

MIDLAND PROGRAMING G14

1. PROGRAMMING CAPABILITY

Welcome to the **MIDLAND Programming software**! It's a programming software specifically designed for **G14** and must be used in conjunction with the dedicated cable supplied with the programming kit.

Features of the software

MIDLAND Programming software allows you to extend the flexibility and features of your radio, thanks to these following options:

- You can choose among several operating band(s) – PMR (all PMR 446 channels+99CH pre-set), PMR+LPD (all PMR446 channels and all LPD channels) and 400-470 MHz frequency band.
- You can enable the channel scanning facility (either in normal and priority mode) and so, define one of the available channels as priority channel for the priority scanning mode.
- You can also extend the TX output power (HI/LO power feature).
- If necessary, you can make the use of the radio very basic and simple by disabling some of the default features.
- You can read the radio's programming by uploading the related data from the radio to the PC or, vice versa, you can download a new programming from the PC to the radio.
- You can save the programming data in your PC in order to create a programming library which can be open, edited and re-used for other radios.

If you choose one of the bands PMR or PMR+LPD, the TX/RX frequencies and bandwidth of the channels are automatically set according to the PMR and/or LPD regulations. Moreover, if you choose the 400-470 MHz band:

- You can setup and store in the transceiver a database containing a list of up to 99 radio frequencies.
- The CTCSS/DCS facility can be also set in TX and RX independently.

! Every parameter/feature must be programmed according to the local regulations and directives. Doing that without respecting them is at your total risk and responsibility.

2. INFORMATIONS ABOUT THE INSTRUCTIONS

Warning notes

! IMPORTANT! Before going on, please have a look to the following notes.

Every effort has been made to ensure that the information in this document is complete, accurate, and up-to-date. CTE International assumes no responsibility for the results of errors beyond its control. The manufacturer of this equipment also cannot guarantee that changes in software and equipment made by non authorized people and referred to in this guide will not affect the applicability of the information in it.

Only authorized and qualified technicians should be allowed to follow the operation described into this manual.

This manual has been written for use by CTE International dealers and distributors who are programming the **G14** handheld transceivers for customers. You should be familiar with conventional radio system and radio network settings parameters as well as general PC operations. Channel parameters must be programmed according to your local regulations and directives. Doing that outside them is at your total risk and responsibility.

! Please read the whole manual before starting any operation. Chapters and paragraphs must be read in the order they are written. Crossed references are only made to increase its usability.

***All the PC operations described/shown in this manual are meant made with Windows XP.
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3. SET UP

Unpacking

The following items are in the programmer's package:

- (a) CD ROM containing the programming software and its instructions.
- (b) Connection cable/adaptor (USB to transceiver's programming port)

If something is missing, please promptly inform your supplier.

System requirements

To use the **Midland Programming Software for G14** you need the following hardware and software:

- (a) Personal computer with Pentium (I) processor or higher (basically depending on the operating system)
- (b) Operating system Windows® 2000 or higher.
- (c) Hard drive at least 20 MB of free disk space
- (d) Random access memory (RAM) - basically depending on the O.S. (at least 32 MB; 64 MB recommended)
- (e) A free USB port
- (f) A free virtual COM port from COM 1 to COM 8

Installing the programming software

To install the programming software, just please follow these steps.

Steps can be slightly different according to the Operational System you are using and its versions (e.g. service packs, etc.).

You are highly recommended to follow these directions, to avoid Problems during the use of the software:

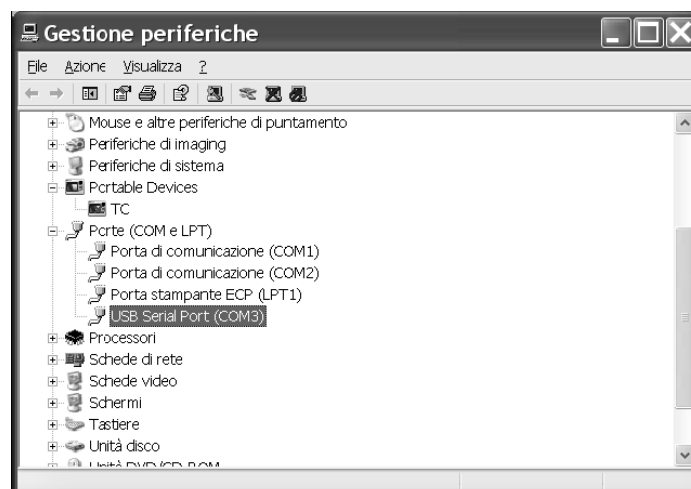
- 1) Click on the PC program installation.
- 2) The installation will immediately begin; the PC Program software will be installed in the path of **C:\PC Program**
- 3) After the installation is done, you will visualize the window of **C:\PC Program**.
- 4) To run the PC Program just double-click on the **G14** icon. Or you can make a shortcut and paste it in your desktop for an easier access for later use.

