

## *Quick User Guide*

# SmartGen 5.0

UECP Compatible RDS/RBDS Encoder  
with LAN, USB & RS-232 Connectivity

### → BEFORE YOU USE THIS PRODUCT ←

In order to be able to enjoy all the benefits of owning your new DEVA product, please verify first that the latest software and firmware release were installed.

Visit [www.devabroadcast.com/downloads](http://www.devabroadcast.com/downloads) for the most recent software and firmware downloads, prior the installation.

This Quick user guide will make the installation of the RDS/RBDS Encoder SmartGen 5.0 quick and easy. Applying these principles, you can simplify the process and save yourself extra time and effort. **For more information about the Safety precautions and the Operating environment recommendations please refer to the complete User Manual.**

**STEP 1** Connection

1. Install the unit on its operation place;
2. Before connecting the AC Power, make sure that the mains supply at your location matches SmartGen 5.0 Power Supply Factory Settings. The default factory settings are - 230V, 50/60Hz AC mains. For further information oh how to check the voltage selector inside the unit refer to the *complete User Manual*;
3. Configure the desired operating mode - sidechain or loop-through before the device is installed in the signal path (*For more information refer to Step 2 & Step 3*);
4. Before connecting SmartGen 5.0 to other air-chain equipment, use the WEB Interface, SmartGen Encoders Manager or the Front panel navigational menu to confirm that the encoder is properly configured;
5. In order to program the 'static' message registers and operating defaults, use the operating software or access the device via the WEB Interface. All settings should be applied before connecting the device to the air chain.

**NOTE:** We recommend testing the encoder with the controlling interface (computer, terminal, automation, etc.) before SmartGen 5.0 joins the air chain. This will confirm whether the encoder is properly initialized and two-way communication can be established.

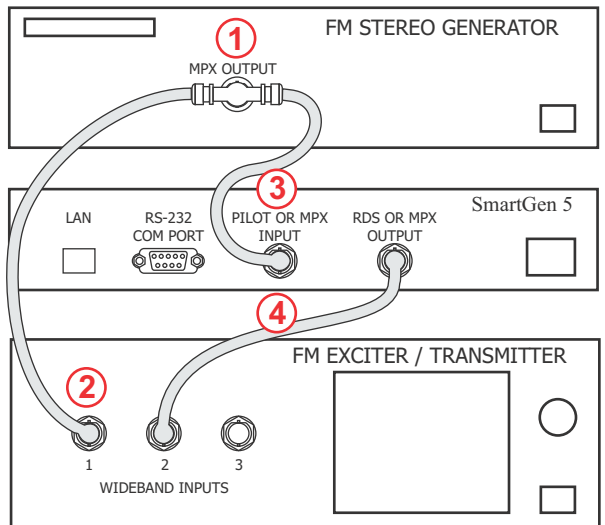
**STEP 2** Sidechain operating mode

In order to derive timing information from the 19kHz stereo pilot, the rear-panel PILOT OR MPX INPUT connector monitors the output of the stereo generator. When sidechain operation mode is chosen the RDS OR MPX OUTPUT contains only the RDS sub carrier, the composite MPX signal is not routed through SmartGen 5.0. This operating mode preserves the multiplex signal integrity and assures uninterrupted program transmission, in case of encoder failure event. Originally SmartGen 5.0 is configured for sidechain operation.

1. Connect a BNC 'T' adapter to the composite/MPX output of the stereogenerator;
2. Using a suitable cable, connect one side of the 'T' adapter directly to the wideband (composite/ MPX) input of the FM exciter;
3. Using a suitable cable, connect the other side of the 'T' adapter to the PILOT OR MPX INPUT of SmartGen 5.0;
4. Cable the RDS OR MPX OUTPUT of the encoder to the second wideband (subcarrier) input of the FM exciter.

