



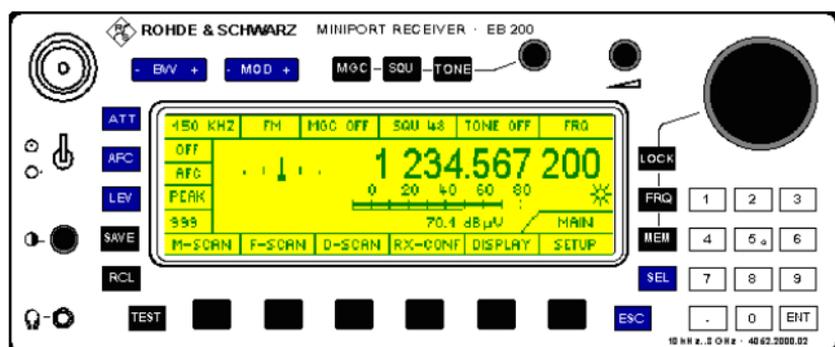
Pocket Guide

R&S EB200



ROHDE & SCHWARZ

EB 200 Pocket Guide



Keys and Menus

KEYS	2
SYMBOLS.....	3
MENUS	4

Receiver Settings

ANTENNA SELECTION	11
MEASURING TIME PARAMETERS	12
AF CONFIGURATION	13
SPINWHEEL SETTINGS.....	14

Memory Scan

STORING THE RECEIVER SETTINGS	15
PREPARATION AND START OF A SCAN.....	17

Frequency Scan

PREPARATION AND START OF A SCAN.....	18
SUPPRESSING THE FREQUENCY RANGES	19
EDITING THE SUPPRESSED FREQUENCY RANGES ...	19
SORTING OF SUPPRESSED FREQUENCY RANGES....	20

Digi-SCAN

PREPARATION OF A SCAN.....	21
SPECTRUM DISPLAY NORM WITH SQUELCH ON	22

Contents

Keys and Menus

M-SCAN	F-SCAN	D-SCAN	RX-CONF	DISPLAY	SETUP
RUN -	RUN -	NORM DIFF	ANT	DEFAULT	KEYS
RUN +	RUN +	RUN STOP	MEASURE	IF-PAN	MESSAGE
STOP	STOP	BW ZOOM	CONTIN	LEVEL	POWER
SUPP	SUPP	^ TO ⊥	PERIODIC	STONE	REF
CONFIG	CONFIG	RNG 60	AF	CONFIG	AUX
RUN	RUN -	CONFIG	SYSTEM	MORE	REMOTE
ACTIVATE	RUN +	NORM DIFF	PROTECT	FRQ	STANDARD *)
SUPP	SUPP	MAX	EDIT PW	CONFIG	RS232PPP *)
DELETE	SORT	CLRWRITE	DEL PW	MORE	APPLY
ALL	DELETE	RNG 60	SW OPT		YES
CURRENT	DEL ALL	<- -> ^	INSTALL		NO
ESCAPE			RESET		
RX <-> MEM			TEST		
			LONGTEST		

*) not with LAN

Keys and Menus

Keys

- MOD + Modulation mode
FM, AM, PULSE, CW, USB, LSB, IQ

- BW + IF bandwidth (0.15 to 150 kHz)

MGC - SQU - TONE
Manual gain control, squelch and tone function

ATT Toggle for 30 dB attenuation
ON, OFF or AUTO

AFC Automatic frequency control
ON, OFF

LEV Toggle for level-measuring process
PEAK, AVG, FAST

SAVE Writes to memory locations

RCL Reads from memory locations

TEST Quick test

1 **2** **3**

4 **5** **6**

7 **8** **9**

. **0** **ENT**

Writing values and storing them as currently selected parameter with ENT.

The keys FRQ, MEM, MGC, SQU, TONE, SAVE and RCL transfer the value directly from editor to store.

LOCK Disables spinwheel functions

Keys and Menus

FRQ Selects frequencies

MEM Selects a memory location

SEL Selects a parameter in the configuration menu

ESC
Goes to a level higher in the menu tree or quits the editor



The functions of softkeys F1 to F6 depend on what menu has been selected. The currently selected function is displayed by the LCD.

