

SIWE nr.: 249	Frequentiemeter	frequency meter
Doel:	Signalen genereren en meten van 125 kHz tot 20 MHz	
Type:	BC-221-P	
Foto Schets		
	opengeklapt	achterkant binnenwerk
		onderkant binnenwerk
Bouwer:	Zenith Radio Corporation voor het U.S. Army	
Bouwjaar:	±1944	
Afkomst:	Gift van dhr. Nap van Zuuren	
Afmetingen:	BxDxH: 25x24x34 cm	
Gewicht:	9 kg	
Materiaal:	ijzer, koper, elektrische componenten	
Werking:	Zeer stabiele meetzender; tijdens en na de oorlog door verschillende firma's (na-)gebouwd. Zie blz.2 voor Operating Instructions en elektrisch schema, meer uitleg op: home.mchsi.com/~token/BC221.htm en www.pa3esy.nl/military/us/meet/BC-221/org/html/bc221_set.html Onderin is een gestabiliseerde voeding 110/220V ingebouwd	
Opmerkingen:		
Staat:	Redelijk doch er mankeren onderin een paar elementen (vier losse draadeinden positie 45)	
Nwe bestem.:	Siwe Kluisdelle	
Opmaak:	AB .5.5.2012 laatste wijz.: E-mail: alex.baerts@skynet.be	

INDEX OF DIAL SETTINGS

500	1000	1500	2000	2500	3000	3500	4000	4500
INDEX OF FREQUENCIES—KILOCYCLES								
125	130	140	150	160	170	180	190	200
210	220	230	240	250	260	270	280	290
300	320	340	360	380	400	420	440	460
480	500	520	540	560	580	600	620	640
660	680	700	720	740	760	780	800	820
840	860	880	900	920	940	960	980	1000
1040	1120	1200	1280	1360	1440	1520	1600	1680
1760	1840	1920	2000					

TO FIND THE DIAL SETTING FOR A GIVEN FREQUENCY
 To supplement the information found on the main index, pages 29 and 30, a convenient calibration index is provided along the top edge of the large index cards in this book. At the top of these cards, the approximate dial settings will be found. By using these thumb tabs, the book will open to the correct page, without reference to the main index.

FOR COMPLETE GENERAL INDEX SEE PAGES 29 AND 30

TO READ DIAL SETTING:
 Read Slow Moving Drum Dial as HUNDREDS.
 Read Fast Moving Dial as TENS and UNITS.
 Read Vernier as TENTHS.

This set has two control switches; a band switch for changing the frequency range, and an operation switch.

Set FREQ. BAND Switch to LOW for frequencies between 125 K.C. and 2000 K.C.

Set FREQ. BAND Switch to HIGH for frequencies between 2 Megacycles and 20 Megacycles.

The operation switch at the lower left hand side has three positions:

1. Variable Frequency Oscillator on alone, marked HET. OSC.
2. Variable Frequency Oscillator and Crystal on together, marked XTAL CHECK.
3. Crystal Oscillator on alone, marked XTAL ONLY.

NOTE: Removing 'phone plug also turns off power, so that closing instrument with operating switch on, will not use up battery energy.

INDEX OF DIAL SETTINGS

4500	4000	3500	3000	2500	2000	1500	1000	500
INDEX OF FREQUENCIES—KILOCYCLES								
250	240	230	220	210	200	190	180	170
160	150	140	130					

FREQUENCY RANGE: 125-130, 250-260, 500-520, 1000-1040

DIAL: 0175.5 - 0391.5

DIAL	FREQUENCY	DIAL	FREQUENCY
0175.5	125.0	0289.5	127.5
80.3	125.1	93.8	127.6
85.1	125.2	98.1	127.7
89.9	125.3	0302.4	127.8
94.7	125.4	06.7	127.9
99.5	125.5	11.0	128.0
0204.2	125.6	15.1	128.1
09.0	125.7	19.1	128.2
13.8	125.8	23.2	128.3
18.6	125.9	27.2	128.4
23.4	126.0	31.3	128.5
27.9	126.1	35.4	128.6
32.3	126.2	39.4	128.7
36.8	126.3	43.5	128.8
41.2	126.4	47.5	128.9
45.7	126.5	51.6	129.0
50.1	126.6	55.6	129.1
54.6	126.7	59.6	129.2
59.0	126.8	63.6	129.3
63.5	126.9	67.6	129.4
67.9	127.0	71.6	129.5
72.2	127.1	75.5	129.6
76.5	127.2	79.5	129.7
80.8	127.3	83.5	129.8
85.1	127.4	87.5	129.9
		91.5	130.0
		43.2	AV. DIAL DIV. PER K.C.

CRYSTAL CHECK POINT
 0175.5 125.0 250.0 500.0 1000.0

INDEX OF DIAL SETTINGS

4500	4000	3500	3000	2500	2000	1500	1000	500
INDEX OF FREQUENCIES—MEGACYCLES								
2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6
3.8	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8
7.2	7.6	8.0	8.8	9.6	10.4	11.2	12.0	12.8
13.6	14.4	15.2	16.0	17.0	18.0	19.0	20.0	

OPERATING INSTRUCTIONS

TO TUNE A TRANSMITTER OR A C. W. RECEIVER TO A DESIRED FREQUENCY:

1. Plug phones into either jack marked PHONES at lower left corner.
2. Turn switch in lower right hand corner to ON position. Turn switch at lower left hand side to XTAL CHECK, and allow 15 min. to warm up.
3. Turn FREQ. BAND Switch to LOW (125 to 2000 K.C.) or HIGH (2.0-20.0 megacycles) position, depending on range required.
4. Turn calibration book to page containing the dial setting for frequency desired.
5. Set Dials to the setting of the nearest CRYSTAL CHECK POINT which is in RED at the bottom of that page.
6. Adjust CORRECTOR to obtain zero beat in the 'Phones.
7. Return switch at lower left hand side to HET. OSC. position, and reset dial (but not CORRECTOR) to give the required frequency, according to calibration data.
- 8a. In the case of a transmitter, loosely couple the frequency meter to the transmitter being checked, and adjust latter until first an audible signal, and then zero beat is heard in the Frequency Meter phones.
- 8b. In the case of a C.W. receiver, set frequency meter to desired frequency (as shown above) and tune receiver until zero beat is obtained in the receiver headset.
9. The volume control knob GAIN can be reset if signal is too strong or too weak.
10. To disconnect, turn switch in lower right hand corner to OFF position and remove phones.


NOTE: Checks at the fundamental of the crystal oscillator (1 megacycle) or at certain of its harmonics can be made by setting the switch at lower left hand corner to the XTAL ONLY position.

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7.2	7.6	8.0	8.8	9.6	10.4	11.2	12.0	12.8
13.6	14.4	15.2	16.0	17.0	18.0	19.0	20.0	

CALIBRATION BOOK MC-177-P

Component of
FREQUENCY METER SET SCR-211-P



Made by
ZENITH RADIO CORP.
 Chicago, Illinois

