TELEFUNKEN
SenderSysteme Berlin

FM-TRANSMITTERS

TELEFUNKEN SenderSysteme Berlin AG

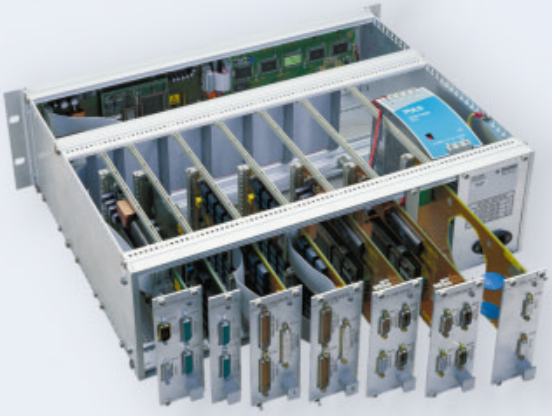
The Modular VHF/FM Transmitter System

TELEFUNKEN VHF/FM transmitters are integrated preferably in standard 2 m to 19“ racks. The lower power classes can be supplied alternatively in 19“ table racks. This flexibility guarantees little space requirement and service friendliness. The simple and clear arrangement as well as the use of standard components leads to little expenditure in installation on site, in the
exchange of assemblies as well as service and maintenance. The power amplifiers’ modular arrangement allows to realise different power classes with high internal redundancy.

Excellent reliability and a quasi-maintenance free operation distinguish TELEFUNKEN transmitters and plants.

TELEFUNKEN SenderSysteme Berlin AG assure an after-sales service of 10 years.

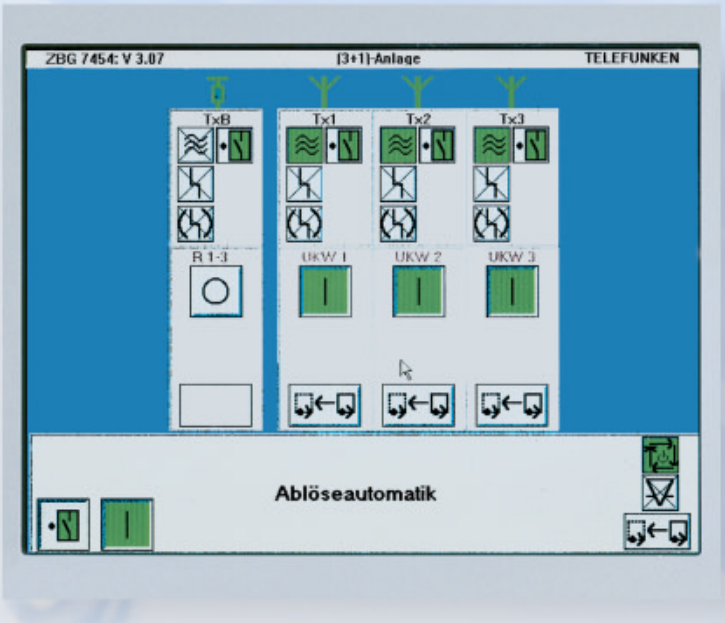
The scope of supply and service offered by TELEFUNKEN comprises besides design, manufacture and supply of our proven VHF/FM transmitters complete turn-key projects including planning/ engineering of plants, mains distribution, technical installations in buildings, splitters and combiners, cooling, power supply and antennas.



components of central control unit

1 kW VHF/FM transmitter

graphical user interface



The VHF/FM Reserve Systems

Our comprehensive reserve concepts allow an optimised use of broadcast times.

Particularly important for unmanned sites:
Should individual assemblies or the transmitter fail the reserve transmitters take-over automatically, assuring an uninterrupted program service.

Reserve Concepts:

Active reserve by redundancy in assemblies	
Passive pre-driver reserve	
Passive transmitter reserve	(IEC 864 part1)
Active transmitter reserve	(IEC 864 part1)
(n+1) transmitter reserve	(IEC 864 part1)

TELEFUNKEN – always at the leading edge of transmitter technology

VHF/FM Transmitters and Transposers of TELEFUNKEN SenderSysteme Berlin AG

The Highlights

- Ease of use assured by built-in menu guided logic and control.
- Ease of access, allowing removal resp. exchange of a PA module or power supply during operational service of transmitters >2.5 kW.
- Fully automatic unmanned operation even under extreme environmental conditions. Continuity in full power operation up to a VSWR of 1:1.5. Above this threshold service continues with accordingly reduced power.
- All reserve systems according to IEC 864 Part 1 can be realized.
- Little space requirement due to compact design.
- Outstanding durability as a result of low junction temperature of RF transistors.
- High reliability at high power density provided by state of the art MOSFET technology.
- Variable ventilation systems allow individual adaptation to site specific conditions, e.g. air inlet out of and outlet into the building, external and internal ventilators, guided air systems.

The specification of our transmitters and control units complies with all national and international standards.

