

HF Transceiver Family



R&S® XK 2000



HF Postselectors R&S® FK 2101X/FK 859X1

R&S® FK 2101X (100 W CW, 150 W PEP) and R&S® FK 859X1 (1000 W CW and PEP)

- ◆ Frequency range 1.5 MHz to 30 MHz
- ◆ High selectivity
- ◆ Fully automatic setting
- ◆ Sturdy design
- ◆ Suitable for 19" rack installation
- ◆ Improvement of transmitter signal quality by effective suppression of
 - Broadband noise
 - Spurious emissions
 - Harmonic emissions
- ◆ Effective suppression of backdoor intermodulation that may occur in the vicinity of other transmitters



ROHDE & SCHWARZ

HF Postselector R&S®FK 859X1

Whenever co-location requirements cannot be met by spatial separation of the antennas, the R&S®FK 859X1 high-performance filter ensures interference-free transmission and reception under difficult HF conditions such as on board ships.

The HF Postselector R&S®FK 859X1 is an automatically tunable filter. It is connected between the HF Transceiver R&S®XK 2500/XK 2900 and the corresponding Antenna Tuning Unit R&S®FK 855C3/FK 2900M. The R&S®FK 859X1 suppresses broadband transmitter noise, harmonics and intermodulation products to ensure trouble-free operation of closely located receivers and enables simultaneous operation of several transmitters without mutual interference.

Tuning is digital by means of RF relays. The frequency information is derived from the control line to the ATU which is looped through the filter. The filter has a separate input for the receive antenna.

A switchover circuit bypasses the filter in the case of receive frequencies <1.5 MHz.

Specifications

Electrical data	
Frequency range	1.5 MHz to 29.9999 MHz
Maximum input power	1000 W + 1 dB CW and PEP
Transmission loss	max. 2 dB (typ. <-1.4 dB)
Stop-band attenuation	1.5 MHz to 12 MHz $f_0 \pm 10\% > 30$ dB, $2 f_0 > 75$ dB 12 MHz to 15 MHz $f_0 \pm 10\% > 27$ dB, $2 f_0 > 70$ dB 15 MHz to 30 MHz $f_0 \pm 10\% > 20$ dB, $2 f_0 > 65$ dB
Input impedance	50 Ω
VSWR	<1.4 (typ. 1.1)
Tuning time	<100 ms
Power supply	220/110 V AC, 50/60 Hz, 170 VA (max. 310 VA)
Mechanical data	
Dimensions (W x H x D)	483 mm x 355 mm x 655 mm
Weight	37 kg
Environmental conditions	
Temperature ranges	in accordance with VG 95332, sheets 3, 4, 22, 23
Operation	-25 °C to +55 °C
Storage	-40 °C to + 85 °C
Maximum operation altitude	3 000 m, at +35 °C
Humidity	
Operation	in accordance with VG 95332, sheet 5, class of precision 8
Storage	in accordance with VG 95332, sheet 6, 4 days
Vibration	in accordance with VG 95332
without shockmount	10 Hz to 55 Hz, 0.3 mm double amplitude, sheet 24, class of precision A2
with shockmount	BV 044, precision 9
Shock	
Operation	30 g, 11 ms in accordance with VG 95332, sheet 16
Storage	in accordance with VG 95332, sheet 6, 4 days
Type of protection	DIN 40050, IP 41, relating to front panel and rack installation

HF Postselector R&S®FK2101X

The HF Postselector R&S®FK2101X is an automatically tunable filter for use in applications with the Transceiver R&S®XK2100L. The postselector is inserted between the transceiver

and the antenna tuning unit. Since the R&S®XK2100 is capable of tuning without using a separate control line to the ATU, the control data transmitted together with the RF signal is taken via a modem bypass in the R&S®FK2101X. To control the filter, the R&S®XK2100

transceiver has to be equipped with the External Control Interface R&S®GV2110 (option: Order No. 6033.6006.02)

Specifications

Electrical data	
Frequency range	1.5 MHz to 29.999 MHz
Maximum input power	100 W + 1 dB CW 150 W + 1 dB PEP
Transmission loss Without Modem Bypass R&S®GV2850 With Modem Bypass R&S®GV2850	<1 dB <1.5 dB
Stopband attenuation	8 dB at $f_0 \pm 10\%$, with $f_0 = 1.5$ MHz to 29.999 MHz
Input impedance	$Z = 50 \Omega$
Tuning time	50 ms
Power supply (from R&S®IN2100)	+26.5 V
Input current	3 A
Mechanical data	
Dimensions (H × W × D)	177 mm (4 HU) × 483 mm × 413 mm
Weight	11 kg
Color	RAL 7035
Environmental data	
Operating temperature range	-25 °C to +55 °C (VG 95332, sheet 3, def. 6/sheet 4, def. 7)
Storage temperature range	-40 °C to +85 °C (VG 95332, sheet 22, def. 5/sheet 23, def. 5)
Humidity	+40 °C/95 % (VG 95332, sheet 5, def. 8)
Safe shock load	30 g, 11 ms (VG 95332, sheet 16, def. 7)
Vibration	10 Hz to 55 Hz, 0.3 mm double amplitude (VG 95332, sheet 24, def. 2, area A)
EMC	in accordance with EN 50081-1, EN 50082-1

Ordering information

Designation	Type	Order No.
HF Postselector 1 kW	R&S®FK859X1	6012.5498.02
HF Postselector 150 W	R&S®FK2101X	6079.2010.02



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