BZ5DTT250M
Application for FCC Certification
250 Watt Digital Television Translator

Parts List and Tune-up Procedure/Active Devices:

The following is the procedure for changing the channel of the DTT250M translator. Since the amplifier is broadband, channel change involves retuning of the output filter and recalibration of the output meter.

The amplifier meter was calibrated to read 100% (top scale) at full power and at the channel specified when the transmitter was tested at the factory. If the amplifier is to operate at a channel other than that of the factory test channel, the metering will require re-calibration. The power meter setting is a channel dependent calibration.

1. Connect the transmitter output to a 50 ohm dummy load or the antenna. The transmitter uses a 50Ω type N connector for its output. Calibrated directional coupler and suitable digital wattmeter should be used for measurements.
2. Connect the AC mains input. This AC circuit should be rated for 30 amperes, and should be supplied through a slow-tripping breaker or time delay fuse. Generally, a breaker that is rated for across-the-line motor starting will be found to be satisfactory. Connect the power supply to the amplifier.
3. At this point the LCD display should be illuminated, and the transmitter should be OFF. Depress the ON' switch. The green LEDs should illuminate and the amplifier should be operating. The cooling fans on both the power supply and the amplifier should be running.
4. Attach the RF output power measuring device.
5. Turn down the drive level from the Transcoder (front end) before applying any RF input signal.
6. Slowly turn up the drive level until the output power reaches the desired level (on the power measuring device – not the transmitter power meter indication).
7. When the output power is at the desired level check that the voltage at U4-7 (Metering PC board) is 3.0VDC (Adjust with R29). At this point the transmitter forward power meter should read 100%.
8. To calibrate the reflected power, remove the cable from J1 at the metering board and reconnect through a 16dB attenuator to J2.
9. Adjust potentiometer R30 for a reflected power meter reading of 25% (reading multiplication factor is 10x – ie: corresponds to 2.5% reflected). Voltage at U4-1 shouldread 1.5VDC.
10. Adjust R36 to cause reflected power to drop to a meter reading of 20%. Adjust R42 until VSWR cutback LED illuminates.
11. Replace 16dB attenuator with 10dB attenuator, and adjust R49 until transmitter locks out.
12. Reconnect the cables as they were.

The output filter must be re-tuned as per the frequency response sweeps:

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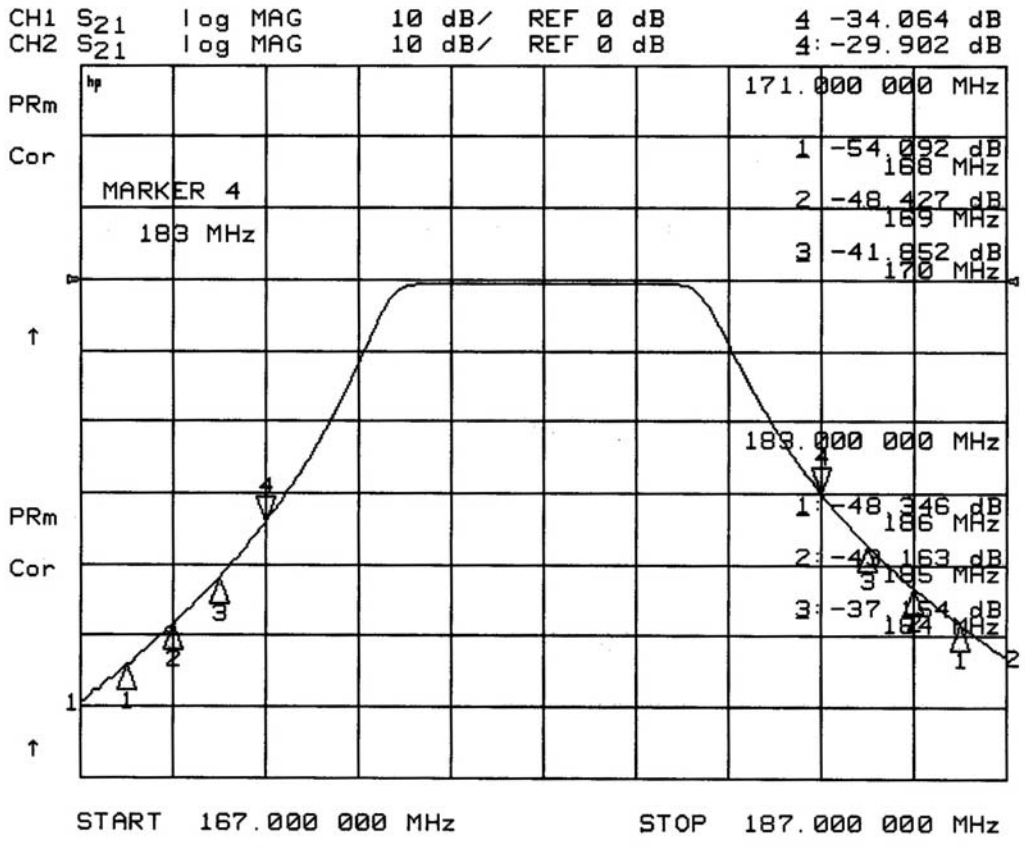
Mask Filter:
Bandpass Response



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Parts List and Tune-up Procedure

Mask Filter:
Return loss