The software is now ready to be used. Now you just have to open the software and set the COM port as below stated.

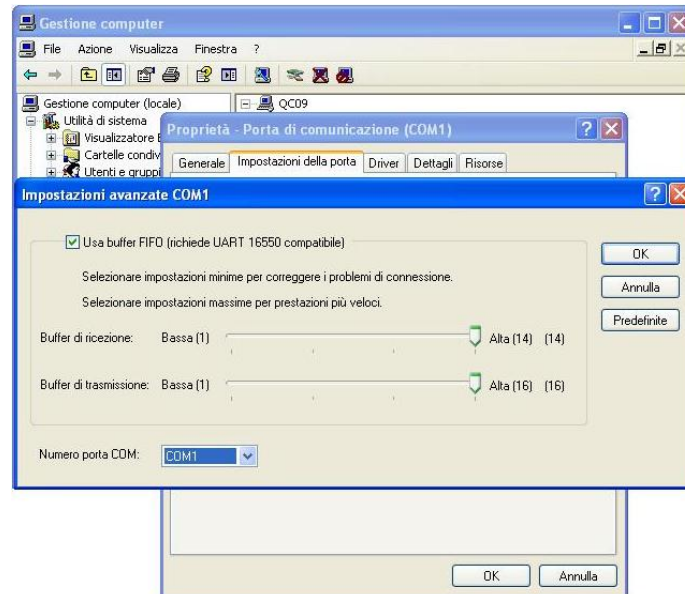
Checking/ changing the COM port

You must check if the number of the virtual COM port automatically created by the driver is 8 or less. Otherwise the programming software can not communicate with it.

- 1) Unplug the USB connector of the programming cable from the PC.
- 2) Press **Start – Control Panel**, and then double click the **System** icon. The **System** window will open.
- 3) Click the **Hardware** tab, and then press the **Device Manager** button. The **Device Manager** window will open.
- 4) Click the small box on the left "**Ports (COM & LPT)**" in order to show all the ports in use.
- 5) Plug the USB connector of the programming cable to the PC. After one second you will see the **USB Serial Port** and its COM port (in the down stated example **COM 3**).



- 6) If the COM port number is from 1 to 8, just exit and go to step 10. If not, go on with the next steps.
- 7) Right click on the **USB Serial Port** and select **Properties**. The **Properties** window will open.
- 8) Click the **Port Settings** tab, and then click the **Advanced** button. The **Advanced Settings** window will open.

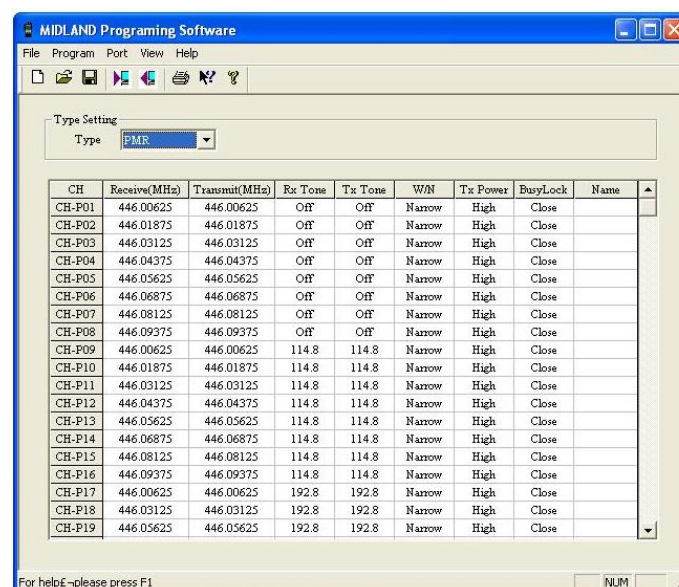


- 9) Using the **COM Port Number**: drag down the button to change the COM port number with another one. You will see which COM port is in use by the indication **"(in use)"**. In the over stated screenshot **"COM4"** is in use, so you can't select it.
- 10) Click **OK** many times in order to save and exit.
- 11) Write down the COM number currently used by the USB serial Port (you will need it in the next paragraphs).

