

## WalkBy, DriveBy collection data for AMR/AMI system "Balance"

With implementation of automated control and metering systems AMR/AMI of energy consumption, the optimal solution is the deployment of a stationary system "BALANCE". System "BALANCE" includes tools of automatic data collection from the primary metering equipment and data transmission to data processing system for archiving and future reference. For energy sales organizations are very important, along with commercial information of the energy consumption, get real-time reports for emergency situations on objects and their location - leaks, damage meters, illegal connections.



In some cases, if you can not deploy a stationary system, such as single installations radios, installing radios in rural areas, where the distance between metering points more than 200 - 400 meters, or in places where there is no cover GSM / GPRS connection, or installing fixed concentrator cost is not justified, you can use manual data collection.

It must be remembered that during the operation metering system based on the reading data on a laptop (notebook) (WalkBy, DriveBy) from water meters, heat, electricity and gas, will need a significant man-hours to gather the information and its further processing. This leads to delay in the measurement results and the inability to track information on the operational consumption.

In addition, such information is not full, which can not implement or implement in a shortened form of such functions as control leaks, control balance, and predict the theft of technical failures of meters, as well as request information in real time and manage the consumption by operator in real time.

It is strongly recommended to use the fixed AMR/AMI metering system "BALANCE", even in the absence of GSM / GPRS coverage you can install concentrators and then once a month to upload their data to a laptop (netbook). Manual collection is recommended to use only in exceptional cases and as a transition phase to fixed AMR/AMI metering system "BALANCE".

### Hardware and software for manual data collection with radios.

To collect data from radios operating without the fixed concentrator, use concentrator D100UC-1 with a special firmware that is connected to laptop via a standard USB cable. As a laptop, you can use any notebook or netbook, it is preferable because of its small size and weight. On a laptop computer should be running WINDOWS.



Program MyDemo for manual data collection from the radio modules.

On the PC, the data is received using MyDemo semi-automatically. For more details on using and installing the USB drivers, see "Description of the MyDemo".

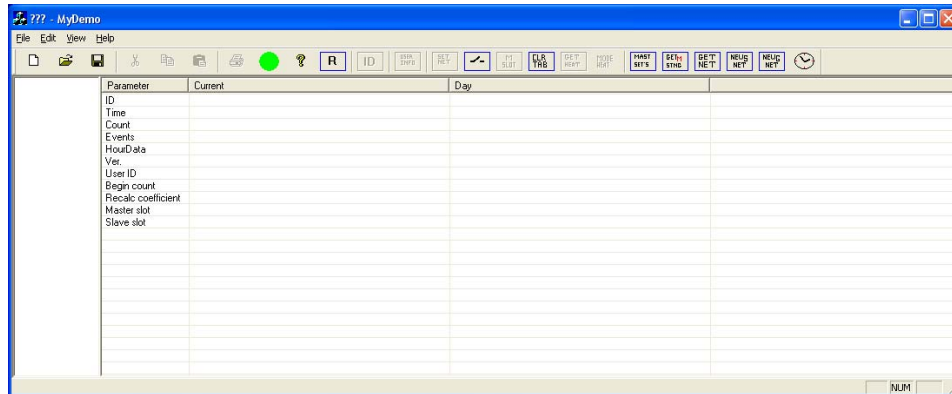
For manual data collection, you must set the following settings in the file «demo.ini»:

[HHUmode]

sound = 1 - a sound when come the packets of data.

GetTimePC = 1 - substituted in the current data, time of the PC. If this parameter is set to 1, then stored in packets with the current data will be inserted time of the PC. Please note, before you start the program, check that the date and time on the computer right!

After starting the program the following window appears:



Green color means that the serial port is selected correctly, the connection to concentrator and the concentrator have received the current time from the PC. Further data collection does not require user interaction, only visual inspection of serial numbers (ID) modules, which arrived with data. If it is set up, the program plays the sound for each packet.

Received packets are stored in the file «\*.da1», which can then be imported to database server. Describes how to import data to the remote database server by Internet can be found in the document " Program PW – the user's guide."

Manual collection of data from radio module requires from the user to walk (WalkBy) or car (DriveBy) for a given route and get the data from the radios D100FC to portable computer connected with concentrator J100UC-1. This solution does not require entrance into premises with installed metering devices, and the reading performed within 15 seconds at the distance up to 30 ... 100 meters to the radio module installation. The user first reads a list of counters from system to portable computer, and then goes around the area where meters are installed, and take data packet. Then the data are transmitted over the Internet to the central server of AMR/AMI system "BALANCE".

Another kind of manual collection - collecting by the car "DriveBy". From "WalkBy" it differs in that the concentrator J100UC-1 has external antenna connected by cable that is installed on the roof of the car and charging portable computer can be performed on-board vehicle network via power adapter.

Some of European companies using garbage as a replacement data collectors. Garbage trucks, moving on a fixed route, not just go around every house in town, but they do it with a clear temporal periodicity. To implement the solutions necessary to provide each garbage truck equipment for reading, data storage and transfer meters data. At the same garbage drivers not distracted from their duties.



The minimum frequency of reading data - once a month. Garbage trucks go around each house several times a week, so if for any reason during the first time data from the meter did not collect it will be done during the next time. So are guaranteed 100% of data collection. When you run the project it is necessary to optimize routes and garbage may include additional stops on the routes. If stable data collection was not able with a series of counters, because of the long distance from the radio to a truck route, it is recommended to use an external antenna for the radio module to improve the quality and range of the radio signal, or equipment of the metering device its own GSM/GPRS - concentrator for data transfer directly to central server AMR/AMI system "BALANCE".