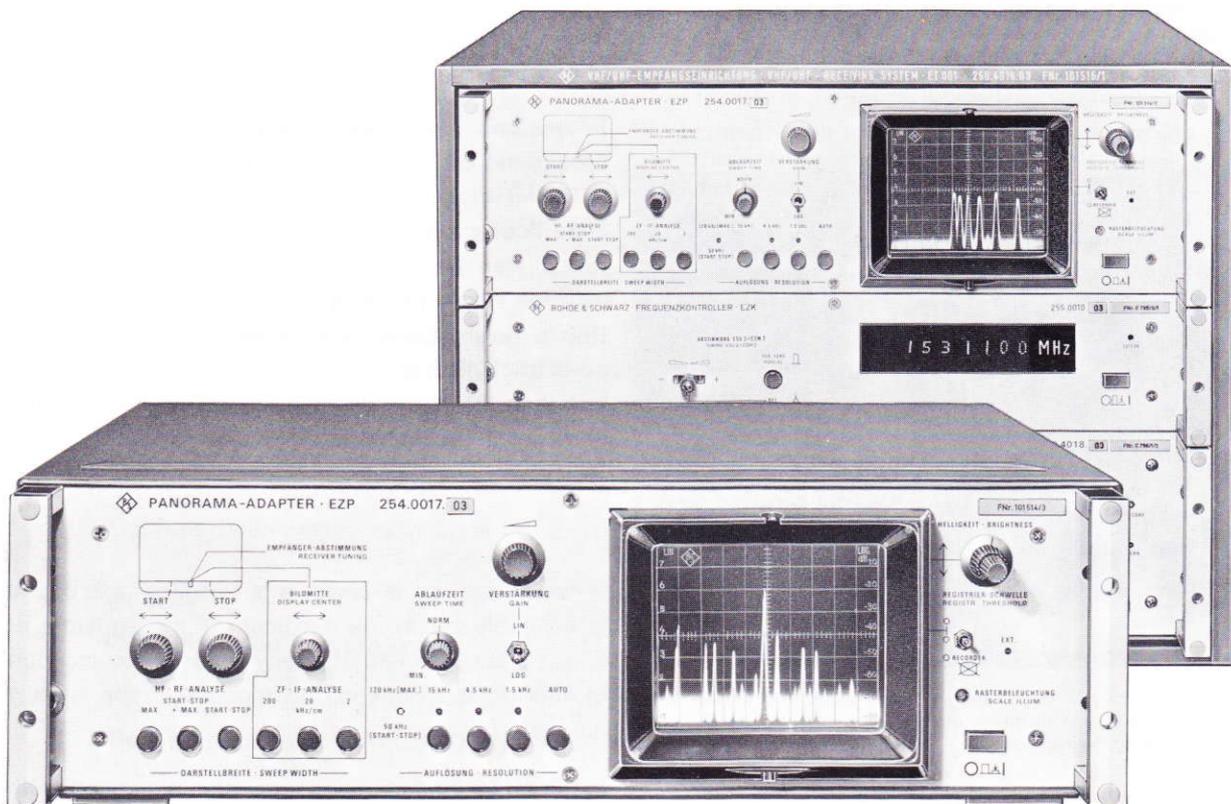


# PANORAMIC ADAPTER



Background photo: Panoramic Adapter EZP in VHF-UHF Receiving System ET 001

*f 12.864.-*

Interference-free dynamic range:  $> 70$  dB

RF and IF analyses with five resolution bandwidths  
or IF analysis alone with three resolution bandwidths

