MicroCorr 7

PC Software User Manual

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MAN-032-0002

Issue A

Date 28/11/06

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Introduction

MicroCorr 7 builds on the proven leak detection performance of MicroCorr correlators.

The system takes advantage of the latest technological developments for ease of use and miniaturization.

The Laptop interface gives clear graphics and simple operation. The compact design brings portability and flexible deployment on site, even installing outstations below ground if necessary.

- **Easily used high visibility PDA**
- **Highly compact and portable**
- **High performance correlation**
- **Bluetooth communications**
- **All traditional correlator features**

The system comprises 2 high technology sensors, 2 compact transmitter outstations, and an interface unit with Bluetooth connection to a laptop or PDA.

The system is supplied with two outstations, two accelerometer sensors, interface unit, interconnecting leads, antennae and charger. Various PDA and Laptop options can be supplied or the user can supply a suitable PDA/Laptop if preferred.

A full range of accessories including hydrophone sensors are also available.

Powering Up

Outstations

To turn the Outstations on, press the button on the top of the units. Whilst the unit is switched on the incorporated LED will light up green.

The LED can also be used to indicate different operations:

With the Outstation switched off:

LED off = Unit is switched off

With the Outstation switched off and plugged in to charger:

LED flashing slowly = Battery is on charge

With the Outstation switched on:

LED lit continuously = Normal operation mode

LED lit with slow flashes = Battery low, remaining use of up to 2 hour

LED flashes continuously = Battery very low, remaining use of 10 minutes

Outstation will shut off automatically after 45 minutes use if battery charge is too low.

Basestation

To turn the Basestation on, press the button on top of the unit. After switching on the LED will flash to indicate initialization of the device. After several seconds the LED will switch to continuous mode indicating the unit is ready for operation.

As a power saving feature, the Basestation will switch off automatically if there is no communication with the PC within 15 minutes.

Initial Set-up

Before using the MicroCorr 7 system the PC has to be configured for use with the Bluetooth communications with the Basestation.

This procedure is only required to be followed once with each new Basestation. After setup, Bluetooth communication settings will be saved on the PC.

Setting up Bluetooth differs slightly depending on what PC Bluetooth system is being used. Please refer to your own PC Bluetooth operation manual for further details on configuration.

The following is a guide only:

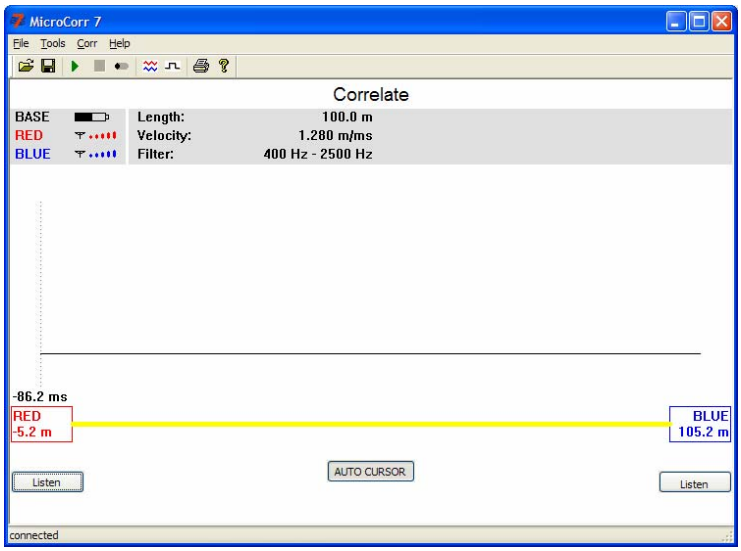
1. Turn the Basestation on by pressing the button on top. The LED will flash then remain lit once it has been initialised
2. Using your PC based Bluetooth software, search for new devices
3. You should detect MC7-XXXX (where XXXX represents the serial number of the Basestation)
4. Pair the devices and when asked use 0000 (4 zeros) for the pass key
5. Your Bluetooth manager should allow you to see/configure the COM Port being used
6. Launch the MicroCorr 7 software
7. You will be prompted by an error “Base not licensed for use with software”
8. Click “Help - About” then “Licensing”
9. Enter the License Code* and click “Apply”. If entered successfully you will go back to the main screen
10. Click “Tools” then “Settings”
11. Change the COM Port to the one listed in your Bluetooth manager
12. Click “Connect Base”
13. The system is ready for use

