# Quick Start Guide
FlexMon FM01 RDS Databridge

Quick connection

1. Power on the FM01.
2. Press the JogDial to enter the FM01 menu.
3. Select the menu entry "Interface" by turning the JogDial and pressing it to enter the menu.
4. Select the menu entry "TCP/IP" and enter the menu by pressing the JogDial.
5. Change the IP address and Netmask to accommodate your needs.
6. Leave the TCP/IP menu by selecting the "Back" entry.
7. The device will ask for a reboot to activate the changes. Select "Yes".
8. Now you can configure the device conveniently via the Web interface. Just open a Web browser and enter the IP address of the device. The browser will ask for a login; username "admin", password "admin" will work in the initial state.
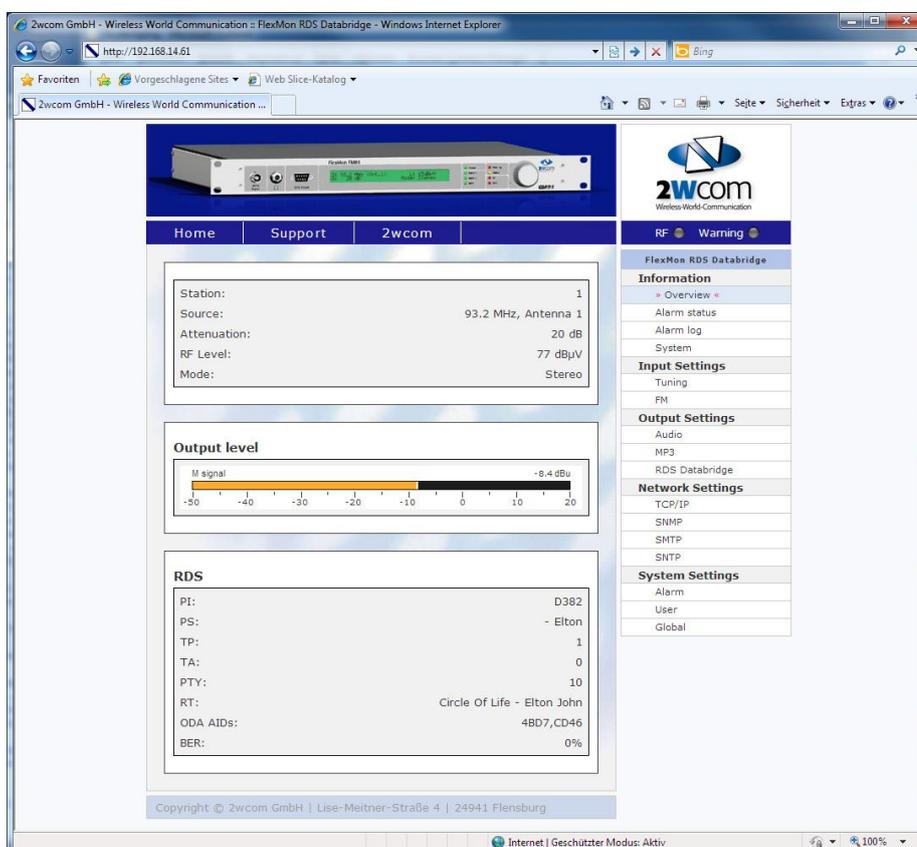
Input Setup

The FM01 allows the setup of eight individual input settings ("stations"). The setup for the eight stations can be done on the "Tuning" page. For each station you can select the input source (Antenna 1, Antenna 2, MPX Front or MPX Rear). In case of Antenna input you have to enter the frequency for that station. Additionally there's the attenuation setup in case of Antenna Input. The attenuation of the Antenna signal is needed to be able to measure the RF level correctly. In normal cases you should just leave the "Auto attenuation" checkbox selected and the FM01 will automatically select the attenuation needed.

The "Tuning" page is also the page where you can change the currently active station.

Monitoring Setup

You can monitor certain parameters with your FM01:
- RF level (get an alarm when the RF level falls below a certain value)
- Audio modulation / M signal (get an alarm, when the M signal falls below a certain value → the audio modulation is lost)
- RDS PI (getting an alarm when the PI changes; possibility of wildcards included)
- RDS PS (getting an alarm when the PS changes)
- RDS Sync (getting an alarm when the RDS Synchronization is lost; NOTE: when RDS Sync gets lost, PI and PS monitoring will be inactive and will generate NO alarms even if enabled. Please keep this in mind when you choose to monitor PI or PS – you may want to monitor RDS Sync, too)

The monitoring setup can be done on the "Alarm" page. You can do individual setups for each station. At the top of the "Alarm" page you can select the station for which you want to configure the monitoring setup. When you enter the "Alarm" page the current station is selected as default. For each parameter you can adjust to different delay times T1 and T2. T1 is the time a parameter has to be faulty before an alarm will be generated. T2 is the time a parameter has to be "good" again before the alarm will be retracted.
For each monitored parameter you can choose whether to be alarmed via SNMP, Email, one of the seven relays of the FM01 or via the Warning LED at the front of the FM01. You can also decide, if you want the alarms to be written into the Alarm Log.

Additionally you can configure to get an alarm, when the current station of the FM01 does change (useful e.g. to see the reason for the retraction of an alarm).

The Alarm Log is being displayed on the "Alarm log" page.
The status of the current monitoring is being displayed on the "Alarm status" page. A grey LED signals an inactive monitoring, a green LED active monitoring and parameter OK and a red LED active monitoring and a parameter fault.