Automatic selection of minimum sweep time

One- or two-line broadband display

Outputs for recorders

Remote-control and system compatibility

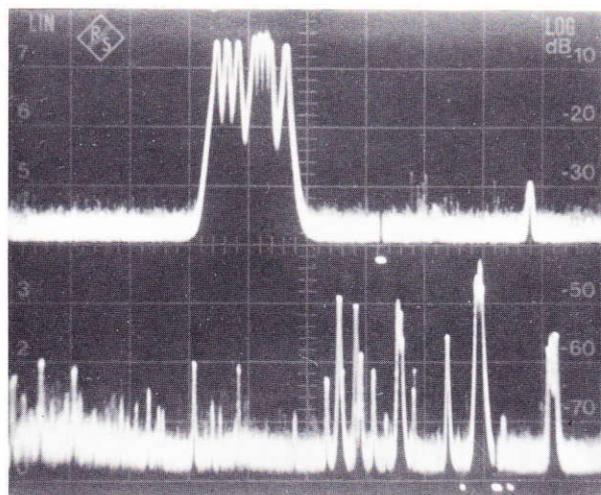


Fig. 1 RF analysis (log display); range display (from 105 to 172 MHz) with 120-kHz resolution (lower line); start/stop and receiver tuning markers define the section displayed on the upper line with 50-kHz resolution (public land-mobile radio channels)

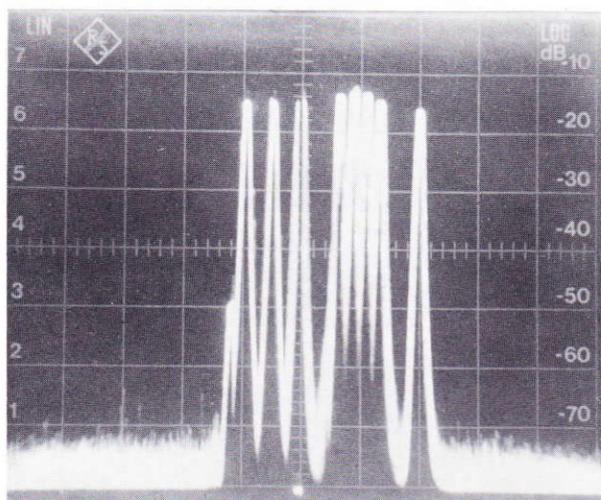


Fig. 2 IF analysis (log display); sweep width 2 MHz, resolution 15 kHz; the marker identifies the public land-mobile radio channel picked up by the receiver

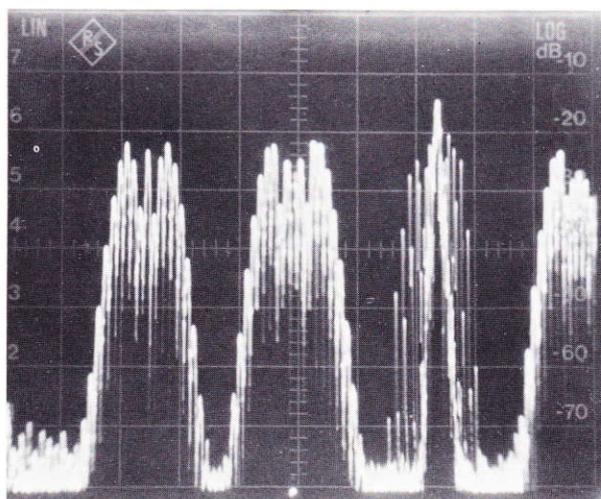


Fig. 3 IF analysis (log display); modulation spectrum of one occupied and three vacant public land-mobile radio channels; sweep width 200 kHz, resolution 1.5 kHz

## Characteristics and Uses

The Panoramic Adapter EZP in conjunction with a suitable receiver – such as the ESM 2 and ESU 2 of Rohde & Schwarz – permits spectral display within a particular frequency range. Depending on the selected display width and resolution, the screen display supplies information on the band occupancy, the operating channels as well as on level, modulation and frequency spacing of the individual signals.

A superimposed marker below the signal line indicates the tuning frequency of the receiver. Tuning to a desired signal frequency is thus considerably facilitated and accelerated.

**RF analysis** In conjunction with the ESM 2 or ESU 2 broadband display over the full subrange width up to 200 MHz is possible. By setting start/stop markers, a particular section of this **range** (equal to tuner range) can be displayed either alone or together with the whole range in the two-line mode (Fig. 1). Due to the smaller resolution bandwidth, the **expanded-extract display** contains more detailed information than the range display. The receiver-controlled marker can be set below a signal of interest.

