



# RigPix Handic 0012 Scanning VHF/UHF Receiver Owner's Manual

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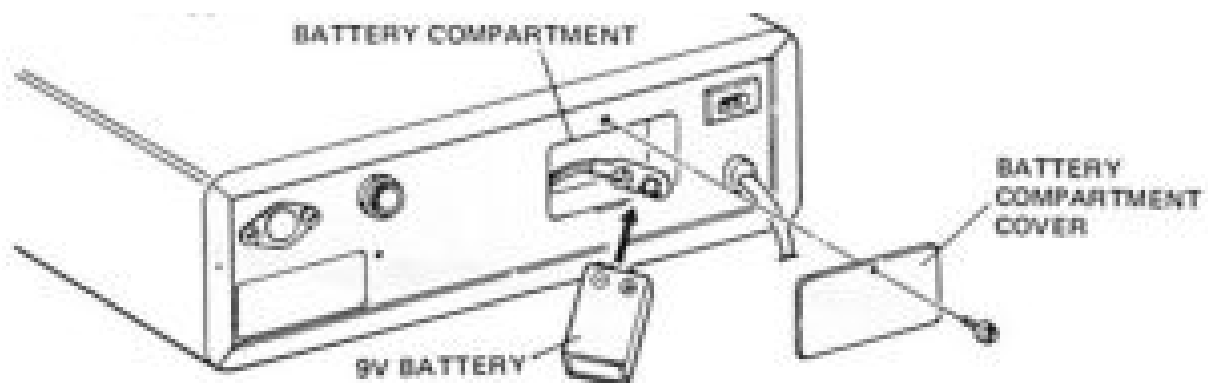
**RigPix Handic 0012 Scanning VHF/UHF Receiver Owner's Manual**



Handic 0012 is a member of “the second generation” of computerized VHF/UHF scanning receivers. By taking advantage of the so called LSI process (Large Scale Integration) it has been possible to concentrate a great number of functions into a few IC chips. This means that all functions now are available from the keyboard and that the digital display gives you more detailed information than earlier. In addition the reduction of the number of components has brought along even higher reliability than before. From the keyboard you can reach 18,160 frequencies within the bands 68-88 MHz, 144-174 MHz and 410-512 MHz. That means that handic 0012 covers virtually all of the range used for FM communication radio by police, ships and yachts, truckers, business, radio amateurs, etc in VHF and UHF. The handic 0012 can be programmed to scan eight channels at your choice among the 18, 160 frequencies available. Since the programming is made on the keyboard it is just a matter of seconds to enter a new channel. The handic 0012 is a dual conversion superheterodyne receiver making use of 1 LSI microprocessor system, 1 LSI PLL frequency synthesizer, 2 CMOS ICs, 24 transistors and 41 diodes. The handic 0012 can be connected either to the 220 V AC circuit or to a 12 V DC system (negative ground).

## PREPARATIONS FOR USE

Loosen the screw holding the battery compartment cover and remove the cover. Snap in a 9V battery (a long life Alkaline battery is recommended). The handic 0012 has got an electronic memory that keeps track of the frequencies you have entered from the keyboard. The battery protects against loss of memory during power failure or when the AC or DC cord is unplugged.