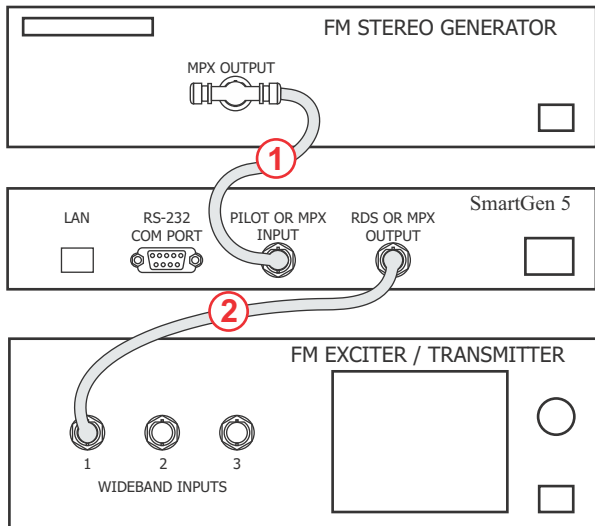
**NOTE:** We strongly recommend the usage of the Sidechain operating mode.

**"Sidechain" Encoder Connection**



**STEP 3****Loop-through operation mode**

If Loop-through operation mode is chosen, the RDS OR MPX OUTPUT includes the composite MPX program signal to the RDS sub carrier. In loop-through mode the internal bypass relay will pass-through the multiplex signal in case of an encoder power failure event.

**"Loop-through" Encoder Connection**

1. Connect the output of the stereo generator directly to the PILOT OR MPX INPUT of SmartGen 5.0;
2. Connect the RDS OR MPX OUTPUT of the encoder to the composite/MPX wideband input of the FM exciter.

**STEP 4****Configuration**

SmartGen 5.0 can be operated in three methods. Through the Front panel navigational menu, SmartGen Encoders Manager Software or via a standard WEB Browser. **For more information about the Front panel navigational menu and Software, please refer to the complete user manuals which are available at [www.devabroadcast.com](http://www.devabroadcast.com)**

**STEP 5****WEB Interface**

There are two options for access to the WEB Interface of SmartGen 5.0. The first one is through manual identification of the IP address of the device, and the second one is through the Network discovery option (*For Windows 7 and above users only*).

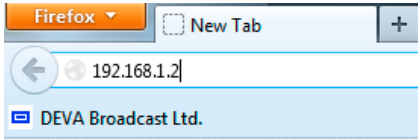
**STEP 5.1****Manual IP Address Identification**

Connect the device to a local network or to the Internet by the applied LAN cable. Through the Front panel navigational buttons find **4. NETWORK SETTINGS** menu, and press the "OK" button to enter it. This operation will visualize the screen containing information about the IP Address of the device.

```
4. NETWORK >1. IP      :192.168.020.092
SETTINGS  2. GATEWAY:192.168.020.001
```

```
4. NETWORK >5. DHCP   :Enabled
SETTINGS  6. TCP PORT 1(UCECP3): 1024
```

```
4. NETWORK  7. TCP PORT 2(UCECP4): 1025
SETTINGS >8. UDP PORT 1(UCECP5): 5001
```

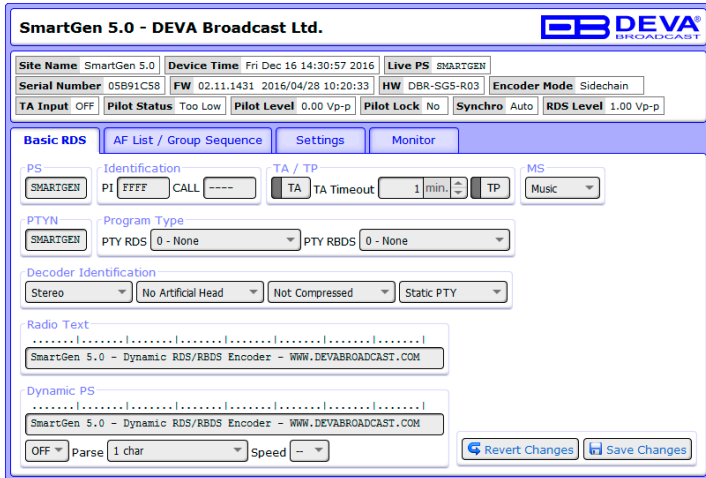


Open a new WEB Browser and enter the device IP address in the address field then press "Enter".

A window that requires username and password will appear. The default values are username: **user**, password: **pass**.