**IF analysis** If an IF analysis is to follow, the signal is definitely within the maximum IF sweep width of 2 MHz (Figs. 2 and 3). After any necessary correction of the receiver tuning the signal can be aurally monitored.

In the **AUTO mode** the optimum resolution bandwidth related to the selected sweep width is set automatically, ensuring flickerfree display.

**Scale** Linear or logarithmic amplitude display can be selected for all modes of operation. In the linear mode the gain is continuously adjustable; the log scale factor is 10 dB/cm.

**Outputs** The Panoramic Adapter delivers numerous signals with TTL and analog levels for driving auxiliary units, such as recorders. A controlled, floating double-throw contact is provided e. g. for driving a YT recorder. In addition, two X and two Y outputs

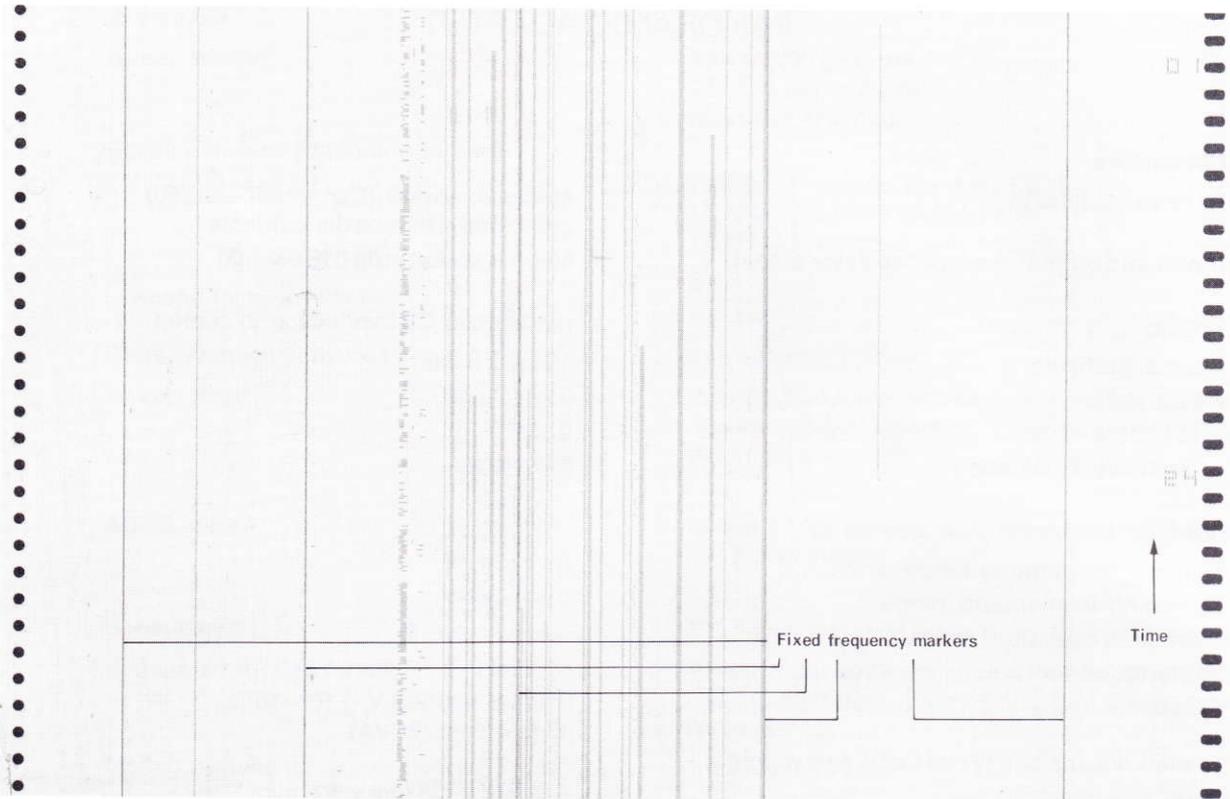


Fig. 4 Band occupancy as a function of time, recorded over several hours with Radiomonitoring Recorder ZSG 3

with analog signals are available, the output especially intended for recorder operation being switched by the recorder control.