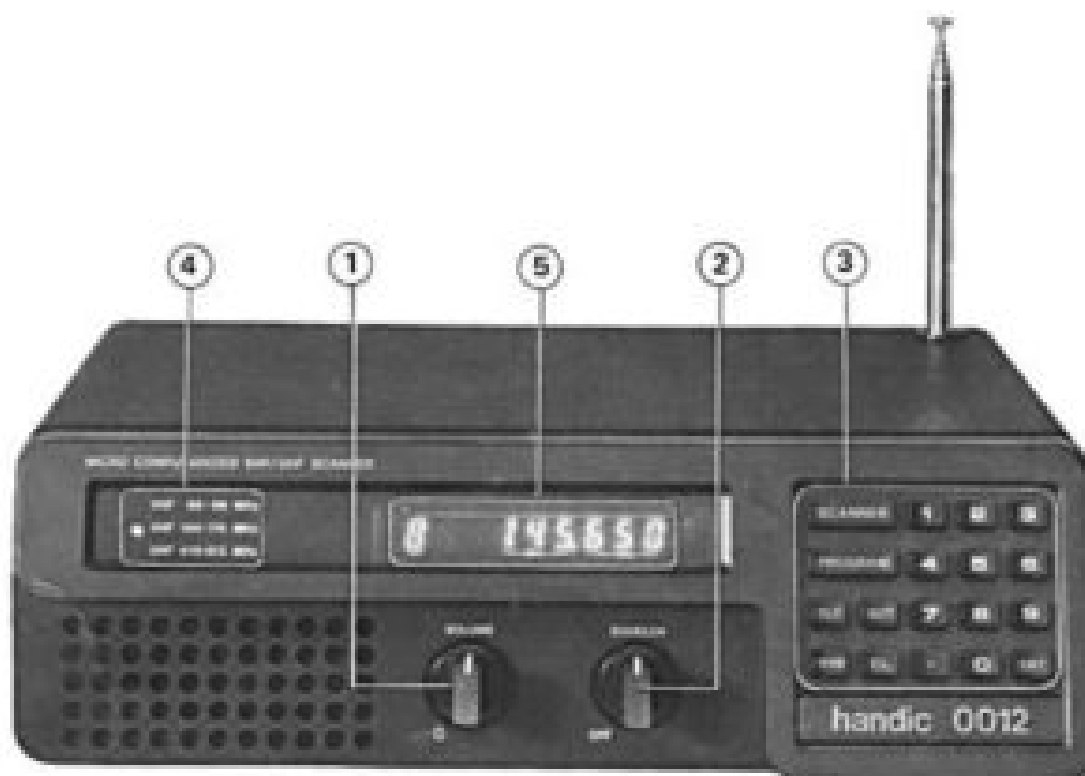


**NOTE:** To avoid loss of the program memory, keep the receiver connected to an AC or DC power source when replacing the battery. Replace the battery at least every six months.

**CAUTION:** Never leave your handic 0012 with a weak or dead battery in the battery compartment. Even “leakproof” types can leak damaging chemicals. When the unit is kept disconnected from AC or DC power the normal battery life is one month. Now you only need to do three things to be able to use your handic 0012:

1. Connect a power source, 220 V AC or 12 V DC (see INSTALLATION, page ).
2. Connect a suitable antenna to the antenna connector, or insert the included telescopic antenna through the hole in the top of the cabinet and screw it into place.
3. Enter one or more frequencies from the keyboard (see GET STARTED, page ).