4. PRELIMINARY OPERATIONS

Running the programmer software

Double click on the file called G14, which you can find in the folder of your PC. After a few seconds the following window will appear:



Setting the COM port in the programming software

Now that the **Programming software** has been installed and opened for the first time, the proper COM port (serial port) must be set in it. This will allow the data exchange between the PC and the software.

- 1) In the Midland programming window, press the Port button.
- 2) Use the drag down selector **Port. No.** to set one port (from **COM1** to **COM8**) according to the COM port you have noted in the previous step.

5. IMPOSTAZIONI DELLA RADIO

Setting the band

First of all you have to set the needed band(s) according to the customer's requirements. In **typesetting mode**, select the best band for your specific application. Here below you will find the main programming differences according to the chosen band.

BANDA	Frequency band (MHz)	PARAMETRI IMPOSTABILI			
		Frequency mode	Channels	CTCSS/DCS	Duplex channels
400-470	400.00000 470.00000	Si	max 99	Si	Si
PMR	446.00625 446.09375	No*	8+99*	No**	No***
PMR + LPD	446.00625 446.09375 433.075 434.775	No*	8+69*	No**	No***

Note: To shift from the PMR band to the LPD band, keep pressed the button MENU for 3 seconds.

* Frequencies and channels are automatically set according to the PMR446 and/or LPD regulation

** The CTCSS/DCS can be further manually activated or set by the software radio.

*** Duplex is not allowed in the PMR446 and/or LPD regulation, so each channel is automatically set with the same TX/RX frequency

if you set the 400-470 MHz frequency band mode, through the radio it is possible:

Visualize on the display of the radio the channel number or the channel frequency

- Keep pressed the **MENU** button and turn on the radio.
- On the display you will visualize the desired option.
- Repeat the process to change the visualization.

Delete all the settings

To delete all the previous settings:

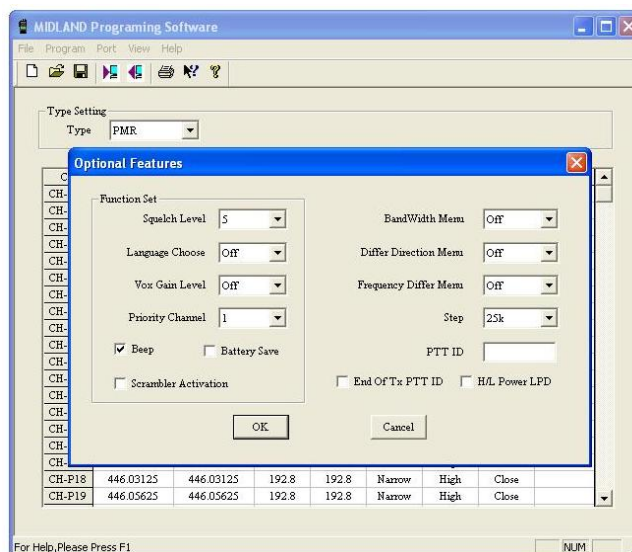
- Keep pressed **ENTER** and turn on the radio.
- **"RESET"** will be visualized on the display
- Press **ENTER** to confirm. **"VFO"** will be displayed.
- Turn the **ENCODER** knob and select **"FULL"**.
- Press **ENTER** to confirm.

Choose the priority channel for the Priority scan.

- Press the **MENU** button
- Turn the **encoder** knob till visualize on the display **"PRI"**
- Press the button **ENTER** to enter the function.
- Turn the **encoder** knob to choose the priority channel;
- To confirm, press the button **ENTER**.

Customizing the radio

In the **Program** window, it is possible to enable several options by clicking on “**Optional Features**”. After a few seconds, the following window will appear:



You can select these following options:

Squelch: there are 9 available Squelch sensibility levels

Language: when you shift from a function to another, you can hear an English pronunciation of the function you stay in. Through the programming software you can choose between “English/off”. To disable the function, choose “off”.

VOX: there are 3 available VOX sensibility levels. Choose one of them by using the drag down menu.

Priority channel: the priority channel is searched during the SCAN mode. You can choose the priority channel among 99 available channels. If, for example you choose channel 9 as priority one, the Scan will be as following: 19 2 9 3 9 4 9 5 9 6 9 7 ...

Beep: every time a button is pressed, you will hear a keypad beep tone. this function is enable as default.

