

User Manual

Philips

FM1200 / FM1100 / FM1300

VHF or UHF

Personal Mobile Radio



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Philips Mobile Radio Collection

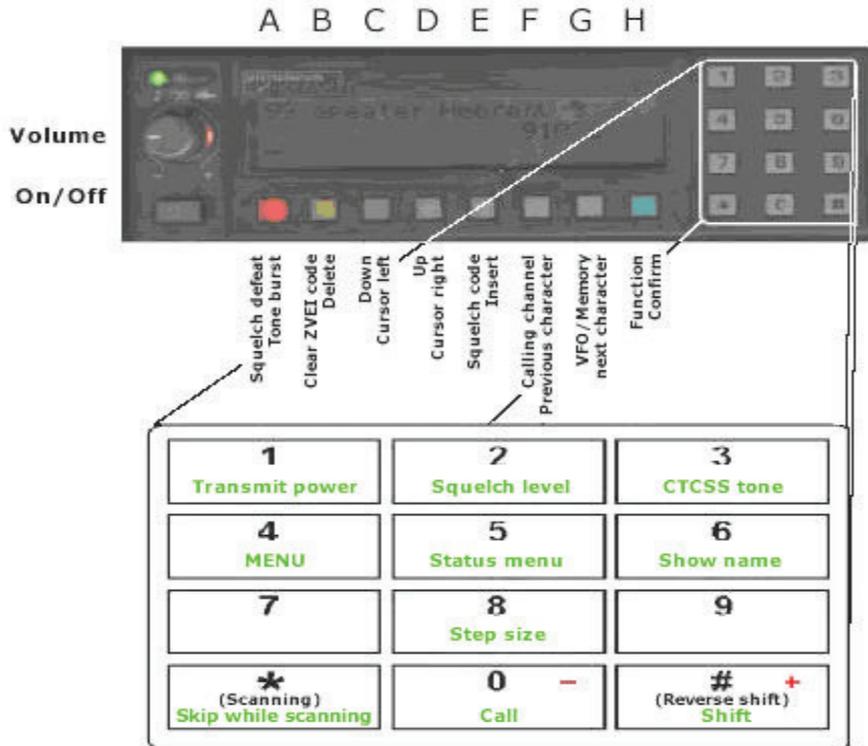
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[This document to be printed in colour only]

Keyboard Layout:



Main Functions:

Key(s):	Function:
0 1 2 3 4 5 6 7 8 9	Enter channel, frequency or number
*	Scanning
#	Reverse shift
E	Activate tone squelch (CTSS / 5-tone)
F	Go to Calling Channel
G	Switch between VFO and Memory
H	Select second function of next key

Second (alternate) function:

Key:	Function:
1	Adjust transmit power
2	Adjust squelch trip level
3	Select CTCSS tone
4	To MENU
5	To Status Menu
6	Show names with memory channels
8	Select step size
*	Exclude memory channel from scanning
0	Call
#	Shift + / - / off
E	Select tone squelch
F	Clear Priority Channel
G	Clear memory Channel

When the transceiver is switched on, the upper line of the display shows the current channel or the frequency. If a valid tone code is received, it is displayed in the lower right hand corner of the display. The lower display line shows an S (signal strength) meter in the form of a horizontal bar. This is called the normal state.

To activate the **second function** of a key, press the **H key**. The text 'Select Function' will appear. The second (alternate) function of the next key pressed is activated. Press **H** again to return to the normal state.

1. Select Frequency

The transceiver operates in one of three modes. Using the **G** button you may select between **VCO** and **Memory** mode. The third mode is the **Priority Channel** which may be switched on and off with the **F** key.

VCO mode

In VCO mode any frequency that complies with the selected step size (4) may be entered using the number keys on the keypad. The transceiver automatically rounds off the frequency to a valid entry. For example, if you want to listen at 435.012.500 MHz, at a step size of 12.5 kHz, all you need to do is enter '501':

435.---.--- → 435.0--.--- → 435.012.500

If a step size of 25kHz is used, entering '501' will cause the transceiver to round off to 435.000.000.