## Operating Controls



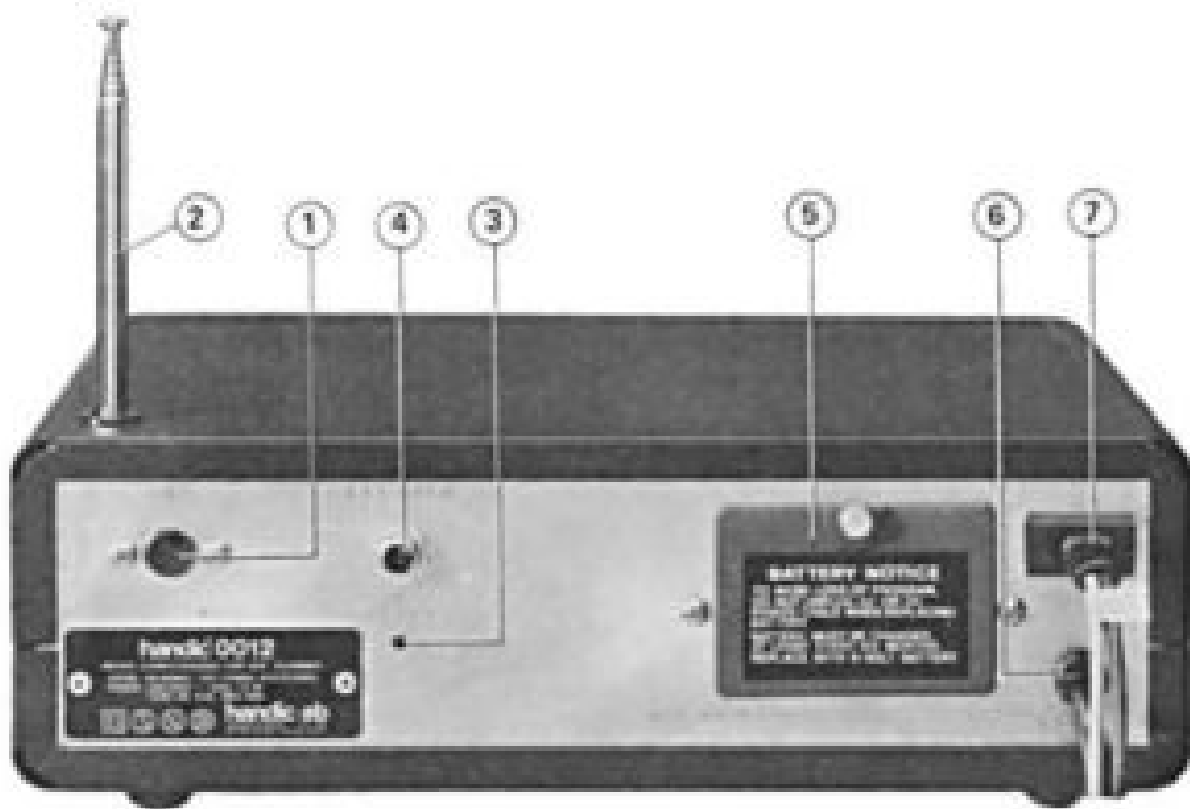
A short description of the controls is given here. Also refer to OPERATION, page.

1. The **volume control** is used to adjust the sound level and to turn the power on/off. Turn the knob fully counterclockwise to switch off. NOTE that your handic 0012 consumes a small amount of power even in the switched-off state, in order to extend the life span of the memory batteries.
2. The **squelch control** eliminates annoying background noise between transmissions. Turn the knob clockwise to the point where the noise just disappears. Properly adjusted the squelch “opens” as soon as a signal is being heard. The automatic scanning does not start until the squelch control has been set like just described.
3. The **keyboard** is used for entering channel frequencies and controlling the various functions.
4. The **band indicators** show the frequency band being monitored
5. The **digital display** shows the frequency being monitored along with the channel number and the mode of operation.

## Keyboard

- SCANNER** sets hand ic 0012 to the scanning mode. If scanning stops on an active channel, it can be resumed by pushing this key.
- PROGRAM** sets hand ic 0012 to the programming mode.
- DLY** delays an active channel for about two seconds after a finished transmission. The delay function is switched off again when the key is pushed a second time.
- OUT** locks out the displayed channel from automatic scanning.
- MAN** sets hand ic 0012 to the manual mode. When the key is pushed the automatic scanning stops, when it is pushed again the receiver will advance one channel at a time.
- CL** clears the frequency display, e.g. to correct an error in programming.
- 1 2 3**  
**4 5 6**  
**7 8 9**  
**• 0** are the number keys used for entering frequencies when programming. The digits appear on the display. In manual mode the number keys are used to select the channel to be monitored.
- ENT** loads the frequency on the display into the memory when the receiver is in the programming mode.