Email/SMTP setup

You can get alarm messages from the FM01 via Email.
The setup of the Email account, to which you want the Email messages to be sent, is done on the "SMTP" page.

The "sender" address (or "return" address) needs to be set first. When you are trying to send the Email to an authoritative server, the domain of the "sender" address needs to be one of the accepted domains. The "recipient" address is the Email address, to which you want the Emails to be sent.

For the server address you have to enter either the name (e.g. "mail.gmx.net") or the IP address of your SMTP server. If you've entered the name of the SMTP server please note that you also have to enter a valid IP address for at least the Primary DNS on the "TCP/IP" page in order to enable the FM01 to resolve the SMTP server name to the actual IP address.

If your SMTP server requires user authentication, you have to check the "Use login" checkbox and enter the required username and password.

RDS Lab

RDS Lab is an external Windows application, which will allow you to see all RDS data together with your FM01.
You will find RDS Lab on the CD. It doesn't need to be installed – just copy the RDS Lab folder to a location on your hard drive, e.g. "Program Files".
When you start RDS Lab, you will see a small dialog named "IO Settings" asking for the connection parameters to your FM01. Choose "TCP/IP connection" in the combobox at the top and enter the IP address of your FM01. The port number can be changed on the "TCP/IP" page; its default value is 6668. Click "OK" to start RDS Lab. For further information about RDS Lab please refer to the manual that can be found on the CD.
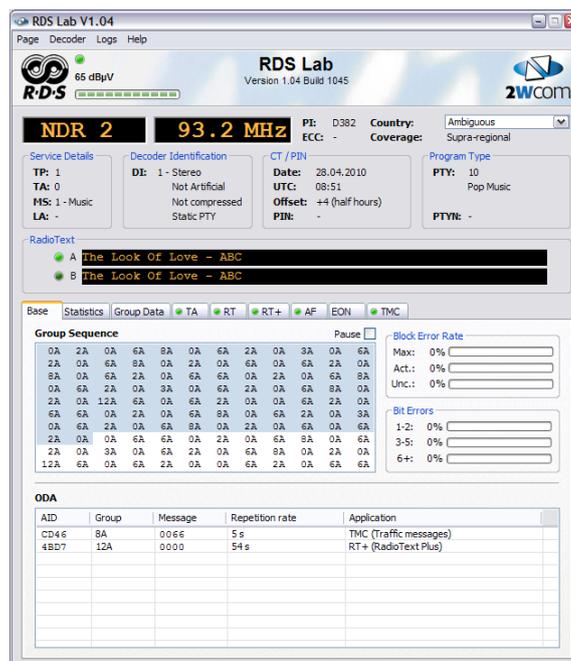
MP3

The FM01 is capable of streaming the current audio content as MP3 via TCP/IP.
You can configure the MP3 output on the "MP3" page.

To listen to the MP3 stream you need to have a Media Player, which is capable of playing SHOUTcast audio streams. A player, which does work for sure, is e.g. the free VLC media player. To listen to the MP3 stream with VLC, just select "Open Network Stream" and enter the IP address and the MP3 port of the FM01 in the form "http://address:port", e.g. "http://192.168.14.250:6667".

RDS Databridge

The FlexMon RDS Databridge allows passing dynamic RDS data from an off-air received signal to a connected RDS encoder for retransmission. This is done by decoding the dynamic RDS/RBDS parameters and building corresponding UECP commands to feed received RDS information like e.g. PS, RT, RT+, TA, TMC or ODA into a connected RDS encoder via DTE1 for retransmission.

Some data can only be transferred after being decoded completely like PI, PS, TA or RT. For each of that RDS data you can configure, if it should be transferred to the connected RDS encoder or not. Normally a UECP command would only be sent to the encoder, if the corresponding RDS data has changed. This should be sufficient in most cases. For safety reasons you may however decide to specify an additional time period in seconds for cyclic transfer. If the time has elapsed, the FM01 will unconditionally send a UECP command with the current RDS data to the encoder. Specifying a value of zero seconds (default) will transfer the data only when it changes its value.
EON-TA is special in some regards: When an EON-TA is decoded, the FM01 cannot know the PSN, in which it has to set the TA for EON-TA. This depends on the setup of the connected RDS encoder. It's therefore necessary, that you specify the PSN, if EON-TAs should be transferred. If you also want cyclic transfer for EON-TA, the PI of the EON-PSN has to be specified, too, so that the FM01 can look up the current state of the EON-TA.

Dynamic data like ODA (3A group), Inhouse (6A group) or TMC (8A group) can be 1:1 transferred as raw RDS group data using the Free Format Group (FFG) UECP command. You can individually specify, which raw RDS groups should be transferred.

There's a special handling for RT+: If you are sending RT+ data, there's the problem that the FM01 has to receive the RadioText completely at least once before it can generate the corresponding command for the connected RDS encoder. This short delay is bad for the corresponding RT+ data sent in e.g. the 12A group, as the relation between RT and RT+ is only handled by the order in which the information is received. If you enable the special RT+ handling, the FM01 will take care of the retransmission of the RT+ data; it will find the raw RDS group used for the RT+ data via the 3A group information for the RT+ AID and will delay newly received RT+ data until the corresponding RadioText has been received completely and sent to the RDS encoder to keep both in sync. You should omit the corresponding RDS group (e.g. 12A) from the direct 1:1 transfer and just enable the RT+ checkbox. The information in the 3A group should however be enabled for 1:1 transfer.

For any questions, contact:

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