Memory mode

Starting from VCO mode up to 100 preset frequencies per bank may be stored in memory, see Heading 5. These frequencies may be selected when in Memory mode while it is also possible to assign names to channel frequencies. If no frequency has been assigned to the selected channel the transceiver produces an error beep and ignores the number entered.

Priority Channel mode

Provided a frequency has been assigned to the Priority Channel (see Heading 6), this feature allows you to change to this frequency at the flick of a switch. The Calling Channel may be instantly selected by pressing the **F** key.

2. Select CTCSS tone

It may be undesirable for every transmission to be heard on a certain frequency. A system called CTCSS is therefore used to pass only those transmissions containing a sub-audible tone of a specific frequency. In the receiver a CTCSS decoder is used to open the squelch and make the transmission (speech) audible when a valid CTCSS tone is detected.

The frequency of the CTCSS tone may be selected as follows:

Display:
- Press **H** (Select Function)
- Press **3** (TX CT: **)

The lowest frequency is 67.0 Hz, the highest, 250.3 Hz. The quasi-value 'None' is available to disable CTCSS. Separate CTCSS frequencies may be used for TX and RX

3. Tone squelch

The squelch may remain closed until a valid ZVEI 5-tone code is received. It is also possible to

transmit a ZVEI 5-tone sequence at the start of every transmission.

Activate:

The tone squelch is activated by pressing the **E** key. When receiving, the yellow LED lights. When transmitting, the symbol 'T' appears behind the frequency.

Adjust:

The code may be set as follows:

Display:
- Press **H** (Select Function)
- Press **E** (RX:)

Now set the tone for the squelch. The tone code has to be entered using the number keys. If a number flashes, this indicates a DTMF tone.

- Press **H** (TX:)

Now set the tone to be transmitted.

1750 Hz tone burst

A tone burst is transmitted by pressing the PTT and Squelch Defeat buttons at the same time. The frequency of the tone burst may be adjusted in the Audio menu.

4. Select Step Size

Display:
- Press **H** (Select Function)
- Press **8** (Step size: **)

The desired step size is selected by pressing the 0 and # keys (← or →). Confirm your selection by pressing any other key.

5. Store favourite channels

Up to 100 favourite channels per bank may be pre-set in the transceiver. A channel is stored as follows:

Display:
- Select VCO mode (43*.***.***)
- Enter the desired frequency and choose SHIFT and/or CTCSS if required
- Press **H** (Select Function)
- Press **G** (Store in: xx)
- Select a number, if number has an arrow in front of it, it has been taken for another frequency. This is replaced.
(Store in: xx)
- Press **H**
- If desired, give the channel a name.
(Name:)
See Heading 10 for text entry.
- Press **H** again

See Heading 7 for the name display on/off function.

6. Storing Priority (PR) Channel

It is very useful, particularly in mobiles, to have a single button available to retrieve the Priority Channel. The Priority Channel frequency may be programmed as follows:

- Display:*
- Select VCO mode (43*.*.*.*)
 - Enter the desired frequency and set SHIFT and/or CTCSS if required
 - Press **H**. (Select Function)
 - Press **F**. (Calling Frequency?)
 - Press **H**.
 - If desired, give the channel a name (Name:)
- See Heading 10 for text entry.
- Press **H** again. (Processing)

See Heading 7 for the name display on/off function.

7. Name display on/off

Names may be assigned to memory channels. The displaying of the name may be switched on and off, as follows:

- Display:*
- Press **H** (Select Function)
 - Press **6**

8. Clear memory channel

- Display:*
- Select Memory mode (** *****)
 - Select the channel to be cleared
 - Press **H** (Select Function)
 - Press **S** (Clear Channel?)
 - Press **H** (Processing)

9. Clear Priority (PR) Channel

- Display:*
- Select Priority Channel (button F) (A *****)
 - Press **H** (Select Function)
 - Press **F** (Clear Calling?)
 - Press **H** (Processing)

10. Text entry

Text entry using the keys on the keypad is largely similar to the method used on GSM phones. For example, the letters A, B and C are 'behind' the

number key '2'. The desired letter or character is selected by repeatedly pressing a number key.