In addition to the semi-automatic **recording of screen displays** by means of an XY or a YT recorder, long-time recording of the frequency band occupancy

(frequency-band recording) using the EZP and a radiomonitoring recorder (e. g. ZSG 3) is also possible (Fig. 4). A special facility in the EZP permits in the START/STOP mode setting of any calibration frequency lines on the recording chart. The adjustable response threshold for the recorder can be superimposed on the screen display as a reference line (Fig. 5).

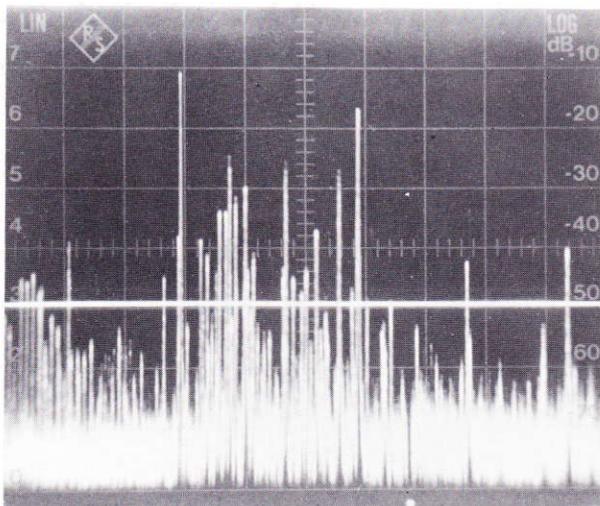


Fig. 5 Expanded-extract display of momentary band occupancy (start/stop) with superimposed receiver tuning marker and recorder response level line

The EZP also supplies the **operating voltages** for external control and auxiliary units.

**External control** The essential switching functions, e. g. all pushbutton functions (with the exception of the power switch), lin-log switchover and switchover to free selection of sweep times, selection of sweep times proper as well as stopping and triggering the sawtooth generator can be remote-controlled with the aid of TTL levels. Moreover, it is possible to cut off the local oscillator and blank the CRT. Frequency markers can be additionally superimposed. The X deflection direction is reversible so that a true spectral IF display is also possible for receivers with inverted IF position.