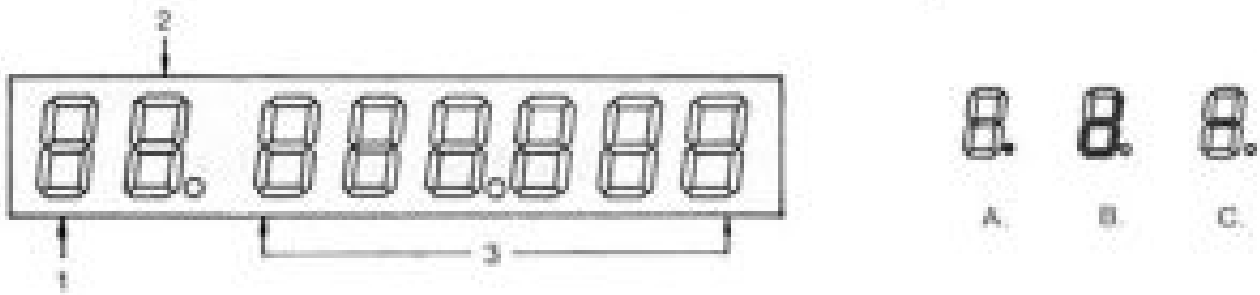
## Rear Panel



1. Jack for external antenna, e.g. a mobile or fixed external antenna. The most suitable antenna should be designed for the band where you want the best reception or a broadband antenna that covers all of the receiving frequency range satisfactorily.
2. Jack for telescopic antenna. An external antenna is almost always superior, but in many cases the included telescopic antenna is good enough for reception of strong local transmissions. Insert the threaded end of the antenna into the hole in the top of the cabinet and screw it into place. Try to adjust the length of the extended antenna to get the best reception,
3. The reset button is used to clear all memories.
4. Jack for external loudspeaker. This jack can be used if you want to connect a larger loudspeaker or a headset with 8 ohms impedance. The built-in loudspeaker is automatically disconnected when the fitting plug is inserted in this jack.
5. Battery compartment. Snap in a 9V battery to avoid loss of the program in the memory when the set is disconnected from AC or DC power.
6. AC cord for 220 V 50 Hz line voltage.
7. DC connector for connection to 12 V systems with negative ground. Connect the included DC cable with red to positive and black to negative polarity.

## GET STARTED

The digital display indicates as follows:



1. The **channel digit** shows the number of the channel under scanning, monitoring or programming.
2. The **channel status sign** indicates the mode of operation as determined by the microprocessor. A. The channel is locked out from scanning B. The delay function is operating on the channel. C. The channel is ready for programming. When no status sign appears the channel indicated is under normal scanning without any delay when a transmission is finished.
3. The **frequency digits** show the exact frequency under scanning, monitoring or programming.

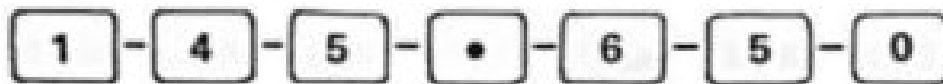
If you have completed **PREPARATIONS FOR USE** (page 2), you are now ready to operate your handiC 0012. Switch on the power by rotating the volume knob clockwise 1/4 of a turn. At switch-on the receiver is always operating in the scan mode.

Turn the squelch control fully counter clockwise. Noise should now be heard from the loudspeaker. Then turn the squelch knob clockwise to the position where the noise just disappears.

### Enter a frequency.

Let us take the radio amateur repeater transmitter frequency 145.650 MHz as an example. There are 10 such frequencies with 0.025 MHz spacing in the range 145.600-145.825 MHz and in many areas of Europe at least one of them can be heard.

1. Select the channel into which you want to enter the frequency. Push MAN one or more times until the desired channel number appears on the display (No. 1-8).
2. Push PROGRAM. The channel status sign will indicate programming mode.
3. Using the calculator-type keyboard, enter the desired frequency (145.650) as follows:



A trailing zero may be omitted.

4. Push ENT. The frequency indicated by the frequency display is now stored together with the adjacent channel number. If there are strong enough radio signals on the channel they are now heard from the loudspeaker. If nothing is heard, try some other frequencies from a reliable frequency list.
5. Push SCANNER to make the receiver return to the scanning mode.

Proceeding as described above you can store up to eight frequencies in the memory.

## MORE ON OPERATION

**Scanning.** To continuously scan the channels in the memory, adjust the squelch control as described above and push the SCANNER key. The channels are now being scanned in numerical order. When radio communication starts on one of the channels, the receiver remains locked to that channel as long as the communication lasts and you can listen to it. The number and the frequency of that particular channel are shown on the display.

**Delay.** In order to have about two seconds of delay before the receiver returns to scanning, push DLY, either when programming, after the scanning has stopped or when the channel is displayed in the manual mode. Then push SCANNER. The delay function prevents that the receiver jumps over to another channel during the short interval between transmissions from two stations in communication with each other. The channel status sign shows when the delay function is applied to a channel (page 4). The delay is switched off when DLY is pushed a second time.