The **B** button is used to delete a character. Text beyond the cursor position will shift back, just as with the DEL key when using a word processor. The **E** button is used to enter a space. All characters behind the keys on the keypad are shown in the table below. The up and down arrow keys **C** and **D** may be used to step through a character group. The cursor may be moved by pressing the left and right arrow keys **F** and **G**.

On completion of text entry, press the **H** key.

0		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
1	/	:	;	<	=	>	?	@	^	_						
2	A	B	C	a	b	c	[{								
3	D	E	F	d	e	f	'									
4	G	H	I	g	h	i	!									
5	J	K	L	j	k	l										
6	M	N	O	m	n	o	\		~							
7	P	Q	R	p	q	r	s									
8	T	U	V	t	u	v]	}								
9	W	X	Y	w	x	y	z									

11. Scanning

The transceiver is capable of scanning in Memory as well as in VFO mode:

To scan all frequencies:

- Switch to VFO mode by pressing the **G** button
- Press the * button

To scan memory channels:

- Select MEMory mode by pressing the **G** button
- Press the * button

Press any key to stop scanning. During scanning the red LED is illuminated.

If the transceiver has halted on a certain channel, scanning may be resumed by pressing * again.

During scanning indicator **F** is displayed.

12. Exclude channels from scanning

It is possible to skip certain memory channels while scanning.

- Display:*
- Select MEMory mode (** 43***)
 - Select the relevant channel
 - Press **H** (Select Function)
 - Press *

Indicator **E** shows that the channel is skipped during scanning.

To cancel this setting, perform the same keypresses in reverse order. The indicator will disappear.

13. Transmitter power

Transmitter output power is dependent on:

- The value set by the internal software
- Antenna matching
- Temperature

To set transmitter power:

- Display:*
- (Select Function)
- Press **H**
 - Press **1**

The transmitter power level may be adjusted by pressing keys **0** and **#** or **C** and **D**. Confirm desired level by pressing any other key.

14. Repeater shift setting

On the UHF radio, the default value for the repeater shift is 1.6MHz. On VHF, the default value is 600 kHz. The MENU allows any other value to be set up (see Heading 17).

To switch repeater shift on and off:

- Display:*
- (Select Function)
- Press **H**
 - Press **#**

Next there are 3 options:

- Shift off (43*.***.***)
- Shift negative (TX frequency 1.6MHz lower) (43*.***.*** -S)
- Shift positive (TX frequency 1.6MHz higher) (43*.***.*** +S)

15. Reverse shift

Reverse shift is useful for temporary listening on the repeater input frequency, and transmitting on the repeater output frequency.

Reverse shift may be switched on and off by pressing **#** only, i.e., without first pressing the **H** button. With reverse shift enabled, an 'R' is shown on the display instead of 'S'.

16. Squelch (trip) level setting

- Display:*
- (Select Function)
- Press **H**
 - Press **2**

The squelch level is then adjustable using the keys **0** and **#** or **C** and **D**.

17. The MENU

For lack of buttons on the FM1200/1100/1300, a number of less frequently used functions have been gathered into a Menu. Once in the menu, you can select between available options by means of the 0 and # keys.

Option values may be modified as required by pressing the **H** button. In that case, the indicator with the **H** key will be visible.

Options requiring a number or text to be set may also be edited using the **H** key. However, these entries need to be confirmed by pressing an unused key or the **H** key.

Access the menu as follows:

- Press **H** (Select Function)
- Press **4** (xxxxxxx MENU)

To keep the menu reasonably tidy, items have been distributed across submenus. The submenus may be viewed from the main menu by pressing the **H** button. Like the main menu, submenus are closed by pressing an unused key.

Available menu items:

Options:

- **Shift** ***** kHz
Define amount of shift for repeaters. Adjust value using number keys.