*License code can be obtained by emailing the serial number of the Basestation to support@palmer.co.uk

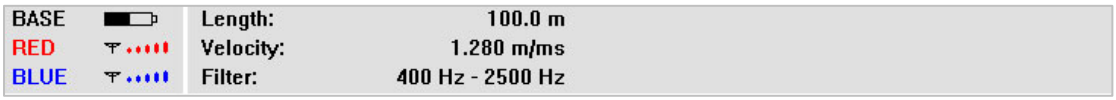
Features and Menu Options

When connecting the PC to the Basestation for the first time, the PC has to be configured for Bluetooth communications. Please refer to previous section for instructions.

After starting the MicroCorr 7 application the main screen appears as shown below (please note: actual screen shots may differ slightly with different versions of the software):



The displayed information on screen contains:



BASE

Battery Power Status

RED

Radio Signal Strength of the Red Outstation

BLUE

Radio Signal Strength of the Blue Outstation.

In the case of a turned off Basestation or broken communications with the Basestation, the above information will not be displayed.

Length

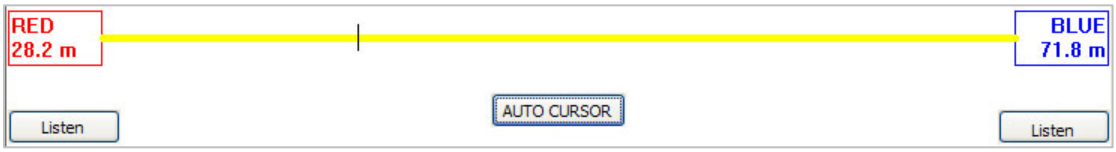
Total length of pipe being investigated

Velocity

Sound velocity dependant on selected pipe material and diameter. In the case of multiple pipe sections, the average sound velocity will be displayed.

Filter

Frequency range of selected filter



Red + Distance Value

Distance from the leak position to the Red Outstation

Blue + Distance Value

Distance from the leak position to the Blue Outstation

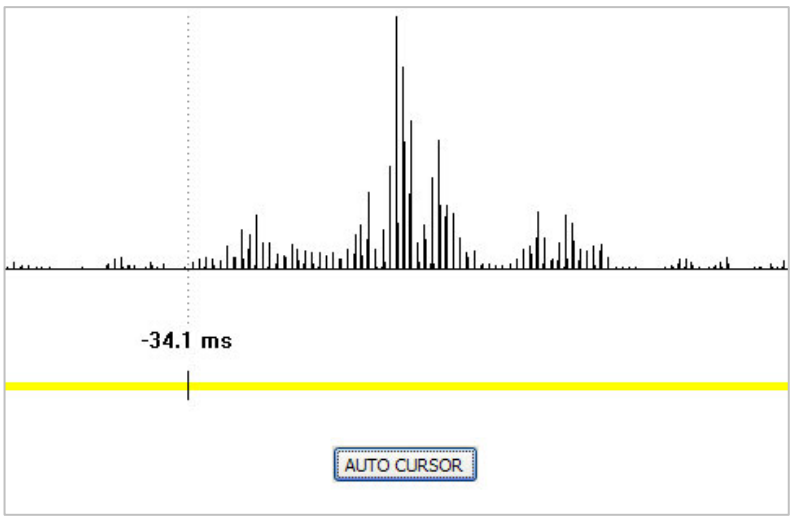
Listen

Listen to the real-time noise of either Red or Blue Outstation by selecting the left or right Listen button. Stop listening by clicking the button again.

Cursor

You can move the cursor along the correlation graph to any point to display the properties at that point on the graph.

Click “Auto Cursor” to home in on the maximum correlation result, this indicates the highest leak noise, thus indicating the leak itself.