**Manual mode.** You can also switch to the manual mode when you want to listen to a specific channel without scanning. Push MAN to stop the scanning, then push the same key until the desired channel number appears on the display. In the manual mode you can also push the number key with the corresponding number to select a channel.

**Skip a channel.** If the scanning is stopped by less interesting communication on a channel, it can be locked out of the scanning sequence by pushing OUT. The channel status sign indicates lock out (page 4). To get the skipped channel back into the scanning sequence, push MAN and the channel number and the OUT a second time. Then push SCANNER to resume scanning.

**Programming mode.** Select the programming mode by pushing PROGRAM. Use PROGRAM also to advance channel numbers when programming, since pushing MAN causes the receiver to leave the programming mode. The channel status sign indicates the programming mode (page 4). Push CL when you wish to clear the display.

**Resetting the memory.** If the memory back-up battery is missing or empty, it may happen that the microprocessor refuses to accept programming and/or the display only indicates "0". Should this happen, switch on the power and push RESET on the rear panel to clear and reset the memory

## VALID FREQUENCIES

Any frequency within the frequency ranges according to the specifications can be entered into the memory. In the bands 68-88 MHz and 144-174 MHz, frequencies with 5 kHz spacing will be accepted, and in 410-512 MHz the spacing is 12.5 kHz. If the frequency entered does not coincide exactly with these spacings, the next lower valid frequency will be entered into the memory. Handic 0012 employs a fine-tuning circuit to make possible optimal reception also of transmission that do not occur exactly on frequencies that are accepted by the memory.

If you try to enter a frequency outside the valid frequency range, the display will indicate "Error". Push CL and enter a valid frequency instead. When "Error" is displayed the frequency that already was stored in the memory will remain there.

## BIRDIES

Handic 0012 covers an extremely wide frequency range. It is practically impossible to design a receiver like that and completely avoid "birdies": frequencies that are generated in the receiver and picked up by the front end. When the Handic 0012 was developed, painstaking work was spent to eliminate or attenuate such birdies, and in that respect it is superior to earlier receivers of comparative type. You should, however, be aware of the existence of birdies. They generally cause the scanner to lock on a frequency where there is no true signal, only noise. In most cases this can be avoided by turning the squelch control clockwise until the scanning is resumed. The resulting loss of sensitivity is in most cases negligible. Outdoor antennas are less likely to pick up these undesired

signals than telescopic antennas directly at the receiver, and as a bonus extend the range of reception. Therefore we recommend you to use outdoor antennas to achieve maximum performance from your handic 0012.

#### Bindies

70.395 MHz  
70.400 MHz  
70.405 MHz  
71.715 MHz  
71.720 MHz

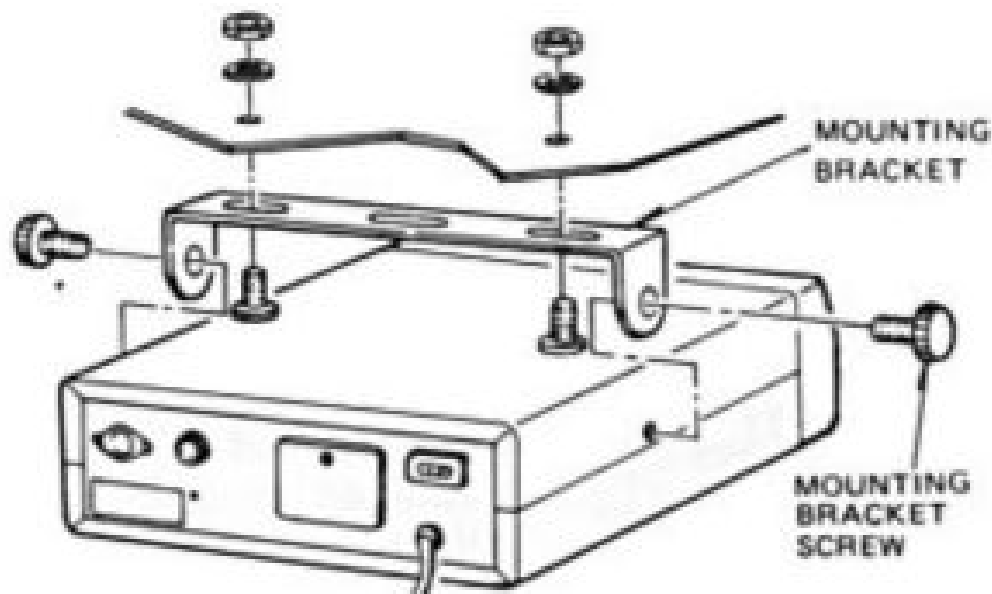
76.795 MHz  
76.800 MHz  
83.200 MHz  
153.290 MHz  
166.405 MHz