Symbols



This symbol only appears if the receive signal threshold is exceeded.



This symbol flashes when the IF section is overdriven.

P The measuring time has been set to DEFAULT and as measuring mode periodic (PERIODIC) measurement has been selected.

M C A specific measuring time has been set and as measuring mode continuous (CONTIN) measurement has been selected.

M P A specific measuring time has been set and as measuring mode periodic (PERIODIC) measurement has been selected.

Keys and Menus

Menus

M-SCAN

Scan with stored values

120 KHZ	FM	MGC OFF	SQU 40	TONE OFF	FRQ
AUTO					98.500 000
AFC					*
AVG	T_DWELL: 2.0S				
0	T_NOSIG: OFF	47.7 dBμV		M-SCAN	
RUN -	RUN +	STOP	SUPP	CONFIG	

RUN starts scan

STOP stops scan

SUPP suppresses memory location

M-SCAN

CONFIG

Configuration of the memory locations and the M-SCAN-RUN parameters

120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	CYCLES
OFF	MEM: FRQ 1 234.567 000		1 234.567 000		
AFC	MOD FM		SQ FROM MEM: ON		
AVG	BW 120 KHZ		T_DWELL: 2.0S		
999□	SQ 48 ATT-OFF		T_NOSIG: OFF		
	ANT 0 AFC-OFF		CYCLES: 1		
RUN -	RUN +	ACTIVATE	SUPP	DELETE	RX ↔ MEM

RUN starts scan

ACTIVATE activates memory location

SUPP suppresses memory location

DELETE clears current memory location or clears all memory locations

RX ↔ MEM swaps the receiver parameters with contents of memory location

Keys and Menus

F-SCAN

Scan through frequency ranges

150 KHZ	FM	MGC OFF	SQU 40	TONE OFF	FRQ
OFF	←	20.000 MHZ	1 234.567 000		
AFC	→	650.000 MHZ			
PEAK	↔	10.000 KHZ			
	T_DWELL:	0.5 S	0 20 40 60 80		*
999 □	T_NOSIG:	OFF	49.2 dBμV		F-SCAN
RUN -	RUN +	STOP	SUPP	CONFIG	

RUN starts scan

STOP stops scan

SUPP suppresses frequency range

F-SCAN

CONFIG

Configuration of the frequency range

120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	F-STOP
OFF	←	1 234.567 MHZ	1 234.567 000		
AFC	→	1 234.567 MHZ			
AVG	↔	10.000 KHZ			
	T_DWELL:	2.0 S			
	T_NOSIG:	OFF	F-SCAN		
999 □	CYCLES:	1	CONFIG		
RUN -	RUN +	SUPP			

RUN starts scan from current frequency

F-SCAN

CONFIG

SUPP

Configuration of the suppressed frequency range

120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	INDEX
OFF	INDEX	F-START	F-STOP		
AFC	09	1 634.567 000	1 634.568 000		
AVG	SUPPRESSED FREQUENCY RANGES 100				F-SCAN CONFIG
999 □					SUPP
	SORT	DELETE	DEL ALL		

SORT sorts suppressed frequency ranges

DELETE deletes current line from the table

DEL ALL deletes the whole table

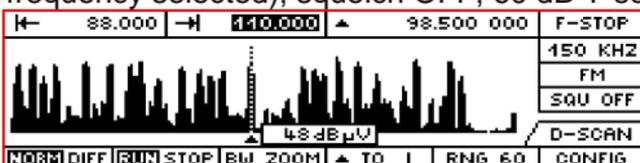
Keys and Menus

D-SCAN (option)



Normal Spectrum

SCAN mode, start, stop, marker frequency (stop frequency selected), squelch OFF, 60 dB Y-scaling



NORM DIFF toggle key: differential or normal spectrum

RUN STOP toggle key: sweep mode or listening mode (frozen spectrum)

