1.6 Test Lightning Protection System

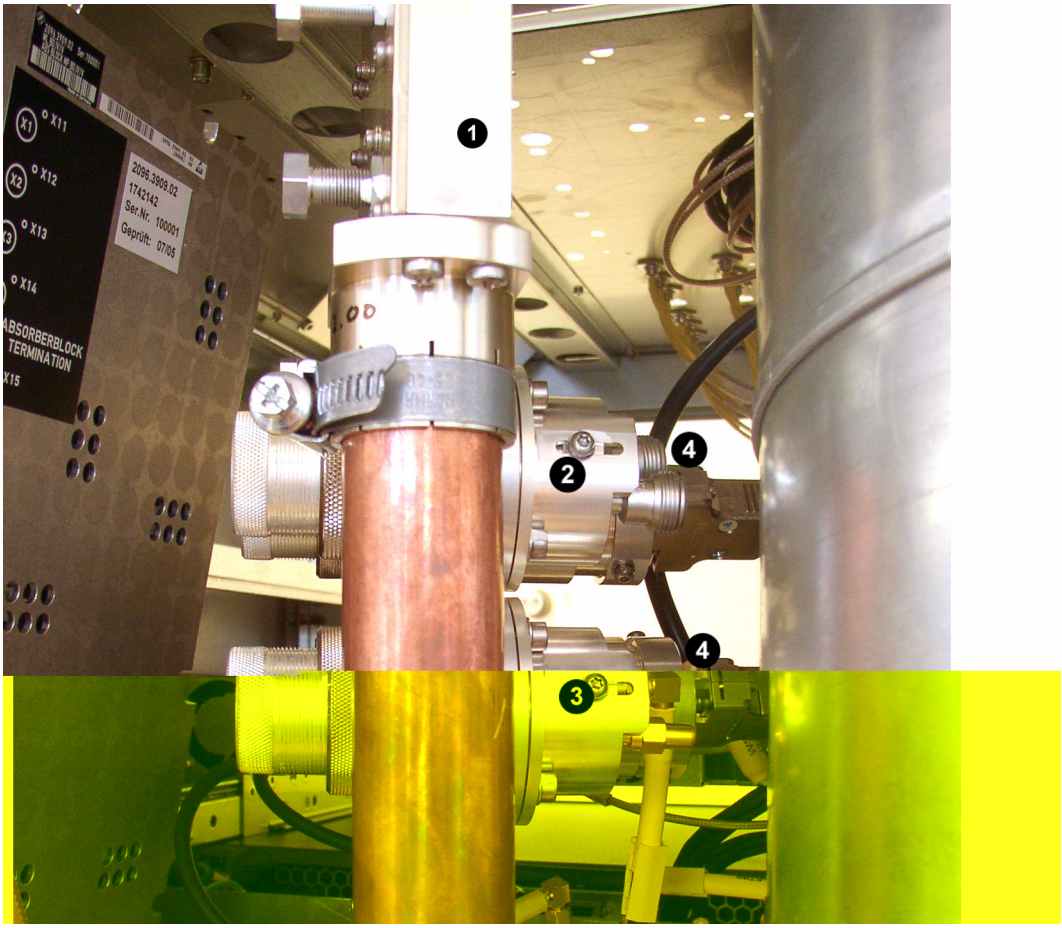

Fig. 25 Equipment in the test lightning protection system

1) Lightning protection
2) Directional coupler N
3) Directional coupler SMA
4) Directional coupler and rectifier unit

The test lightning protection system (lightning protection combined with test points) is located at the output of the harmonics filter and contains the following components:

- Lightning protection
- Directional coupler N
- Directional coupler SMA (option ADE only)
- Directional coupler and rectifier unit

1.6.1 Lightning Protection

The lightning protection protects the rack from possible damage due to lightning bolts.

1.6.2 Directional Coupler

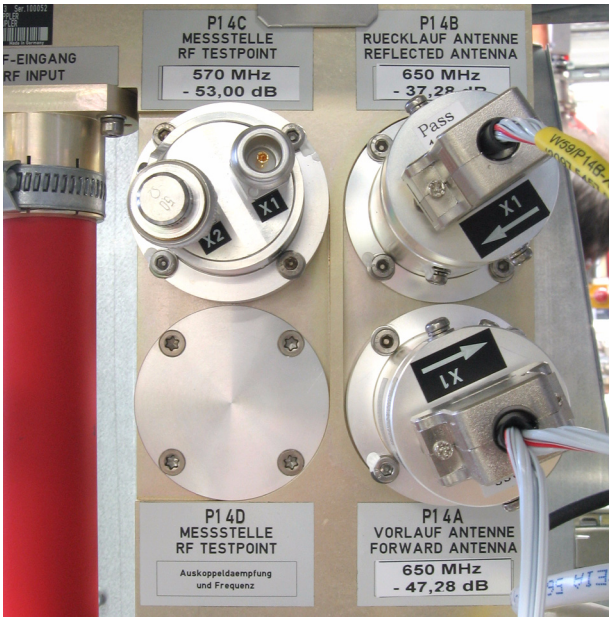

Fig. 26 *Directional coupler*

The forward and reflected power are detected at the transmitter output by means of the frequency-compensated directional couplers P14A (forward) and P14B (reflected). The frequency-compensated directional couplers send a power-proportional DC voltage to the NETCCU® transmitter control unit via the integrated rectifier circuit. The DC voltages for the forward and reflected values are displayed in the NETCCU® and also used as an S-measurement for VSWR monitoring (reflection antenna).