438.300 MHz  
438.600 MHz  
493.337 MHz  
493.350 MHz  
493.362 MHz

#### Falske frekvenser

70.395 MHz  
70.400 MHz  
70.405 MHz  
71.715 MHz  
71.720 MHz

76.795 MHz  
76.800 MHz  
83.200 MHz  
153.290 MHz  
166.405 MHz



## INSTALLATION

### Base Installation

The easiest way to start using your handic 0012 is to plug in the accompanying telescopic antenna and to connect the 220 V cord to a wall outlet. To get the best possible reception it is however necessary to install outdoor antennas for the most active frequencies. As your radio dealer for advice.

### Mobile Installation

handic 0012 can be mounted under the dashboard as shown in the picture. Take care when drilling holes so that you do not drill into existing wiring or trim. handic 0012 is designed for connection to 12 V negative ground systems. Be careful to connect the included DC cable to correct polarity: red to positive and black to negative. Also regarding mobile antennas your radio dealer can give advice. Mount the antenna as high and as far away from the engine compartment as possible. To reduce the noise generated by components in the car, especially popping sounds from the ignition system and whining sound from the generator or alternator, there are noise reduction kits available. If you are still troubled by noise, you should consult a specialist for VHF/UHF communication radio.



## MAINTENANCE

The handic 0012 is a carefully designed unit, with all parts conservatively rated. If you treat it with care and keep it free from dirt and excessive humidity it will serve you for a long time. The 9V battery (used to maintain the program memory) should be replaced every six months. Use long life types such as Alkaline. Keep the connection to an AC or DC power source when replacing.

