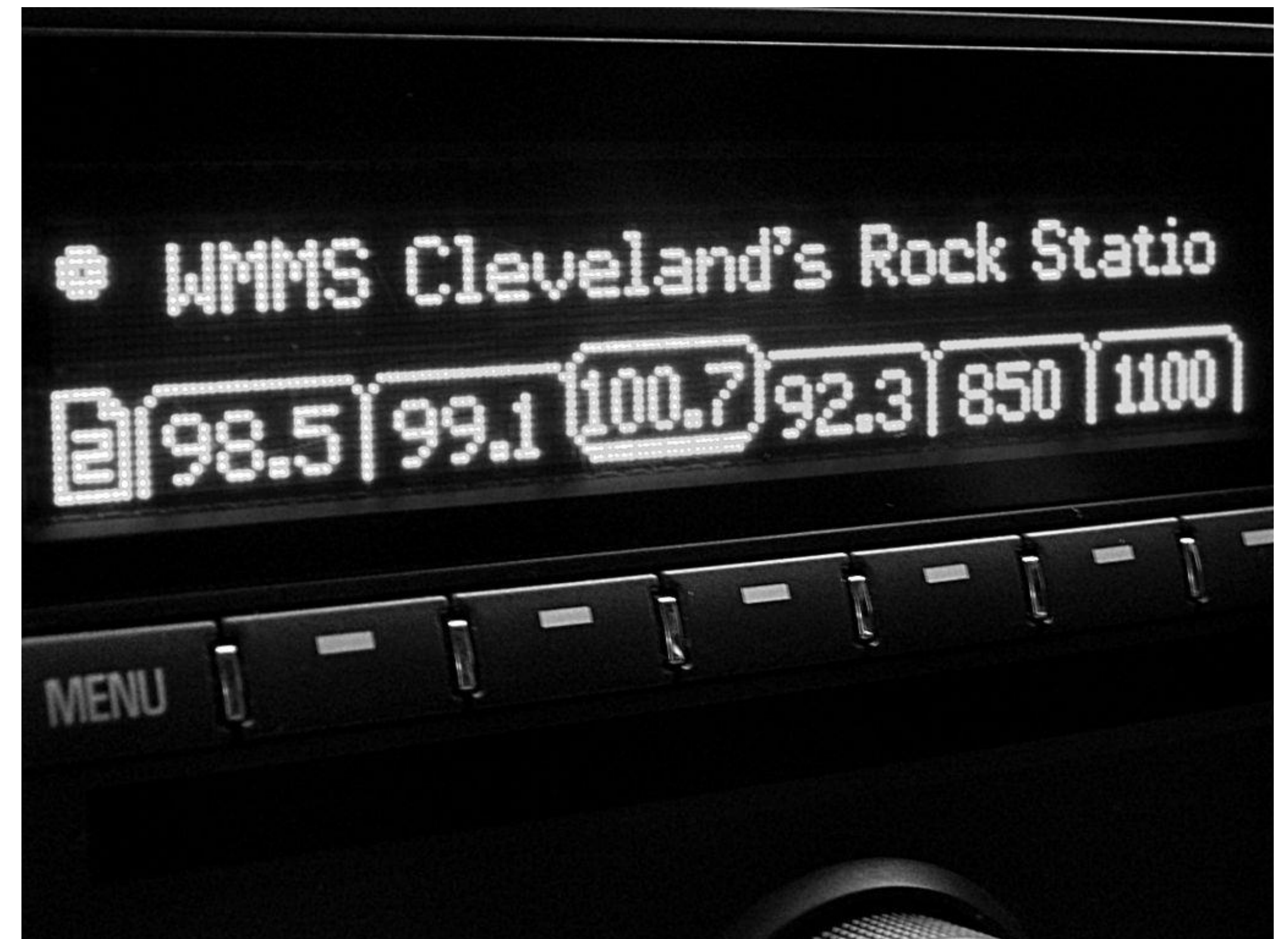




Radio Data System

The RDS (Radio Data System) is intended for application to VHF/FM sound broadcasts in the range 87.5 MHz to 108.0 MHz which may carry either Stereophonic (pilot-tone system) or Monophonic programs.