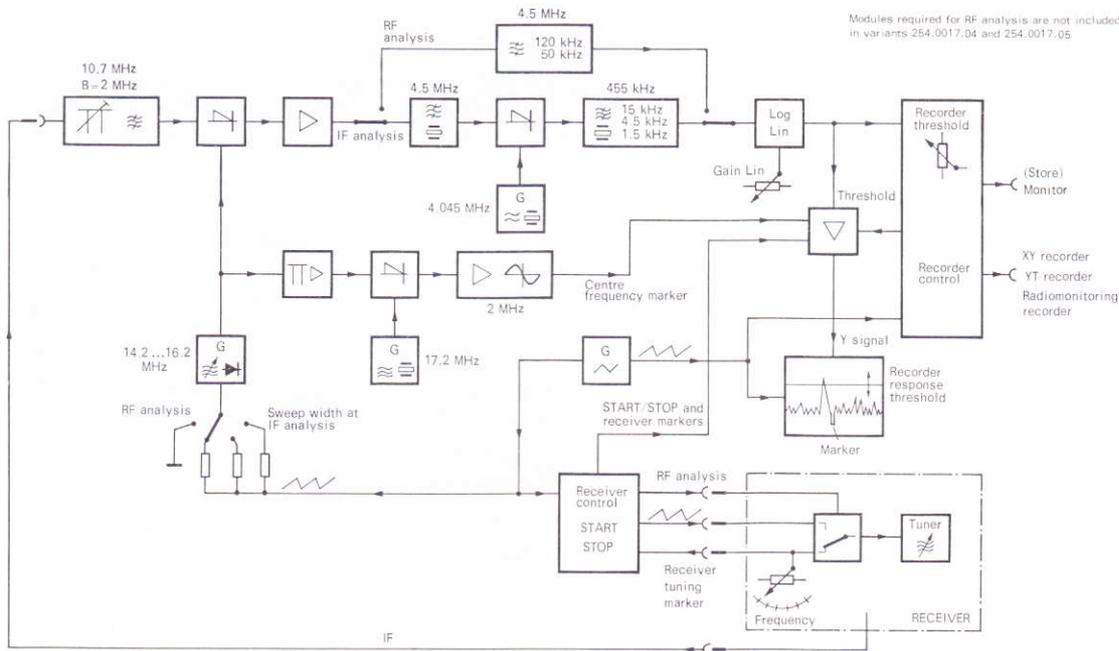


Fig. 6 Block diagram of Panoramic Adapter EZP

## Specifications

Frequency range . . . . .	10.7 MHz ± 1 MHz
Dynamic range (interference-free) . . . . .	≥ 70 dB
Range of indication log . . . . .	70 dB (10 dB/cm)
lin . . . . .	gain manually adjustable over 70 dB
Required signal level for full output (0-dB line of log display) . . . . .	9 to 40 mV, adjustable
Limit sensitivity with 1.5-kHz resolution (internal input attenuator set to minimum) . . . . .	≤ 2 μV ( $\frac{S+N}{N} = 2$ )

### RF analysis

Sweep width for MAX. . . . .	range or subrange of receiver used (maximum 200 MHz with ESM 2 and ESU 2)
START/STOP . . . . .	any section of MAX. sweep width
MAX. + START/STOP . . . . .	simultaneous two-line display of range (or subrange) and section
Resolution (corresponding to 3-dB bandwidth ± 20%)	
for MAX. sweep width . . . . .	120 kHz <sup>1)</sup>
for START/STOP mode . . . . .	50 kHz
Shape factor of filters . . . . .	$\frac{B_{3 \text{ dB}}}{B_{60 \text{ dB}}} \approx \frac{1}{15}$
Selection of range section . . . . .	by setting START/STOP markers
Frequency marking on screen . . . . .	by shiftable markers, frequency indication on receiver
Receiver tuning voltage for range or subrange . . . . .	+5 to +20 V for $f_{\min}$ to $f_{\max}$
Sweep time . . . . .	40 to 200 ms, adjustable

<sup>1)</sup> Complies with the CISPR recommendations for noise voltage measurements at discrete frequencies.

**IF analysis**

Sweep widths . . . . .	2 MHz (200 kHz/cm) 200 kHz (20 kHz/cm) 20 kHz (2 kHz/cm)
Resolution (corresponding to 3-dB bandwidth $\pm 20^{\circ}/\circ$ ) . . . . .	15 kHz } can be combined with 4.5 kHz } any sweep width or 1.5 kHz } automatically selected
Shape factor of filters . . . . .	$\frac{B_{3 \text{ dB}}}{B_{60 \text{ dB}}} \approx \frac{1}{6}$
Centre-frequency marking . . . . .	by frequency marker
Sweep time . . . . .	the required minimum sweep time (40 ms to 2.4 s) is automatically selected; it can be extended by the factor 5

**AUTO mode** . . . . . sweep width ganged with resolution to ensure flickerfree display

**Remote control** . . . . . TTL level, negative logic (L = 1); load factor 1

Remote-controlled functions . . . . . sweep width and resolution with RF and IF analyses (automatic setting of minimum sweep time is preserved)

Lin/log switchover . . . . . 1 corresponds to lin

Time control (coded) . . . . . 3 inputs for 6 sweep times from 40 ms to 50 s depending on selected sweep time

Switchover to external control . . . . . by TTL signal (preparatory control command)

Externally controllable functions . . . . . trace blanking  
external marker  
sawtooth STOP  
sawtooth TRIGGER  
reversal of deflection direction (with IF analysis)

Operation with external oscillator . . . . . via oscillator output

**Outputs**

Control sawtooth return sweep . . . . .	} TTL level, negative logic; load factor 10
Trigger ready signal . . . . .	
RF analysis (MAX. or START/STOP) . . . . .	