- **TX with SQ** Possible / Not possible
With 'Not possible' selected the transmitter can not be keyed while a signal is received.

- **Limit TX time** **** sec
Define maximum duration of transmission. Adjust value with number keys. 0 = none.

- **Range** 430-440 / 300-500
144-146 / 100-200
Select VCO range. (UHF or VHF)

- **Scan mode** Wait for silence / Wait briefly / Scan until busy
Indicates transceiver activity while in scanning mode.

- **Scan mode** Carrier / Squelch
With 'Carrier' selected, the transceiver evaluates signal strength, this is faster. 'Squelch' is better for weak signals.

Audio Submenu!
- **Microphone** Normal / PA
The AF input may be sent to the loudspeaker output.

- **Suppress** Tones >500Hz / 1750Hz only / Never

Suppress beep tones. Indicator C lights while suppressing.

- **Beep** **On / Off**
Keyboard beep.

- **Beep** **Volume: ---**
Volume of keyboard beep.

- **Roger beep** **On / Off**
Transmit a beep on keying off the transmitter.

- **DTMF tones** ***** ms**
Define length of DTMF tones. Adjust value with number keys.

- **ZVEI tones** ***** ms**
Define length of ZVEI tones used for 5-tone calling. Adjust value with number keys.

Tone burst ***** Hz**
Define audio frequency used for opening repeaters.

Callsign generator Submenu!

- **Callsign generator** **On / On (hold TX) / Off**
The transceiver may transmit text in Morse. 'Hold TX' causes the transmitter to remain keyed until the text is finished.

- **After call** **On / Off**
Callsign may be transmitted immediately after 5-tone sequence.

- **Callsign** **<text>**
Define callsign transmitted during normal transmissions. See Heading 10.

- **Callsign generator** **Speed: *****
Define Morse speed (0-40).
Adjust value with number keys.

- **Callsign generator** **Only TX / TX & LSP**
Callsign may be sent to loudspeaker

- **Callsign generator** **After TX: *** sec**
Callsign generator is activated *** seconds after the transmitter is keyed. Adjust value with number keys.

- **Callsign generator** **Every: *** sec**
Callsign generator is activated every *** seconds.
Adjust value with number keys.

User Submenu!

- **LCD backlight** **Off after: *** s**
LCD backlight is switched off automatically *** seconds after last action.

- **My number** *******
Define user's personal 5-tone code. The transceiver produces an alarm tone on reception of this code.

- **Reply** *******
This code may be transmitted when the personal code is received.

- **Reply** **Yes / No**
Enable/disable replying to personal code.

- **Key acceleration** **Accel.: X**
Define acceleration of up and down key. The longer the key is pressed, the faster frequencies will be stepped through.

- **Keys** **Repeat / Once**
If a key is held pressed, its function may be automatically repeated.

- **Settings** **Update / Fixed**
When 'Update' is selected, all settings are stored on switching off. 'Fixed' allows settings to be stored manually using the next menu item. When switched on, the transceiver employs the previously stored settings.

- **Settings** **Store**
This allows you to store settings.

- **Memory** **Copy now**
This allows the contents of the 24C65/64 EEPROM to be copied.

- **<Language>** **Nederlands / English / Deutsch**
Select one of three languages.

- **Status** **Diagnosis**
If the error indicator F is visible, the cause of the problem may be called up by pressing the **H** button.

18. Calls

The transceiver allows up to 10 different tone sequences to be stored. These tone sequences may be used to selectively call up stations.

Calling: *Display:*
- Press **H** (Select Function)
- Press **0** (Call:)
- Select the number/station to be called
- Press **#**

Defining the codes: *Display:*
- Press **H** (Select Function)
- Press **0** (Call:)
- Select the number/station to be called.
- Press **H** (Name:)
- Enter name, see Heading 10
- Press **H** to confirm (Nr.)
- Enter the number
- Press **H** to confirm

The **H** button is used to confirm entries. Cancel entry with any other key.