The main goals of RDS are to enable improved functionality for FM receivers and to make them more user-friendly.





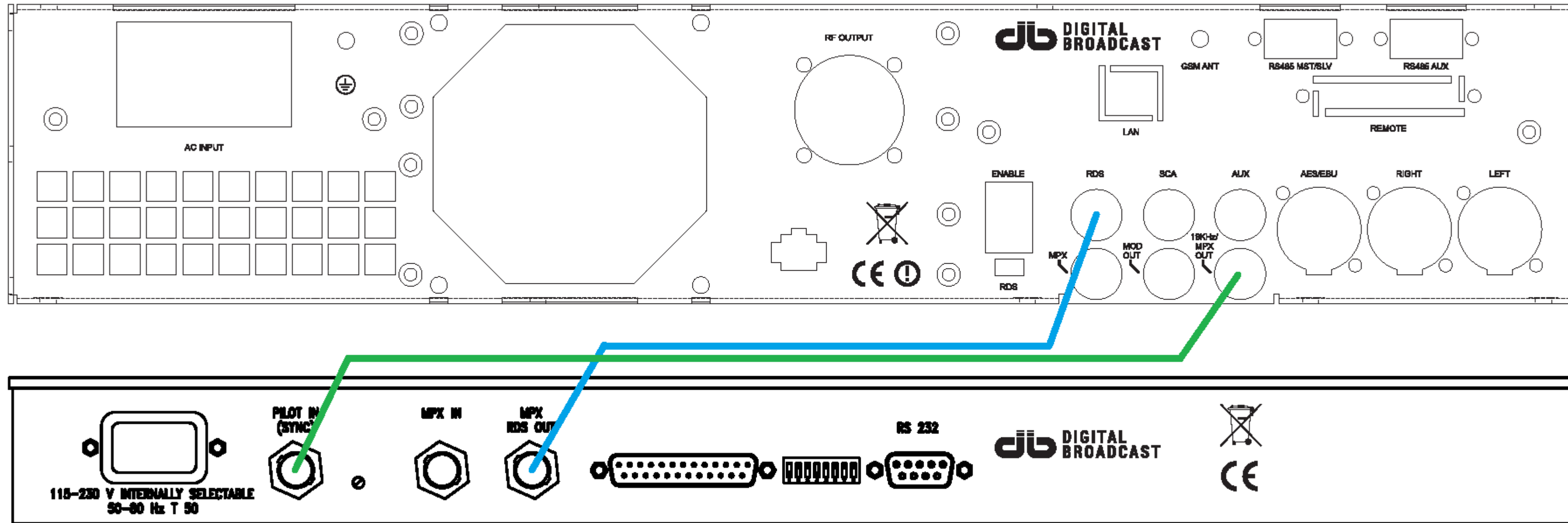
With this feature, RDS Coder, the listener's receiver can display station name, stations phone number and address, artist and title of actual song playing, traffic announcement, program type and much more by using features such as Program Identification, Program Service name display, Program related text information and where applicable, automatic tuning for portable and car radios, in particular.

In USA the system is called Radio Broadcast Data System (RBDS).