The 100 W VHF/FM Exciter

The 100 W transmitter is used as exciter in all higher power classes.

Particular attributes are:
- integrated stereocoder
- integrated frequency deviation limiter
- directly modulated synthesizer with a channel step of 10 or 25 kHz

The exciter can be integrated any time in existing TELEFUNKEN equipment of former generations (transmitters >2.5 kW require some minor mechanical adaptations).

The Transposers

TELEFUNKEN transposers and relay receivers are of universal use, either as single units or as exciters for transmitters of all higher power classes.

The automatically tuneable relay receiver allows reserve systems in the receiver section too.

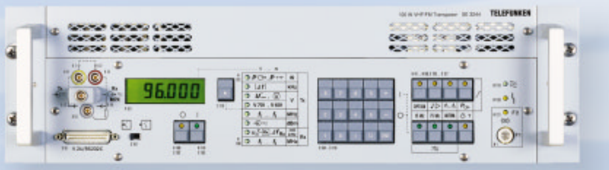
VHF/FM trasmitter plant

TELEFUNKEN AM transmitters – a secure investment into the future

100 W VHF/FM transmitter plant in three versions

control unit for 10 kW VHF/FM transmitters

100 W exciter



100 W VHF/FM exciter unit

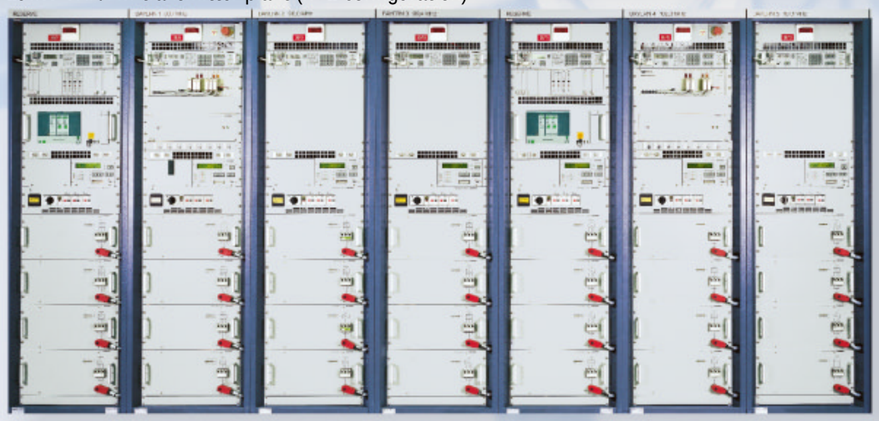
500 W poweramplifier

FM-transmitters, preferred models

Type		T 3270	T 3271	T 3272	T 3273	T 3256	T 3255	T 3254
Output power		100 W	250 W	500 W	1,000 W	2.5 kW	5 kW	10 kW
Output power adjustable		5 W - 100 W	25 W - 250 W	50 W - 500 W	100 W - 1,000 W	625 W - 2.5 kW	1.25 kW - 5 kW	2.5 kW - 10 kW
RF connector			N		7/16		1 5/8“	
Power reduction at					VSWR >1.5			
Spurious emissions					< -130 dBc/Hz			
RF harmonics		>80 dB			>70 dB			
Reverse intermodulation					>15 dB			
Noise power relative to carrier					< -150 dBc/Hz (>2 MHz)			
Frequency range					87.5 MHz to 108 MHz in 10 kHz or 25 kHz steps			
Frequency stability					<300 Hz within 3 month			
Modulation system					F3 E			
Operation modes					mono, stereo, MPX, L+R/2			
AF Input impedance					>2,000 Ω or 600 Ω			
Inputlevel for 40kHz deviation					-5.25 dBm to +12.5 dBm in 0.25 dB Steps adjustable			
Deviation sesitivity stability					better than ±1 %			
AF amplitude response					<0.1 dB between 40 Hz and 100 kHz			
Signal to noise ratio					>69 dB at f_{mod} = 500 Hz and 40 kHz deviation (CCIR weighted)			
AF harmonic distortion (THD)					<0.1% between 40 Hz and 15 kHz at 75 kHz deviation			
Stereo crosstalk					>55 dB between 40 Hz and 15 kHz			
Power supply		1/N/PE 230 V AC -15 % +15 %				3/N/PE 400 V AC -10 % +10 %		
Power factor		>0.8				>0.94		
Operation after mainsbrake					<2 sec.			
Temperature range		-10°C to +50°C		-10 °C to +45 °C				
Remote control					RS 232 standard, BITBUS or parallelinterface optional			
Preset Frequencies					6 Presetfrequencies			
Dimensions	Width				600 mm (19“)			
	Depth	370 mm		430 mm		600 mm		
	Heigth	132 mm (3 hu)		264 mm (6 hu)	396 mm (9 hu)	2,000 mm		

Not binding for delivery

10 kW VHF/FM transmitter plant (n+1 configuration)



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