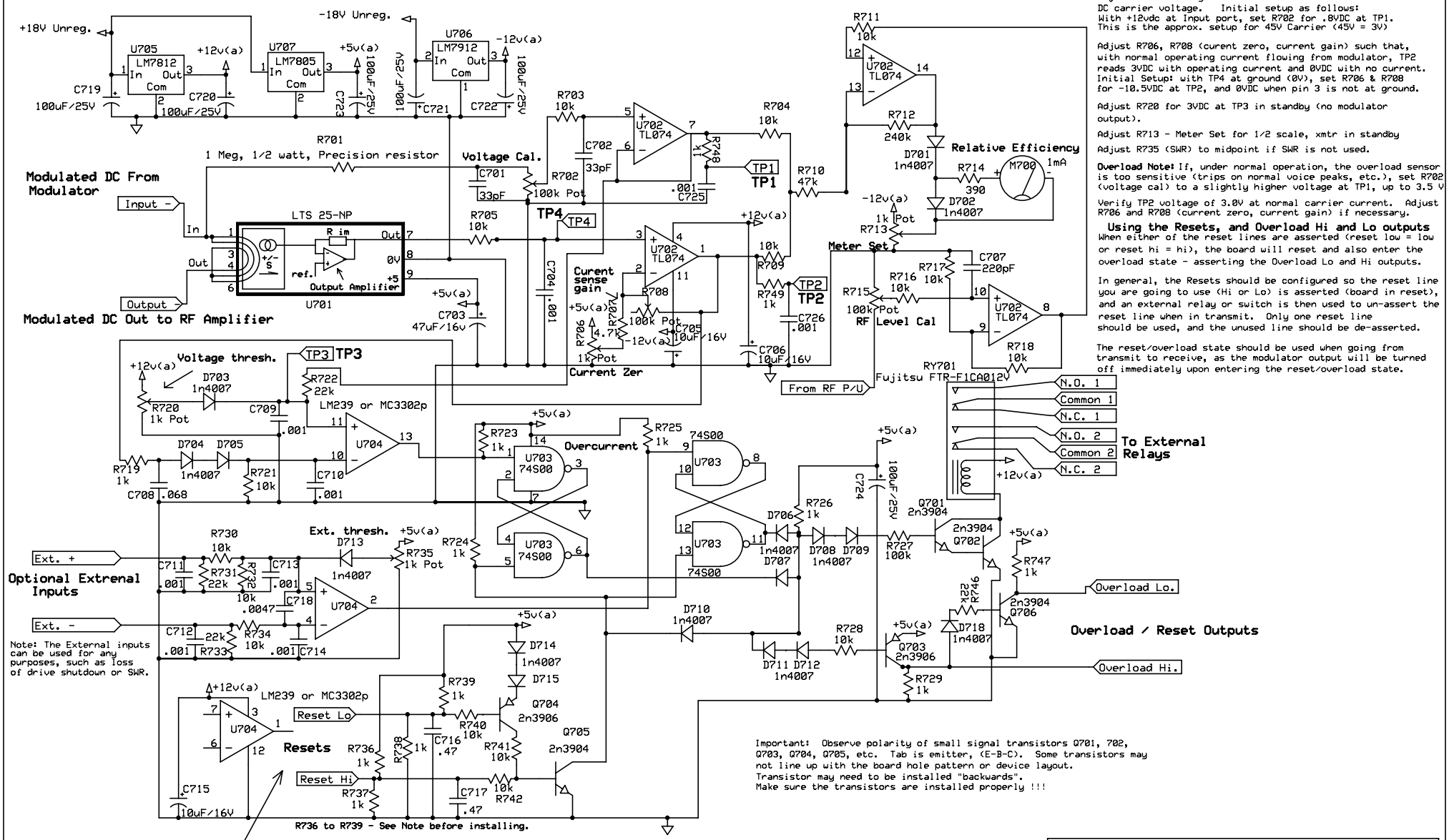
Overload Detect and Efficiency Meter Board



Setup and Adjustments

Adjust R702 (voltage cal) for 3 VDC at TP1 with DC carrier voltage. Initial setup as follows: With +12vdc at Input port, set R702 for .8VDC at TP1. This is the approx. setup for 45V Carrier (45V = 3V)

Adjust R706, R708 (curent zero, current gain) such that, with normal operating current flowing from modulator, TP2 reads 3VDC with operating current and 0VDC with no current. Initial Setup: with TP4 at ground (0V), set R706 & R708 for -10.5VDC at TP2, and 0VDC when pin 3 is not at ground.

Adjust R720 for 3VDC at TP3 in standby (no modulator output).

Adjust R713 - Meter Set for 1/2 scale, xmtr in standby

Adjust R735 (SWR) to midpoint if SWR is not used.

Overload Note: If, under normal operation, the overload sensor is too sensitive (trips on normal voice peaks, etc.), set R702 (voltage cal) to a slightly higher voltage at TP1, up to 3.5 V

Verify TP2 voltage of 3.0V at normal carrier current. Adjust R706 and R708 (current zero, current gain) if necessary.

Using the Resets, and Overload Hi and Lo outputs

When either of the reset lines are asserted (reset low = low or reset hi = hi), the board will reset and also enter the overload state - asserting the Overload Lo and Hi outputs.

In general, the Resets should be configured so the reset line you are going to use (Hi or Lo) is asserted (board in reset), and an external relay or switch is then used to un-assert the reset line when in transmit. Only one reset line should be used, and the unused line should be de-asserted.

The reset/overload state should be used when going from transmit to receive, as the modulator output will be turned off immediately upon entering the reset/overload state.

Configuring the Resets

Using Reset Hi: Install R736, R739 - low (0V) to xmit
HI (+5) = Reset/Receive state (overload lines asserted)

Using Reset Lo: Install R737, R738 - high (+5) to xmit
LO (0V) = Reset/Receive state (overload lines asserted)

Important: Observe polarity of small signal transistors Q701, 702, Q703, Q704, Q705, etc. Tab is emitter, (E-B-C). Some transistors may not line up with the board hole pattern or device layout. Transistor may need to be installed "backwards". Make sure the transistors are installed properly !!!

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Patent Pending, US Patent & Trade Office.

700 - Efficiency Meter - Overload Detect - Board

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Efficiency Meter, Overload Detect		
Steve Cloutier	Rev D 11/2008	Page 1 of 1