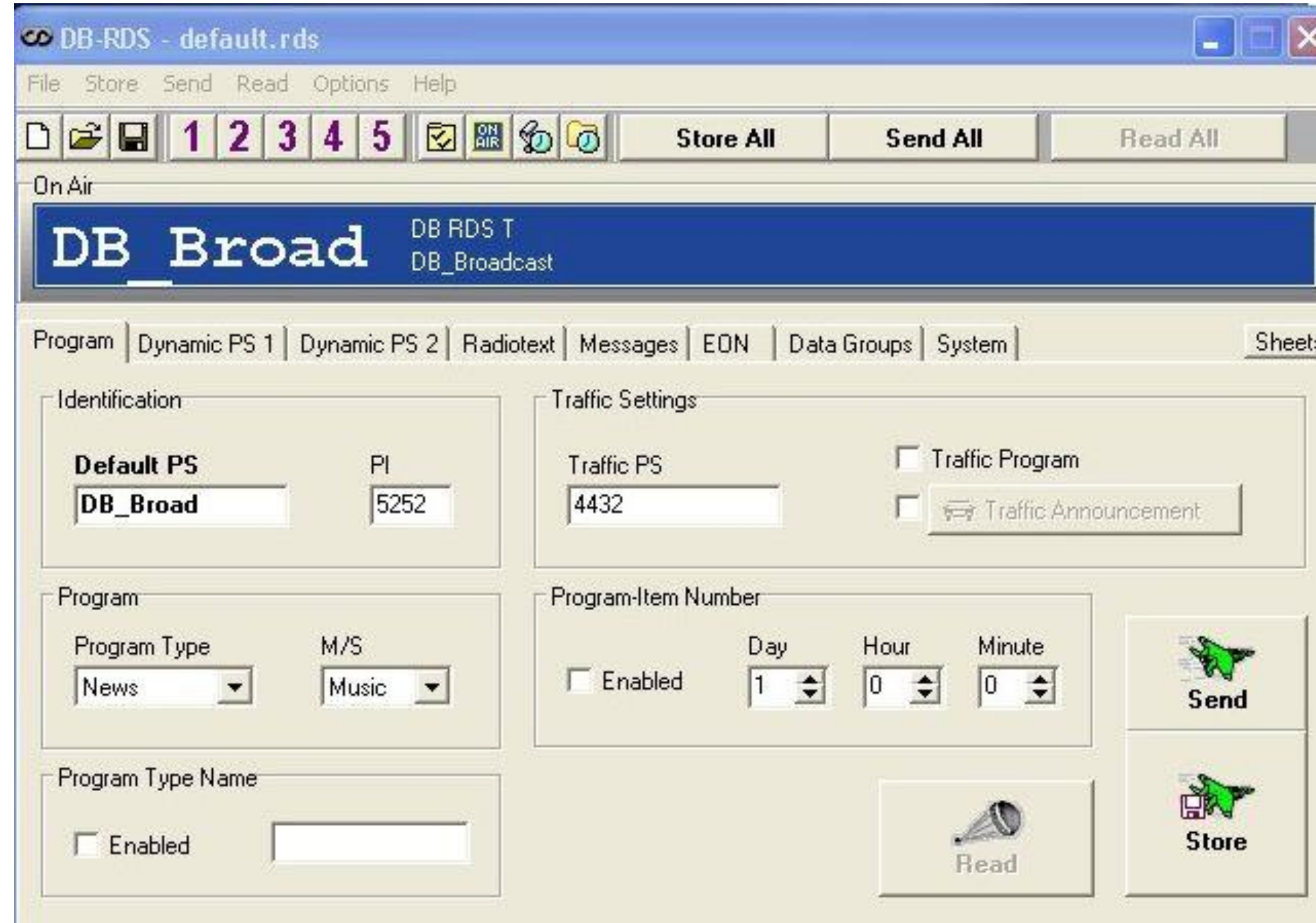
The RBDS is very similar to RDS.

The RDS Coder could be:

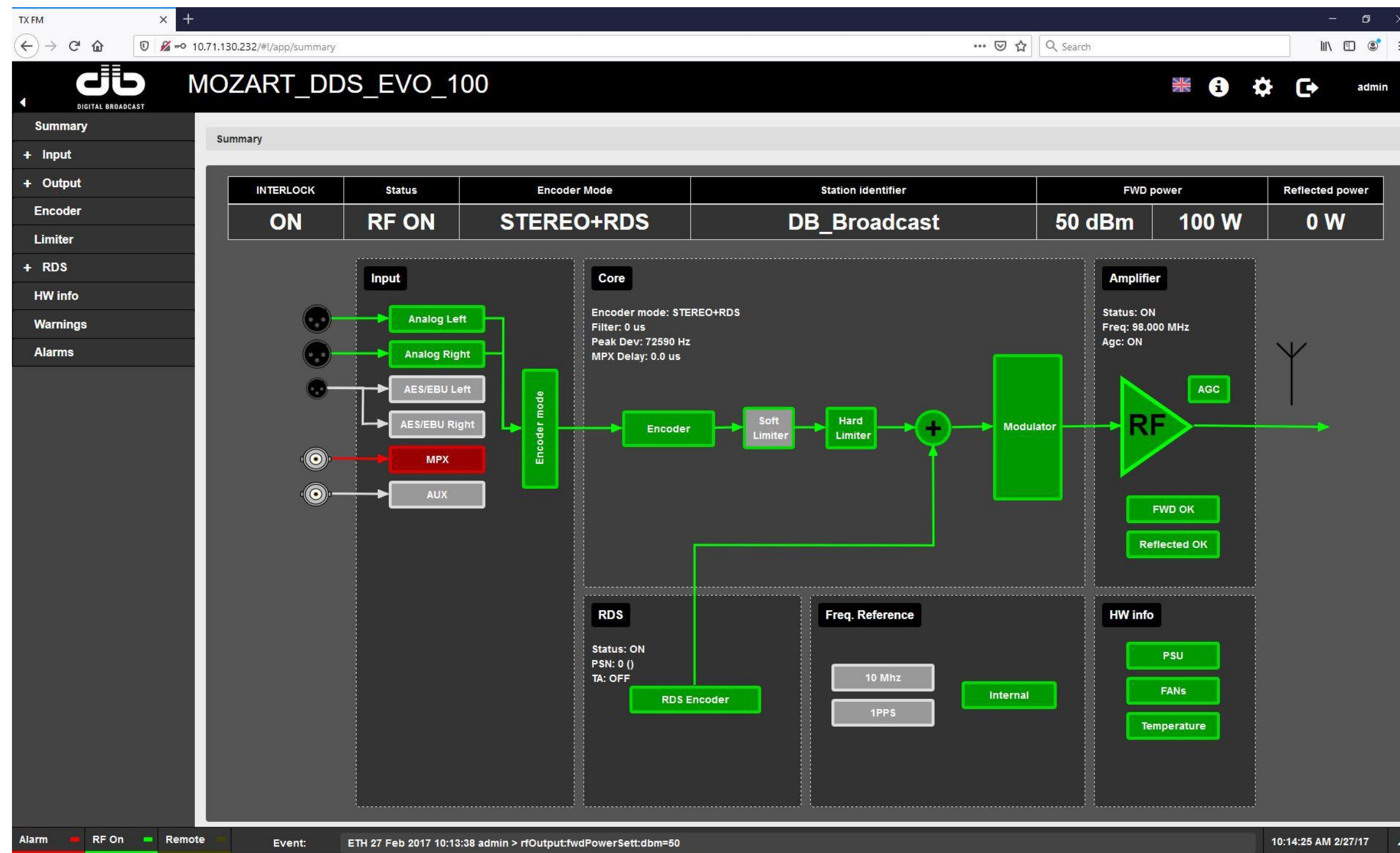
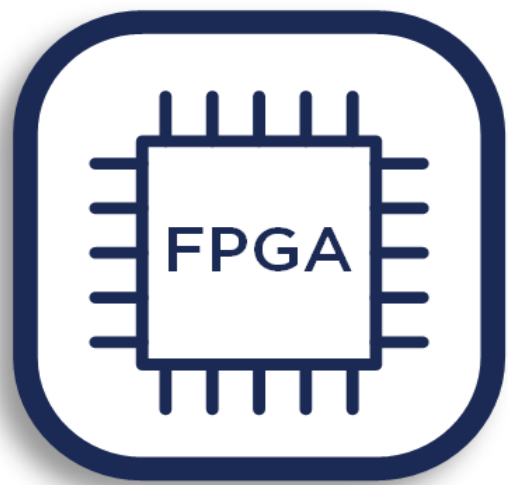
- a stand alone module outside the FM transmitter;



