4 REPAIRS BY SPECIALLY TRAINED PERSONNEL

4.1 Special Tools, Measuring Equipment and Test Units

Pos.	Qty.	Description
(1)	2	Power Signal Generator, 1.5 to 30 MHz
(2)	1	Receiver, 1.5 to 30 MHz
(3)	1	Noise Generator SKTU (Rohde & Schwarz)
(4)	2	Calibrated Attenuator Line, 0 to 100 dB
(5)	1	RF Millivoltmeter with Transit Probe, e.g. URV (Rohde & Schwarz)
(6)	1	Two-Way Power Distributor, e.g. Passive Antenna Multicoupler ATR 103 (AEG)
(7)	1	Network Analyzer, 0.5 to 50 MHz (e.g. HP 8505 A)
(8)	1	Power Divider 6 dB/50 Ohms; 0.5 to 50 MHz

4.2 Functional Principles

4.2.1 Power Supply SV 1275
(See circuit diagram in Annex 3)

The Power Supply SV 1275 gives a DC output voltage of about 24 V when operated with AC mains input voltage. Mains and battery power supply functions are switched on with the toggle switch S 1. The diode GR 2 prevents damage if the battery is connected with wrong polarity. The DC voltage provided by the battery or by the rectifier GR 1 is taken via an interference suppression filter Z 1 to the output ST 3. The light emitting diode GR 4 serves as pilot lamp to indicate the operating state. An external signalling device can be connected via R 4 to BU 1, to which the fault message arriving via ST 3 is taken too.

4.2.2 Amplifier-Multicoupler VT 1275 H
(See circuit diagram in Annex 5)

4.2.2.1 High-Pass Filter and Low-Pass Filter

The bandpass filter connected ahead of the amplifier consists of a cascaded combination of a high-pass filter and a low-pass filter. The passband extends from 1.5 MHz to 30 MHz. Frequencies under 1.2 MHz and above 40 MHz are attenuated by at least 40 dB.

A filter with passband from 1.0 MHz to 30 MHz is also available.

4.2.2.2 Amplifier

The RF signal arriving from the filter via BU 302 (frequency range 1.5 to 30 MHz) is split by T 1 into antiphase drive for two identical circuit branches. The signal goes to the gate of TS 1 (TS 2) and is amplified. T 2 (T 3) gives optimum feedback to the gate on considerations of matching and noise level (negative feedback). The two amplified antiphase signals are recombined in T 4.