BW ZOOM toggle key: changeover to bandwidth-zoom mode

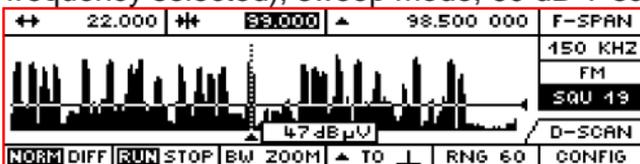
▲ TO ┘ mark to peak or the next level maximum if the squelch function is switched on

RNG 60 4-way toggle key: Y-scaling (20, 40, 60, 80 dB display range)

CONFIG change into the configuration menu D-SCAN CONFIG

Normal Spectrum

Squelch ON, span, center, marker frequency (center frequency selected), sweep mode, 60 dB Y-scaling



Keys and Menus

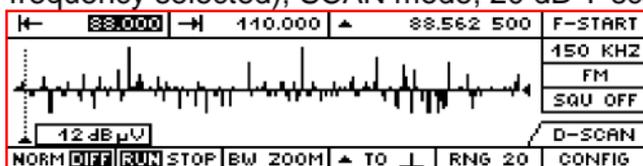
D-SCAN (Option)

NORM DIFF



Difference spectrum

Squelch OFF, start, stop, marker frequency (start frequency selected), SCAN mode, 20 dB Y-scaling



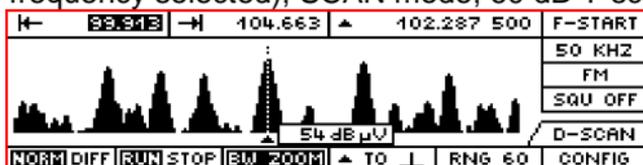
D-SCAN (Option)

BW ZOOM



Spectrum display with BW ZOOM

Squelch OFF, start, stop, marker frequency (start frequency selected), SCAN mode, 60 dB Y-scaling



Keys and Menus

RX-CONF

Receiver configuration

50 KHZ	FM	MGC OFF	SQU OFF	TONE OFF	FRQ
OFF	1 234.567 000				
AFC	0 20 40 60 80				
PEAK	1.3 dBµV				
999□	RX-CONF				
ANT		MEASURE	AF	SYSTEM	TEST

ANT antenna number and code

The following two softkeys appear only with installed software option EB200FS (Field Strength).

ANT PAS K-factor table for passive antennae (eg HE200 without amplifier)

ANT AKT K-factor table for active antennae (eg HE200 with amplifier)

MEASURE measuring time parameter

CONTIN continuous measurement of all values

PERIODIC periodic measurement of all values with measuring time

AF AF parameters SPEAKER, TONE, BALANCE

SYSTEM software version and release

TEST selftest

RX-CONF

SYSTEM

Displays system data

120 KHZ	FM	MGC OFF	SQU OFF	TONE OFF	FRQ
AUTO	MAIN	CPU V02.50	2004-01-25	SOFTWARE	
AFC	IF	DSP V03.23	2004-01-16		
AUG	IF PAN	DSP V01.03	2000-08-10		
	FP CTRL	CPU V01.02	1998-12-09	RX-CONF	
346	DC-CONVERTER	CPU V01.08			
	SERIAL NUMBER: EB200	837.765/001	SYSTEM		
PROTECT		SW OPT	RESET		

PROTECT protection by password

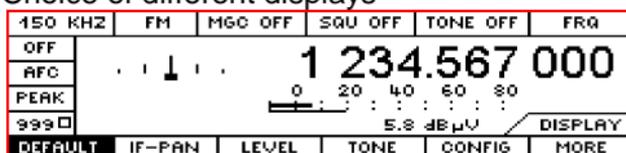
SW OPT display and installation of software options

RESET reset to default values

Keys and Menus

DISPLAY

Choice of different displays



DEFAULT basic display settings

IF-PAN IF panorama display (option)

LEVEL level measurement

TONE signal tone whose pitch depends on the signal level

CONFIG setting the chosen display (DEFAULT; IF-PAN; LEVEL; TONE, FRQ)

MORE more menus

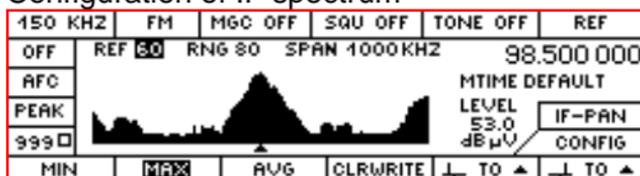
FRQ frequency

DISPLAY

IF-PAN

CONFIG

Configuration of IF spectrum



REF sets the maximal level value that can be displayed.