- a hardware module integrated in the compact modulator/transmitter, programmable via PC using dedicated software;



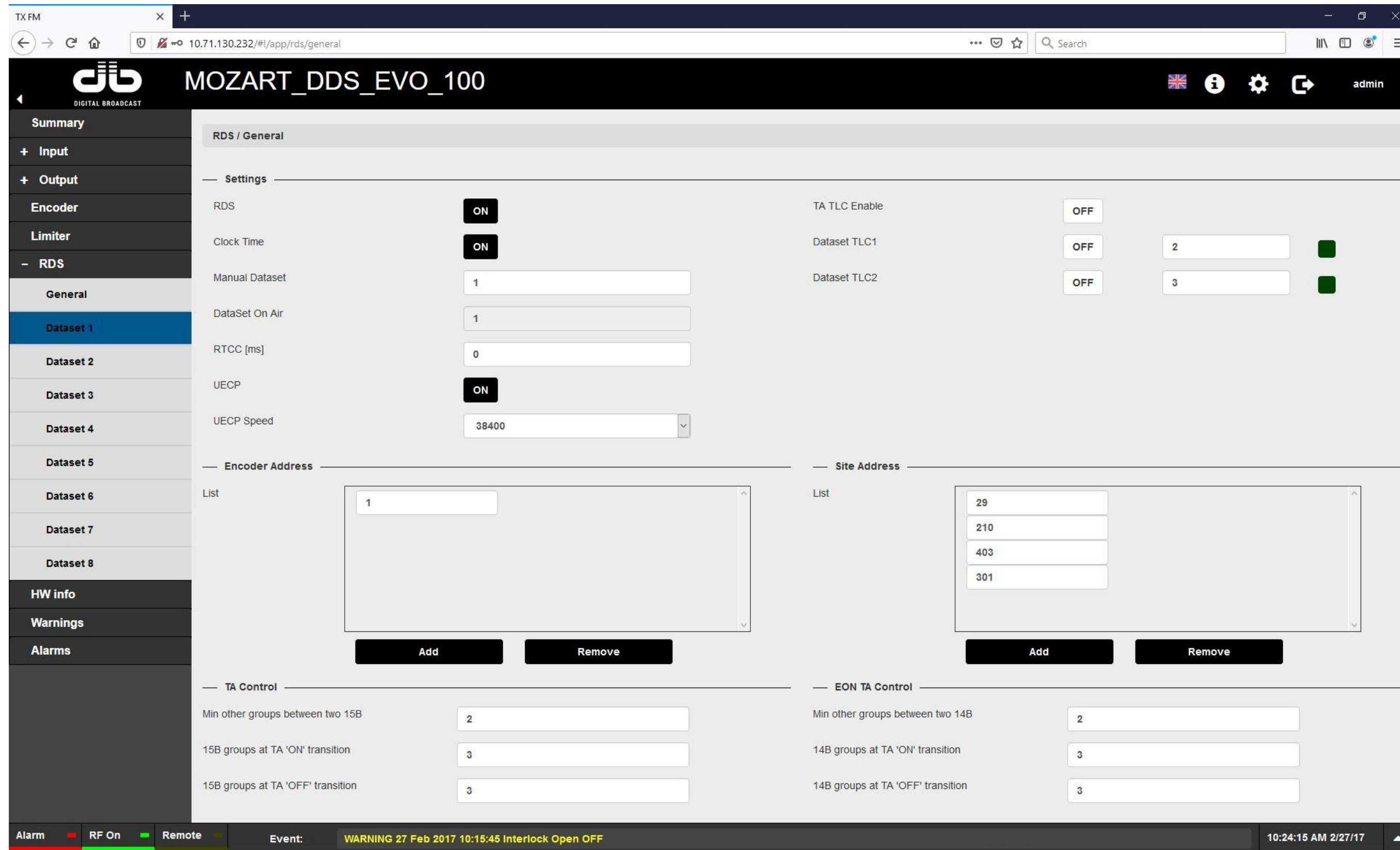
- or embedded in the software.