Directional coupler P14C is an unassigned test point that can be used either as a forward or reflected power test point.

The P14D rectifier is used in the digital TV transmitter in connection with option ADE only.

Note *The transmitter is switched off because of reflection if the reflected value exceeds 2% of the forward value after being checked three times.*

1.6.3 Test Interface

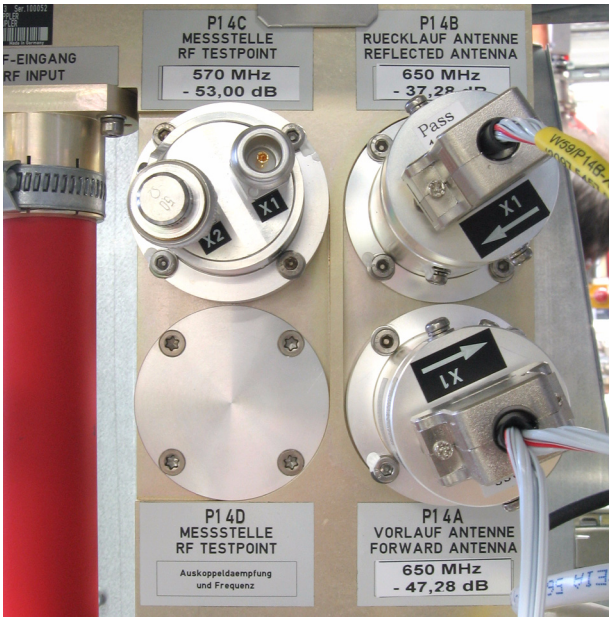

Fig. 27 *Test interface*

External power measurement equipment can be connected at the unused test interface.

1.7 Harmonics Filter

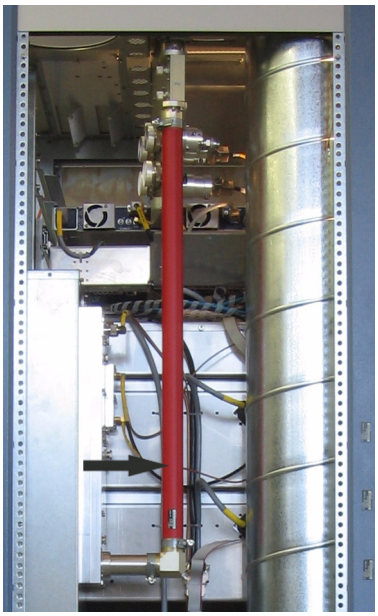

Fig. 28 *Harmonics filter*

Harmonics filter FM 825 suppresses harmonics. It is set up as a Chebyschev filter of the 11th order using coaxial design for the 13-30 line system. In the signal path, the harmonics filter is located directly after the combiner.

Note *The harmonics filter is lacquered in order to reduce the surface temperature, but high temperatures are nevertheless to be expected.*

1.8 RF Connector

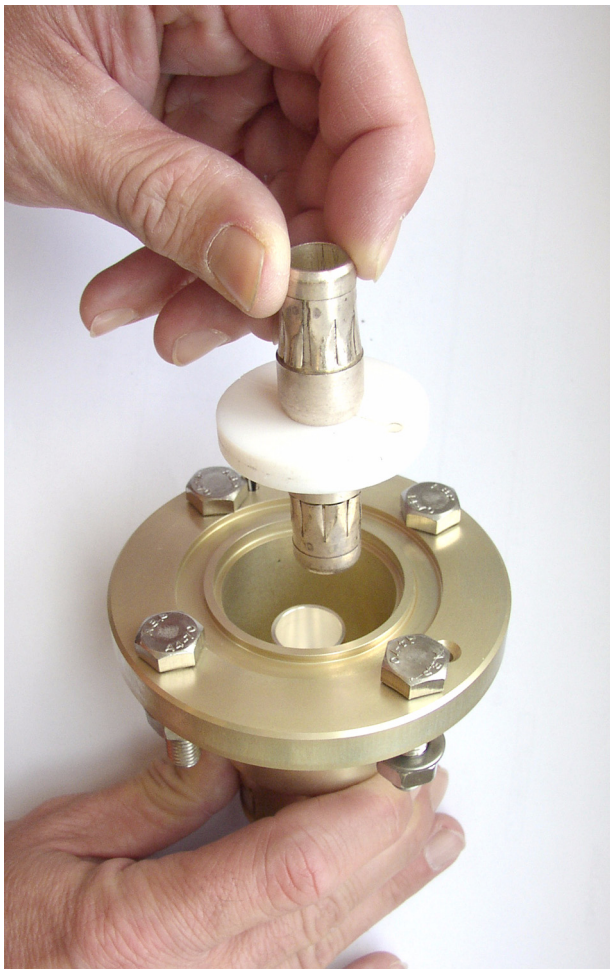

Fig. 29 *RF connector*

The RF connector (1 $^{5}/_{8}$“ EIA flange) is located on the transmitter roof (or under it if preferred).