RNG sets the range that can be displayed on the y-axis.

SPAN sets the width that can be displayed in the IF panorama in 17 steps. In the COUPLED mode the displayed width equals the width of the cut-in IF filter.

MTIME sets the measuring time

Keys and Menus

Softkeys

MIN starts the MIN-Hold process.

MAX starts the MAX-Hold process.

AVG starts averaging according to selection. Each time this key is pressed the averaging function AVG is started anew. The measured level values are averaged over the measuring time.

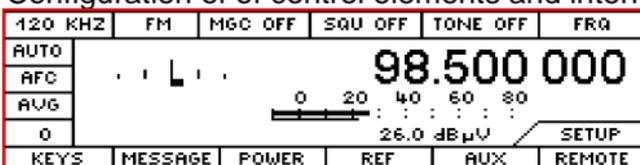
CLRWRITE activates the display of the currently measured level values.

TO ^ centers the spectrum to the next relative level maximum left of the marker when the squelch is off. When it is on the center frequency is set to the next level maximum to the left which is above the squelch line.

TO ^ centers the spectrum to the next relative level maximum right of the marker when the squelch is off. When it is on the center frequency is set to the next level maximum to the right which is above the squelch line.

SETUP

Configuration of control elements and interfaces



KEYS configuration of spinwheel functions and key characteristics

MESSAGE configuration of acoustic and optical messages

POWER display of charging status

REF internal or external reference frequency

AUX configuration of AUX port parameters

REMOTE configuration of the remote-control interface parameters

Receiver Settings

Antenna Selection

(via external antenna selector switch)



150 KHZ	FM	MGC OFF	SQU 40	TONE OFF	NUMBER
OFF	ANTENNA NUMBER: 6				
AFC	ANTENNA CODE: ANT06				
AVG	AUX OUTPUT: ANT + CTRL				
999					RX-CONF ANT
			ANT PAS	ANT ACT	

select antenna number (0 to 99) by keys or spinwheel, eg :



ANTENNA NUMBER: 6

editing the antenna name

SEL

150 KHZ	FM	MGC OFF	SQU 40	TONE OFF	CODE
OFF	ANTENNA NUMBER: 6				
AFC	ANTENNA CODE: ANT06 HF				
AVG	AUX OUTPUT: ANT + CTRL				
999					RX-CONF ANT
	DEL		←	→	

Selecting a new character:



ANTENNA CODE: ANT06 HF



ANTENNA CODE: PANT06 HF



ANTENNA CODE: PANT06 HF

etc

ESC leads back to RX-CONF

Receiver Settings

Measuring time parameters

RX-CONFIG
MEASURE



150 KHZ	FM	MGC OFF	SQU OFF	TONE OFF	MTIME
OFF	MEASURE TIME: DEFAULT				
AFC	IF-PAN MODE: CLRWRITE				
PEAK					RX-CONF
999					MEASURE
CONTIN	PERIODIC				

SEL

MEASURE TIME:

Measuring time: DEFAULT / 0.5 ms to 900 s

IF-PAN MODE:

Level evaluation in the spectrum of the IF panorama:
MIN, MAX, AVG, CLRWRITE



or **1** **2** **3** ... **ENT**

The chosen parameter is changed by means of rollkey or keyboard.