There are basically 2 types of RDS Coders : Static and Dynamic.

- Static means that AF, PI, PS, PTY, TA, TP, MS, DI, PTYN, RADIOTEXT parameters stay unchanged, or change rarely.

- Dynamic means that the previously enumerated parameters can be changed remotely by UECP (Universal Encoder Communication Protocol for RDS).

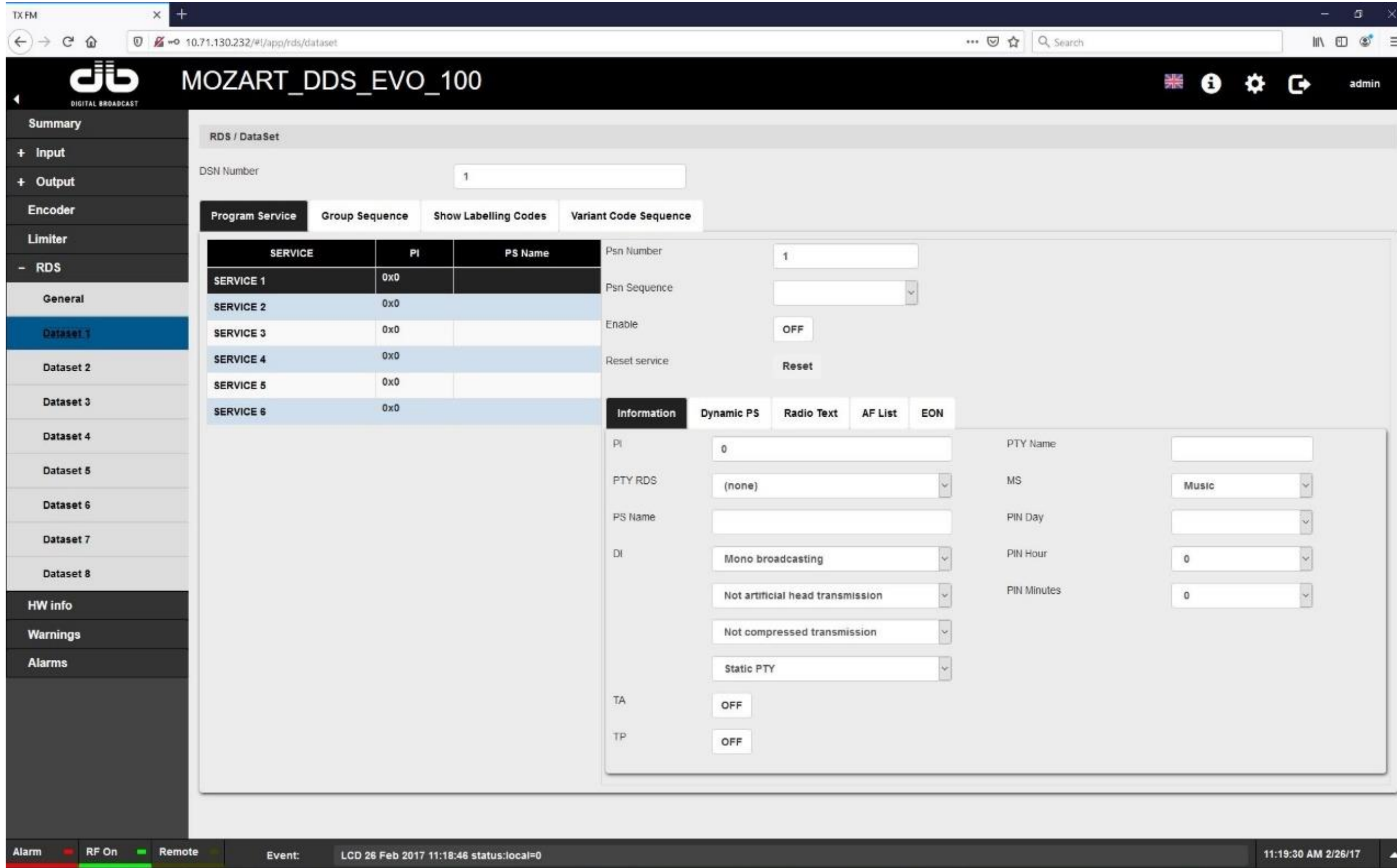


The screenshot displays the RDS / General configuration page for MOZART_DDS_EVO_100. The interface is organized into several sections:

- Settings:**
 - RDS: ON
 - Clock Time: ON
 - Manual Dataset:
 - Data Set On Air:
 - RTCC [ms]:
 - UECP: ON
 - UECP Speed:
- Encoder Address:**
 - List:
 - Buttons: Add, Remove
- Site Address:**
 - List:
 - Buttons: Add, Remove
- TA Control:**
 - Min other groups between two 15B:
 - 15B groups at TA 'ON' transition:
 - 15B groups at TA 'OFF' transition:
- EON TA Control:**
 - Min other groups between two 14B:
 - 14B groups at TA 'ON' transition:
 - 14B groups at TA 'OFF' transition:

The bottom status bar shows: Alarm (red), RF On (green), Remote (yellow), Event: WARNING 27 Feb 2017 10:15:45 Interlock Open OFF, and Time: 10:24:15 AM 2/27/17.

The UECP specification describes a universal layered protocol, based on ISO/OSI recommendations, which encompasses all current RDS features described in the most recent version of the RDS Standard (IEC/EN 62106 Ed.2 :2009-07). The model and protocol provided by the UECP specification provides a template upon which new RDS system components may be based. An encoder or network server does not need to implement all the features described, but any feature implemented should be made in accordance with the UECP specification.