**NOTE:** Due to the inability of some WEB Browsers to read the IP address format displayed on the screen of the device, the numbers included in the IP Address must be written without the leading zeros. For example: **192.168.020.068** must be written as **192.168.20.68**

Upon successful log-in, the main window will appear. In this tab you will find all the essential RDS parameters needed for the Basic RDS applications.

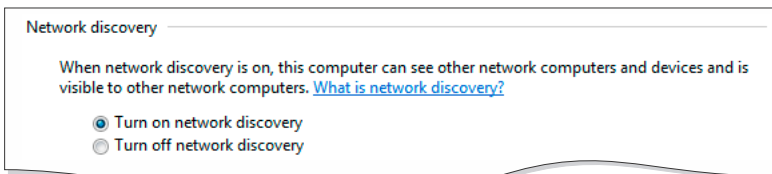


## STEP 5.2

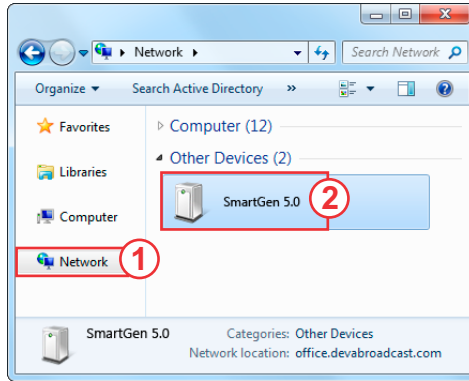
## Network Discovery for Windows 7

Network discovery is a network setting that defines whether your computer can see (find) other computers and devices on the network and whether other computers on the network can see your computer. By default, Windows Firewall blocks network discovery but you can enable it.

1. Open Advanced sharing settings by clicking the Start button, and then on "Control Panel". In the search box, type "network", click "Network and Sharing Center", and then, in the left pane click "Change advanced sharing settings";
2. Select your current network profile;
3. Click **Turn on network discovery**, and then click Save changes. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.



4. To access the device open a new Explorer bar and click on (1). If you have successfully enabled the network discovery option, the device will be displayed. Double click on (2) will open a new WEB browser window requiring username and password. The default values are username: **user**, password: **pass**.



**NOTE:** If you have already enabled this function on your computer just open a new Explorer bar and click on (1). The device must be displayed. If not follow the instructions from **Step 5.1** or **Step 5.2**

## STEP 6

## Operating Mode Configuration

By default the encoder mode is set to Sidechain. If the equipment is configured to Loop-through, the mode can be changed in the 'Advanced RDS' tab of the WEB Interface.

This screen reads the parameters for control and adjustment of the SmartGen. The unit should be properly configured for the preferred operating mode (sidechain or loop-through) before it is installed in the signal path. All the needed settings are applied in section 'Output'.

A screenshot of the SmartGen 5.0 web interface. The title bar reads 'SmartGen 5.0 - DEVA Broadcast Ltd.' and the DEVA logo is in the top right. A status bar shows: Site Name: SmartGen 5.0, Device Time: Fri Dec 16 14:33:27 2016, Live PS: SMARTGEN, Serial Number: 05B91CS8, FW: 02.11.1431 2016/04/28 10:20:33, HW: DBR-SGS-R03, Encoder Mode: Sidechain, TA Input: OFF, Pilot Status: Too Low, Pilot Level: 0.00 Vp-p, Pilot Lock: No, Synchro: Auto, RDS Level: 1.00 Vp-p. Below this are tabs for 'Basic RDS', 'AF List / Group Sequence', 'Settings', and 'Monitor'. The 'Settings' tab is active. Under 'Output', there are fields for 'Level' (1000 mVp-p), 'Phase' (0.0), 'Encoder Mode' (Sidechain), and 'Synchro Source' (Auto). There are also buttons for 'Factory Defaults', 'Restore Defaults', and 'Reboot Device'. A 'Firmware Update' section shows 'Current Firmware Version' (02.11.1431 2016/04/28 10:20:33) and a 'Firmware File' field with an 'Upload' button. At the bottom right, there are 'Revert Changes' and 'Save Changes' buttons.

*Please refer to the User manual for detailed information on how to configure and explore your device.*