ESC leads back to MAIN:

Receiver Settings

AF configuration

RX-CONFIG
AF



120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	TONE
OFF	SPEAKER: ON				
AFC	TONE: ONLY				
AVG	BALANCE: L . . . ↓ . . . R		RX-CONF		
999□			AF		

SEL

SPEAKER:

Speaker status OFF, ON

This switch works only for the built-in loudspeaker. The AF is always available at the headphone socket

TONE:

ONLY or WITH AF

In the position TONE WITH AF, the audio frequency is audible additionally to the signal tone.

BALANCE:

Between left and right audio channel at the headphone connector.



The chosen parameter is changed by means of rollkey.

ESC leads back to MAIN:

Receiver Settings

Spinwheel Settings



120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	LOCK
OFF	ROLLKEY:	PROGRESSION:	STEP2		
AFC	INCR VALUE:		1.000 KHZ		
AVG	KEYS:	KEYCLICK:	SOUND1 QUIET	SETUP	
999	SAVE :	NEXT FREE		KEYS	

Change of stepwidth per spinwheel pulse

SEL

INCR VALUE: **1.000** KHZ

. **0** **0** **5** **ENT**

INCR VALUE: **5.000** KHZ

or by means of KHZ softkey

5

150 KHZ	FM	MGC OFF	SQU 40	TONE OFF	INCR
OFF	ROLLKEY:	PROGRESSION:	STEP2		
AFC	INCR VALUE:		1.0000 KHZ		
EDIT	5				SETUP
+/-	MHZ	KHZ	←	ESCAPE	KEYS

KHZ

M-SCAN

Storing the Receiver Settings

Select Save key function



120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	LOCK
OFF	ROLLKEY:	PROGRESSION:	STEP2		
AFC		INCR VALUE:	1.000 KHZ		
AVG	KEYS:	KEYCLICK:	SOUND1 QUIET	SETUP	
999		SAVE :	NEXT FREE	KEYS	

SEL

SAVE : **CURRENT MEM**

This setting enables the Save key to use the current memory location for storing.



SAVE : **NEXT FREE**

This setting enables the Save key to use the next empty memory location for storing.



SAVE : **NEXT FREE + ACT**

This setting enables the Save key to use the next empty memory location for storing and additionally this memory location is set for M-SCAN.

ESC leads back to SETUP

M-SCAN

Choose memory location and save

MEM activates the memory function

9 9 9

ENT selects memory location (eg 999), alternatively



SAVE stores receiver settings

Recall stored settings

MEM activates the memory function

9 9 9

ENT selects memory location (eg 999), alternatively



RCL recalls receiver settings

Delete memory location

M-SCAN
CONFIG
DELETE
CURRENT

Warning: all memory locations
are cleared with 'ALL'



M-SCAN

Preparation and Start of a Scan

M-SCAN
CONFIG

120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	CYCLES
OFF	MEM: FRQ 1 234.567 000				1 234.567 000
AFC	MOD FM			SQ FROM MEM: ON	
AUG	BW 120 KHZ			T_DWELL: 2.0S	
999	SQ 48 ATT-OFF			T_NOSIG: OFF	M-SCAN
	ANT 0 AFC-OFF			CYCLES: 1	CONFIG
RUN -	RUN +	ACTIVATE	SUPP	DELETE	RX↔MEM

MEM activates memory function

9 **9** **9**

ENT selects memory location (eg 999), alternatively



999

ACTIVATE

999 sets memory location to active

Memory locations that are set on active will be used for the scan.

RUN +

starts scan with increasing sequence of memory locations

RUN -

starts scan with decreasing sequence of memory locations

F-SCAN

Preparation and Start of a Scan

F-SCAN
CONFIG

120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	F-STOP
OFF	←	1 234.567 MHz			1 234.567 000
AFC	→	1 423.567 MHz			
AVG	↔	10.000 KHZ	T_DWELL: 2.0S		F-SCAN
999			T_NOSIG: OFF		CONFIG
			CYCLES: 1		
RUN -	RUN +				SUPP

