

The power supply voltage (+24 V) fed-in via ST 1/26 to 28 proceeds after smoothing with C 19 to the voltage divider GR 1, R 14. The constant voltage drop across GR 1 (1.4 V) produces a constant current through R 12 (R 13) via the base/emitter path of TS 3 (TS 4), and thus via L 2 (L 3) through TS 1 (TS 2). Thus, via the collector current of TS 3 (TS 4) flowing through R 10 (R 11), the gate voltage of the field effect transistor holds the latter at constant operating point via R 8, R 6, R 4 (R 9, R 7, R 5).

#### **4.2.2.3 Fault Message**

For fault monitoring, the DC voltages across R 10 and R 11 are compared via the diodes GR 2 to GR 7 with the reference voltage from the voltage divider R 18, GR 9. If one of the two voltages is less than 2.5 V or greater than 7 V, then a current flows via the bridge diagonal R 20, base-emitter TS 5, emitter-base TS 6, GR 11 and cuts on the transistors TS 5, TS 6 and allows current to flow through the light emitting diode GR 10. A further fault signaling device can be connected externally between the collector of TS 7 and the +24 V power supply line.

#### **4.2.2.4 Multicoupler Network**

The RF signal at the output of T 4 has a level which lies about 13 dB above that of the antenna input signal. It is taken via the matching transformer T 5 to the differential transformer T 6, T 7, T 8 which performs a 3:1 power distribution. Each one of the three branches goes to a bridge circuit T 9, T 10, W 1, W 2 (T 11, T 12, W 3, W 4; T 13, T 14, W 4, W 5, W 6) which performs 2:1 distribution. In each one of the now six circuit branches then follows a hybrid transformer with 2:1 distribution (T 15 to T 20). The signal is now present at each one of the twelve outputs of these transformers with a level of about +1 dB across 50 Ohms (with respect to the antenna input) and can be taken off for external use.

### **4.3 Fault Tracing Instructions**

Attempted input resistance measurements at the connections of the printed circuit boards give no interpretable information regarding proper or improper functioning and may lead to destruction of semi-conductors.

Do not carry out soldering operations on the printed circuit boards except at the position provided for this purpose (soldered jumpers), because otherwise the protective lacquer coating would become damaged, thus impairing the long-term functional dependability of the unit.

Soldering operations at the soldered jumpers and in general may be carried out only with a soldering iron whose bit carries no potential difference with respect to the soldered joint and whose bit temperature does not exceed 250 °C. The maximum permissible duration for one soldering operation is three seconds.