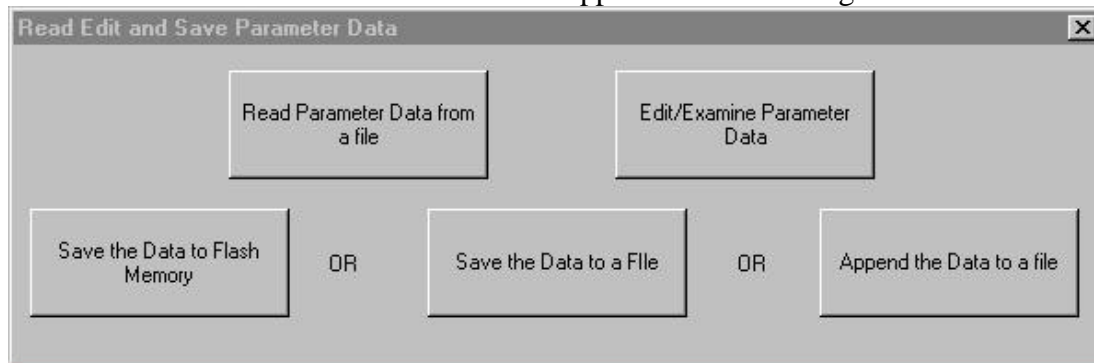


Figure 1

3. Click “Edit/Examine Parameter Data” button to enter the setting window.

The screenshot shows the 'Exciter Parameter Data' window. The 'Model' field is 'T50' and 'Serial No' is 'RT10530'. The 'Channel Selection Override' is set to 'Inactive'. The 'Audio Control' section has 'Line 1 Termination' and 'Line 2 Termination' set to 'ON', and 'External Tone Input' and 'Tone Low Pass Filter Bypass' set to 'OFF'. The 'Miscellaneous' section has 'Generate LOOP' set to 'OFF', 'Exciter Low Battery Alarm Level' set to '24.0', and 'Max. Transmit Time' set to '0'. The 'RF Technology External Power Amplifier' section has 'Serial No' empty, 'Forward Power Level (W)' set to '100.0', 'Reverse Power Alarm Level (%)' set to '25.0', 'Low Power Alarm Level (%)' set to '90.0', 'Low Battery Alarm level (V)' set to '26.0', 'Max. Temperature (C)' set to '120.0', 'Max. Output Stage Current (A)' set to '12.0', and 'Max. PreAmp Stage Current (A)' set to '1.0'. There are 'OK' and 'Cancel' buttons in the top right corner.

4. Change the Reverse Power Alarm Level to 10% and click “ok”
5. In the sub menu shown in figure 1, click “ Save Data to Flash Memory” button.
6. Power cycle the exciter and PA, use a power meter to verify the reverse power with open load.

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