**Recorder operation<sup>1)</sup> (RECORDER)****Digital outputs**

Z (intensity) control . . . . .	signal $>$ reference level (= 1)
Paper feed for recorder . . . . .	TTL level, positive logic; for Recorder ZSG 3

**Analog outputs (non-reactive and short-circuit-proof)**

Sawtooth voltage . . . . .	$\pm 10 \text{ V}; Z_{\text{out}} \approx 0 \Omega$	} signal only in RECORDER mode; otherwise ca. + 0.1 V
X control for recorder . . . . .	0 to +10 V; $Z_{\text{out}} \leq 5 \text{ k}\Omega$	
Y control for recorder . . . . .	0 to +5 V; $Z_{\text{out}} \leq 5 \text{ k}\Omega$	
Y control, general . . . . .	0 to +5 V; $Z_{\text{out}} \leq 5 \text{ k}\Omega$	

Drive control for YT recorder . . . . . floating double-throw contact (switches in RECORDER mode)

Local oscillator . . . . . 5 mV;  $Z_{\text{out}} = 50 \Omega$  (BNC socket)

Operating voltages for auxiliary units . . . . .	+5 V, max. 400 mA	} power supply of EZP switched off in case of short circuit
	+5 V, max. 100 mA	
	+15 V, max. 50 mA	
	-15 V, max. 50 mA	

<sup>1)</sup> The sweep time is automatically extended to 10 – 50 s (single sweep possible).

## PANORAMIC ADAPTER

**Connectors**

Receiver connector . . . . .	multipole socket (Cannon 57—40 500) combined with coaxial contacts
Inputs and outputs (except oscillator output) . . . . .	50-pole socket strip 018.5927.00

**Display**

. . . . .	rectangular CRT with GL (P2) screen
Internal graticule . . . . .	10 cm x 8 cm
Log scale . . . . .	0 to -70 dB
Lin scale . . . . .	0 to 7
Graticule illumination . . . . .	adjustable

**General data**

Nominal temperature range . . . . .	0 to +40 °C
Operating temperature range . . . . .	0 to +50 °C
Storage temperature range . . . . .	-40 to +70 °C
Warm-up period . . . . .	< 1 min
AC supply . . . . .	115/125/220/235 V +10/-15%, 47 to 440 Hz (35 VA)

**Overall dimensions (W x H x D) and weight**

19" rackmount . . . . .	483 mm x 133 mm x 506 mm, seated depth 427 mm, 11.5 kg
19" bench model . . . . .	492 mm x 161 mm x 514 mm, 12.5 kg
Engravings . . . . .	German + English

**Order designation**

. . . . .	► Panoramic Adapter EZP
	19" rackmount    19" bench model
Standard version for RF and IF analysis . . . . .	254.0017.03    254.0017.02
IF analysis only . . . . .	254.0017.05    254.0017.04

**Accessories supplied**

Power cable . . . . .	025.2365.00
Connecting cable for ESM 2 or ESU 2 . . . . .	251.9494.00
Filter (green) . . . . .	254.1394.00
Filter (green) with masked base line . . . . .	255.2149.00
Manual	

**Recommended extras**

Connector for input/output socket strip . . . . .	018.5904.00
Recorder ZSG 3 for frequency-band recording . . . . .	242.6015.92
with connecting cable . . . . .	251.9488.00
Siemens Polaroid Camera . . . . .	Rel. 3B952a 1a <sup>1)</sup>
with camera adapter . . . . .	110.2571.02
and intermediate tube . . . . .	110.2588.02

or

Steinheil Camera with adapter for OKF<sup>2)</sup>

<sup>1)</sup> Please order direct from Siemens.  
<sup>2)</sup> Please order direct from Steinheil.