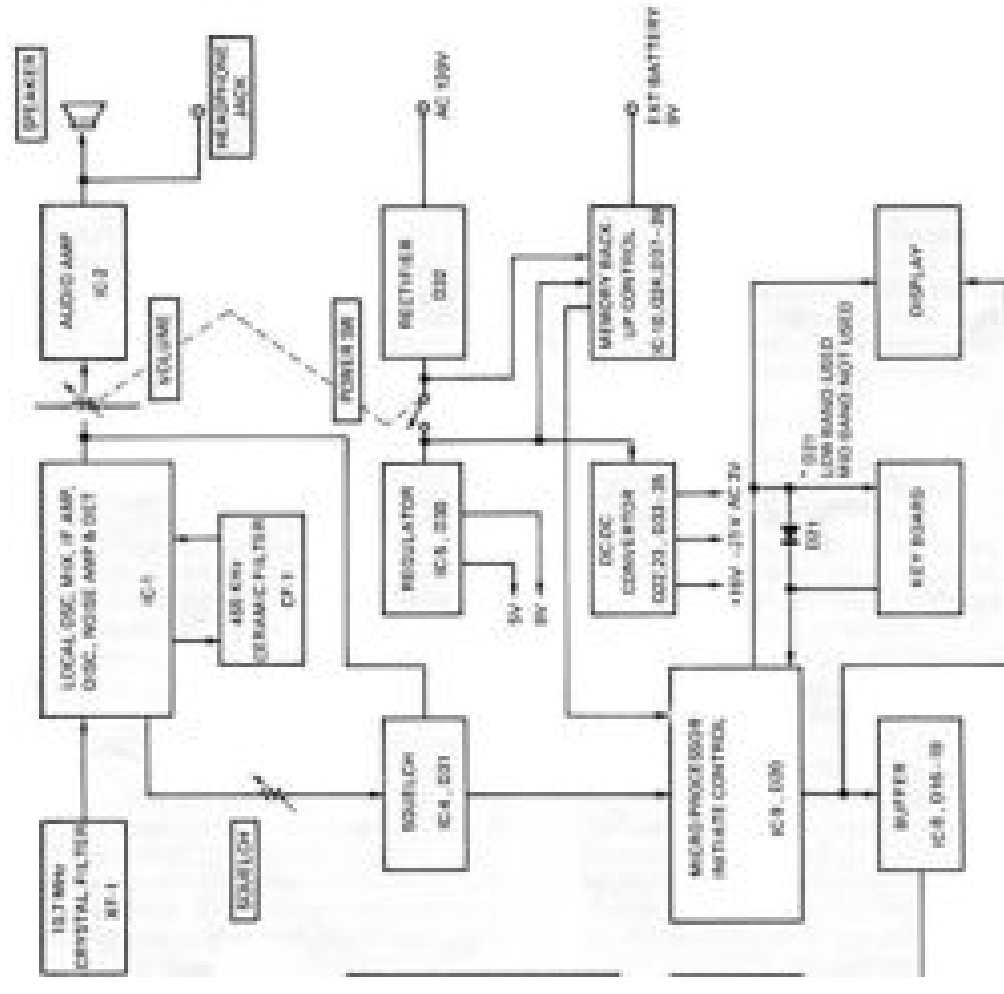
<b>Problem</b>	<b>Possible Cause</b>
Inoperative	No power — check that the AC or DC line is properly connected to the power source. If using 12-volt DC power, try using AC to isolate the problem. Also check fuses.
No scanning	Turn the squelch control clockwise slightly past the point where the rushing sound ceases.
No signals received	Check that the UHF and/or VHF antennas are connected.
The scanning locks on frequencies where no clear signal is present.	"Birdies" — see that chapter.

If none of these suggested remedies solves the problem, send the unit together with the warranty card (if still valid) to handic or ask your dealer for advice.

## Specifications

Semiconductors	1 LSI microprocessor system, 1 LSI PLL system, 2 CMOS ICs, 6 ICS, 24 transistors and 41 diodes
Receiving System:	Superheterodyne with digital synthesizer to receive 18,160 programmable frequencies
Frequency Coverage:	VHF-Mid 68—88 MHz (in 5 kHz steps) VHF-Hi 144—174 MHz (in 5 kHz steps) UHF 410—512 MHz (in 12.5 kHz steps)
Channels of Operation:	Any eight channels desired in any band combination
Sensitivity (for 20 dB Signal-to-Noise ratio):	68—88 MHz 1.0 $\mu$ V 144—174 MHz 1.0 $\mu$ V 410—512 MHz 2.0 $\mu$ V
Spurious Rejection:	68—88 MHz 50 dB at 78 MHz 144—174 MHz 50 dB at 160 MHz 430—512 MHz Not specified
Selectivity:	$\pm 9$ kHz, —6 dB $\pm 17$ kHz, —50 dB
Scanning Rate:	10 channels/second
Delay Time:	2 seconds
Modulation Acceptance:	$\pm 7$ kHz
I.F. Frequency:	10.7 MHz and 455 kHz
Filter:	1 crystal filter, 1 ceramic filter
Squelch Sensitivity:	Threshold Less than 1.0 $\mu$ V Tight (S+N)/N 30 dB
Antenna Impedance:	50 ohms
Audio Power:	2 watts maximum
Built-in Speaker:	7.5 cm (3")
Power Requirements:	AC — 220 volts, 50 Hz, 15 W maximum DC — 12—15 volts Negative Ground only, 10 W maximum
Dimensions:	8×26×27 cm HWD (3-1/8"×10- 1/4"×10-5/8")
Weight:	2.4 kg (5.3 lbs)

**RAM**



[illegible]

Telephone: 031-450180      Telex: 2558  
Box 156, S-42122 V. Frölunda, Sweden

## Documents / Resources