Menu:

File:

Save	Saves the current correlation
Open	Loads a previously saved correlation
Print	Prints graphical data on screen
Exit	Exits the MicroCorr 7 software application

To open a previously saved correlation file from a PDA, connect the PDA to the PC and sync the files across. Using the “File—Open” menu within the MC7 software, browse to the file location and select the .MC7 file you wish to open.

Tools:

Zoom

Zooms in or out of the correlation graph

Peak Suppression

Allows the user to eliminate unwanted peaks. Drag the stylus over the graph to select desired frequency range. A confirmation box will appear.

Calculate Velocity

Calculate sound velocity by correlating a leak

Select “inside leak” if the leak is situated between the Red and Blue Outstations. If the leak is outside the Red and Blue Outstations select the “outside leak” option.

Enter the distance between the Red and Blue Outstations and select the material of the pipe. Tap “OK” for the new velocity to be calculated.

Connect Base

Re-establish Basestation communications

Settings

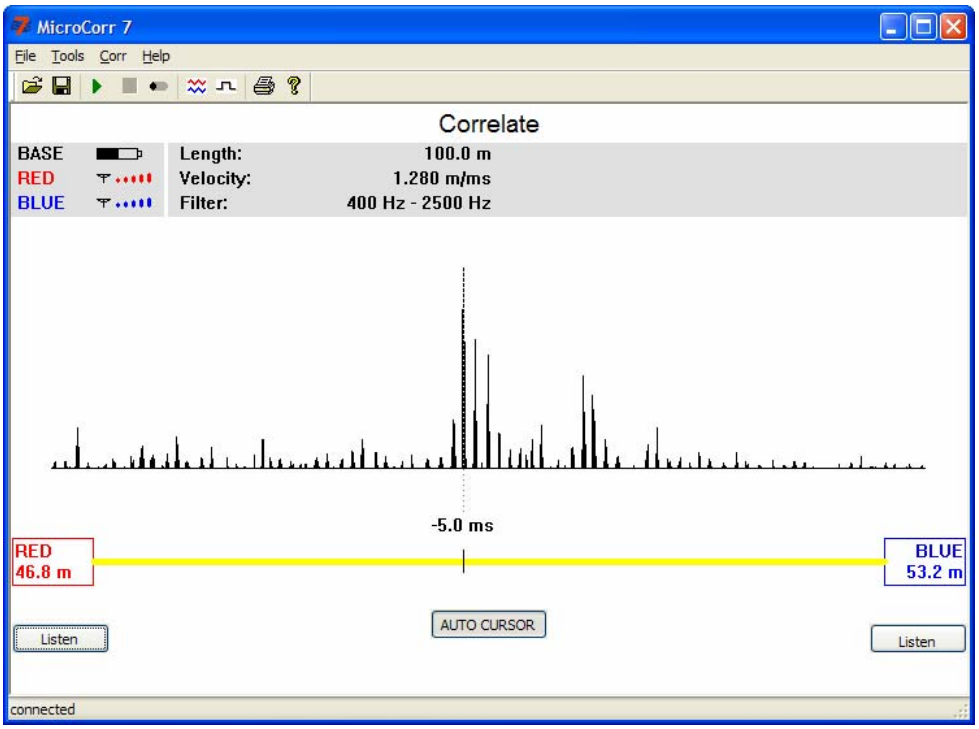
Language	Changes the display language*
Units	Select between imperial or metric measurements
COM Port	Select the COM Port for connection to the Basestation

*Note: language will not change until the MicroCorr 7 application has been restarted

Corr

Start / Stop

Click “Start” to start the correlation. The live correlation results including the graph will update automatically during correlation.



Correlation can be stopped at anytime by clicking “Stop”.

The correlated leak position will be displayed showing the distance from each Outstation.