The screenshot displays the RDS configuration interface for 'MOZART_DDS_EVO_100'. The left sidebar shows navigation options: Summary, Input, Output, Encoder, Limiter, RDS (selected), General, Dataset 1-8, HW info, Warnings, and Alarms. The main area is titled 'RDS / DataSet' and shows a table of services:

Program Service	Group Sequence	Show Labelling Codes	Variant Code Sequence
SERVICE 1	0x0		
SERVICE 2	0x0		
SERVICE 3	0x0		
SERVICE 4	0x0		
SERVICE 5	0x0		
SERVICE 6	0x0		

The configuration panel for the selected service includes the following fields:

- DSN Number: 1
- Psn Number: 1
- Psn Sequence: [Dropdown]
- Enable: OFF
- Reset service: Reset
- Information tab:
 - PI: 0
 - PTY RDS: (none)
 - PS Name: [Text Field]
 - DI: Mono broadcasting
 - Not artificial head transmission: [Dropdown]
 - Not compressed transmission: [Dropdown]
 - Static PTY: [Dropdown]
 - TA: OFF
 - TP: OFF
- Dynamic PS: [Text Field]
- Radio Text: [Text Field]
- AF List: [Text Field]
- EON: [Text Field]
- PTY Name: [Text Field]
- MS: Music
- PIN Day: [Dropdown]
- PIN Hour: 0
- PIN Minutes: 0

The bottom status bar shows: Alarm (red), RF On (green), Remote (green), Event: LCD 26 Feb 2017 11:18:46 status:local=0, and 11:19:30 AM 2/26/17.

UECP messages are categorized into various groups including: RDS message commands, transparent data commands, paging commands, clock setting and control, RDS adjustment and control, control and set-up commands, bi-directional commands (i.e. remote configuration commands) and specific message commands. In the latter category, manufacturer specific commands are possible using a manufacturer ID, which can be obtained from the RDS Forum.

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