Battery save: the battery power saving feature enables a reduction in the consumption of up to 50%; power saving comes on automatically when the transceiver does not receive any signal for more than 7 seconds. Click the box to enable the function.

Scrambler: The scrambler is designed to protect communications. This feature prevents parties from other networks from hearing and understanding voice communications. It is necessary to make sure that all the radios you wish to communicate with have enabled this feature; otherwise you will not be able to communicate with them. (Only with other G14). Click the box to enable the function.

Bandwidth Menu: It is possible to activate this function (ON/OFF) by the programming software. Once programmed, you can set the wide or narrow band by the frequency band or directly on the radio.

Differ Direction menu: this function allows you to select the repeater shift through TX or RX. You can enable it only on the 400-470 MHz frequency band. Once set, you can also activate it through the MENU of the radio following these steps:

1. Press the **MENU** button
2. Turn the **encoder** knob till visualize on the display “**S-D**”
3. To enter the function, press the button **ENTER**.
4. Turn the **encoder** knob and select the differ direction. The available options are “+”, “-“ and “**0**”;
5. To confirm, press **ENTER**.

Frequency differ Menu: this function allows you to set the frequency differ shift. You can enable it only in 400-470 MHz frequency band and once set you can also enable it through the MENU of the radio following these steps:

1. Press the **MENU** button.
2. Turn the **encoder** knob till visualize on the display “**DIFFER**”
3. To enter the function, press the button **ENTER**.
4. Turn the encoder knob and select the frequency shift direction.
5. To confirm, press **ENTER**

Step: In the frequency mode, by the programming software, it is possible to select the desired Frequency step among these following options: 5 KHz, 10 KHz, 6.25 KHz, 12.5 KHz e 25 KHz. Once chosen the desired option, every time you change the frequency by the radio, the shift will be with the step previously set with the programming software.

PTT ID and End of TX PTT ID: this function allows you to insert in the proper space called “PTT ID” some particulars numbers, and once set, at the end of a transmission the radio transmitter will send to the other radio receiver the numbers previously insert in the PTT ID space. This function allows you to identify the two transceivers.

H/L Power LPD: in LPD band, you can select the desired power level: high or low.

Settings in the frequency band

Once enable the previous functions in "Optional features", you can manage the desired settings through the frequency band. The settable functions are:

RX tone e TX tone: you can choose the CTCSS/DCS sub-tones in RX/TX.

W/N: you can choose between wide or narrow band.

TX Power: you can select the high or low transmission power

Busy Lock Out: Busy Lock Out limit the transmission mode. There are 2 types of Busy Lock Out:

- **Close:** Busy Lock out disabled. TX is possible as usual.
- **Carrier:** Busy Lock Out enabled. The transmission is possible, but only when the radio is not receiving any signal.
- **QT/DQT:** Busy Lock Out enabled. The transmission is possible only if it is made by a channel with a sub-audio tone set. If there is no sub-audio tone, the communication can not be possible.

Name: instead of the channel number, you can visualize on the display whatever name you want.

HI/LO transmission power

Open the window "Program". Here you will find 2 options: High Power De Bug and Low Power De Bug. You can increase or decrease the power transmission from a minimum of 0,001 mW up to 5W. To exactly know which transmission power has been programmed, select the visualized reference and keep connected to the radio an output power measures instrument.

! Raising the TX output power over 0.5 W might infringe your local regulations (e.g. the PMR446 ones). So, it is necessary verify that the settings are correct. Doing that is at your total risks and responsibility.

! This setting can't be saved together with the other ones.

6. WRITE/READ THE DATA INFORMATIONS OF THE RADIO

It is highly recommended to verify and check the proper setting informations before downloading them into the transceiver.

To transfer the programming data control to the transceiver, please follow these steps:

- 1) power on the radio and proper connect it to the pc;
- 2) In the window "**Midland programming software**" select "**Program**" and then "**Write/Read the Radio**" or press the relatives button showed on the main window.
- 3) At the end of the data transfer or of the data reading, turn off the radio and disconnect it from the pc and turn on it again.
- 4) Check if the radio has been well programmed. In case you have done the data reading, on the display it will appear the pre-set frequency table.

Save the data file on the PC

It is highly recommended to save the original data file on the pc, before making every kind of changes or before creating a new one. To execute this operation, follow these described steps:

- 1) In the window "**Midland Programming software**" click on the window file and then click on "**Save**".
- 2) In the field "**File Name**", digit/insert the file name, then click on "**Save**".