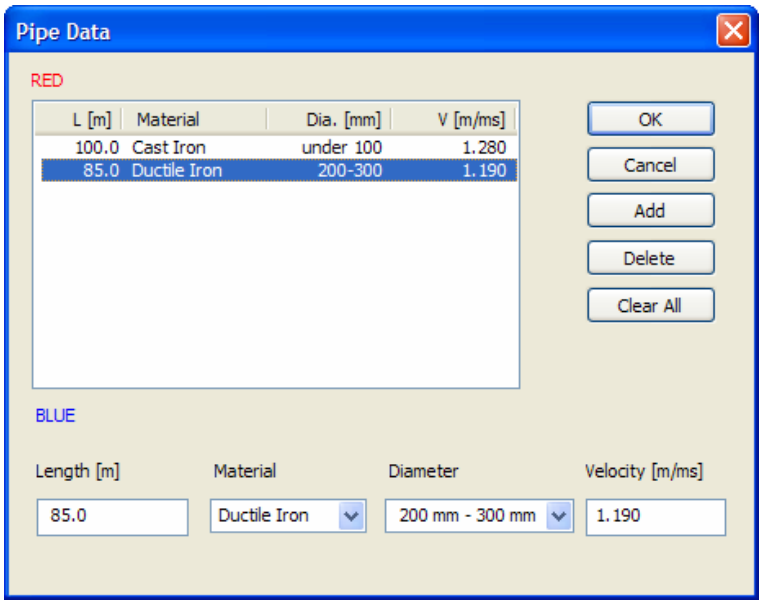
Pipe Data

Select “Pipe” to configure the pipe properties under investigation. The software will always default to a preset pipe length and material.

To edit the properties, highlight the pipe and click “Edit”. After entering the correct length, material and diameter, the software will automatically calculate the correct velocity.

Alternatively, you can override the automatic calculated velocity and manually add your own. Click “OK” once the pipe properties have been entered.

To add a new pipe section click “Add”. Each entered pipe section will be shown in the pipe data list in the order they are added. First section at the top, latest at the bottom.



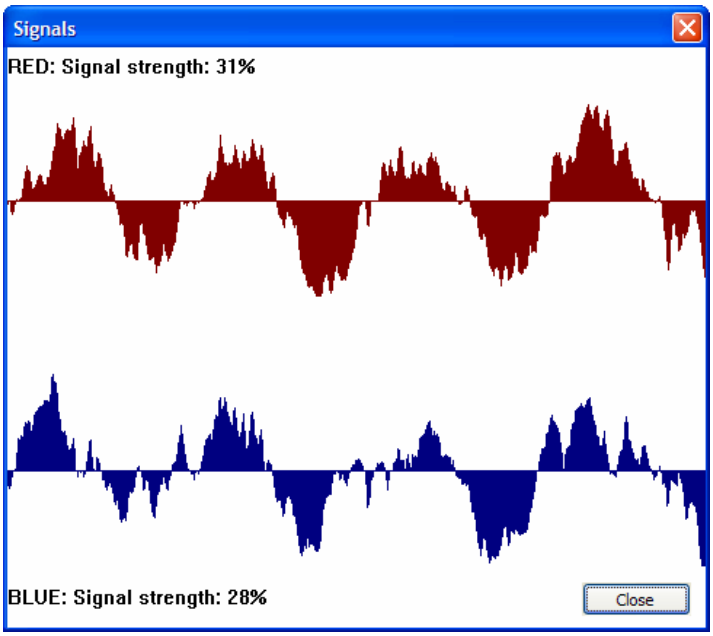
Starting from the Red Outstation at the top of the list, add each new pipe that flows towards the Blue Outstation.

To remove a section of pipe, highlight the desired section and click “Del”.

Clicking “Clear All” removes all entered pipes leaving a default value pipe.

Signals

Displays the radio signals and signal strength of the Outstations



Filter

The filter screen displays information on the frequency range and the frequency analysis (FFT) displaying the Red, Blue and combined (Coherence) signal spectrums.

The frequency range:

No filters = 0Hz – 2500Hz

Metallic = 400Hz – 2500Hz

Non Metallic = 0Hz – 700Hz

To clear any set filters, click the “Clear” button.

To manually filter the frequencies, click on the graph and slide the cursor across the desired range. Greyed out frequencies will be dismissed from the results.

Confirm required frequency range by clicking “OK”. Correlation results will automatically be recalculated.

Help - About

Displays the current software version

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Note

Palmer Environmental reserves the right to change products, services or specifications without notice.