Change start frequency

SEL

← **1 234567 MHz**

1 **0** **2** **3** **.** **4** **5** **6** **ENT**

alternatively



← **1 023456 MHz**

ESC leads back to F-SCAN

RUN +



starts at current or start frequency in direction of higher frequency ranges

RUN -



starts at current or start frequency in direction of lower frequency ranges

F-SCAN

Suppressing the Frequency Ranges

F-SCAN

150 KHZ	FM	MGC OFF	SQU 40	TONE OFF	FRQ			
OFF	←	20.000 MHz	1 234.567 000					
AFC	→	650.000 MHz						
PERK	↔	10.000 KHZ	0	20	40	60	80	☼
999	T_DWELL:	0.5S	49.2 dBμV			F-SCAN		
	T_NOSIG:	OFF				CONFIG		
RUN -	RUN +	STOP	SUPP					

SUPP

This function suppresses a frequency range. The frequency range is derived from the current frequency +/- ½ bandwidth.

Editing the Suppressed Frequency Ranges

Up to 100 frequency ranges can be stored and edited in the menu F-SCAN CONFIG SUPP.

F-SCAN

CONFIG

SUPP

Select index

SEL

4

7

ENT

alternatively



120 KHZ	FM	MGC OFF	SQU 48	TONE OFF	INDEX
OFF	INDEX	F-START	F-STOP		
AFC	7	1 634.567 000	1 634.568 000		F-SCAN
AVG	SUPPRESSED FREQUENCY RANGES 100			CONFIG	
999				SUPP	
	SORT	DELETE	DEL ALL		

F-SCAN

Change start frequency

SEL

47 1 634.567 000 1 634.568 000

[1] [1] [2] [3] [.] [4] [5] [6] [ENT]

47 1 123.456 000 1 634.568 000

Change stop frequency

SEL

47 1 123.456 000 1 634.568 000

[1] [1] [2] [4] [.] [5] [6] [7] [ENT]

47 1 123.456 000 1 124.567 000

ESC

leads back to CONFIG and F-SCAN.

Sorting of Suppressed Frequency Ranges

SORT



Sorts the suppressed frequency ranges according to ascending frequency and combines bordering ranges where appropriate.

D-SCAN

Preparation of a Scan

D-SCAN
CONFIG



150 KHZ	FM	MGC OFF	SQU OFF	TONE OFF	MTIME
OFF	MEASURE TIME:	DEFAULT			
AFC	D-SCAN SPEED:	NORMAL			
PEAK	CYCLES:	∞			
999	REF LEVEL:	60 dBμV			D-SCAN
	DISPLAY LIMITS:	0 ... 60 dB			CONFIG
NORM DIFF	MAX	CLRWRITE		RNG 60	← → ▲

Changing the Parameters

SEL

MEASURE TIME	Measuring time: DEFAULT / 0.5 ms to 900 s
D-SCAN SPEED	Scan speed: MTIME PER CHANNEL /LOW / NORMAL / HIGH
CYCLES	Number of sweeps: 1 to 1000 / infinite
REF LEVEL	The reference level determines the largest level value to be represented
DISPLAY LIMITS	Display range of the spectrum: eg -20 dBμV to 60 dBμV



or **1** **2** **3** ... **ENT**

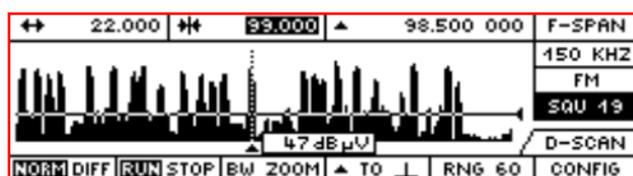
The chosen parameter is changed by means of rollkey or keyboard.

ESC leads back to D-SCAN

D-SCAN

Spectrum display NORM with squelch on

RUN



When the squelch is set on, the squelch line is displayed at a y-position corresponding to the squelch value.

Spectrum display in STOP mode

STOP

The current spectrum is frozen. The receiver sets the mark frequency.

^ TO ⊥

There is a jump to the next signal maximum above the squelch line which can be listened to.

SAVE

Receiver settings are stored in the current or next free memory location and activated for M-SCAN if applicable (depends on SET-UP / KEY settings).



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