STORQ 2 RBDS Setup

User Guide February 2019

Contents:

Summary:

Westwood One will provide Title and Artist information at the beginning of file playback. No data is sent during local stop sets, imaging events, network spots, or other interstitial material.

With STORQ 2, it is possible to provide your station with several types of RBDS Data. The Web GUI provides methods for setting these up, including:

- Serial/RS232 Data
- TCP Output
- UDP Output

Each method uses a shared format template setting also provided via the Web GUI. This shared template can be fed to a single Serial/RS232 output and multiple TCP/UDP output destinations.

This guide will show you how to setup the output templates, the destination settings, and review the logging for the output.

Westwood One engineering is happy to assist with any step along the way, please contact us if you require our assistance:

Email: STORQSupport@westwoodone.com
Phone: 720-873-5158
Office Hours:
Monday – Friday 9:00 AM CT – 5:00 PM CT

RS-232 Cable Pin-Out Information:

Receiver:

Pin	Sig.	Function
1	DCD	Internal pullup to 5v
2	RxD	Data Out
3	TxD	Data In
4	DTR	Not Connected
5	GND	
6	DSR	Internal pullup to 5v
7	RTS	Not Connected
8	CTS	Internal pullup to 5v
9	Ri	Internal pullup to 5v with weak current limiting

Here's your cable:

Receiver--PC

Pin 2---Pin 2

Pin 5---Pin 5

Note: Solder Pin 5 to cable shield for best performance

Receiver Defaults:

9600 Baud, 8 bits, No Parity, One Stop Bit

General Setup Information:

To get to the "Setup" Tab of the receiver, browse to the receiver's Web GUI using the IP address of the receiver. If you do not know the IP address of the receiver, it can be looked up via the front panel of the unit, or you may contact Network Operations to lookup the information for you.

From the Home Screen of the receiver's Web GUI, select the "Setup" tab.

Figure 1 - Setup Tab

Once on the "Setup" tab, you'll find 2 tabs which are necessary for setting up the output of the RBDS Data formats and destinations (if using TCP/IP).

- The "RBDS Ports" tab will contain the tools required to format the data.
- The "RBDS IP Signaling" tab will contain the tools to set up destination TCP/UDP addresses and Ports.
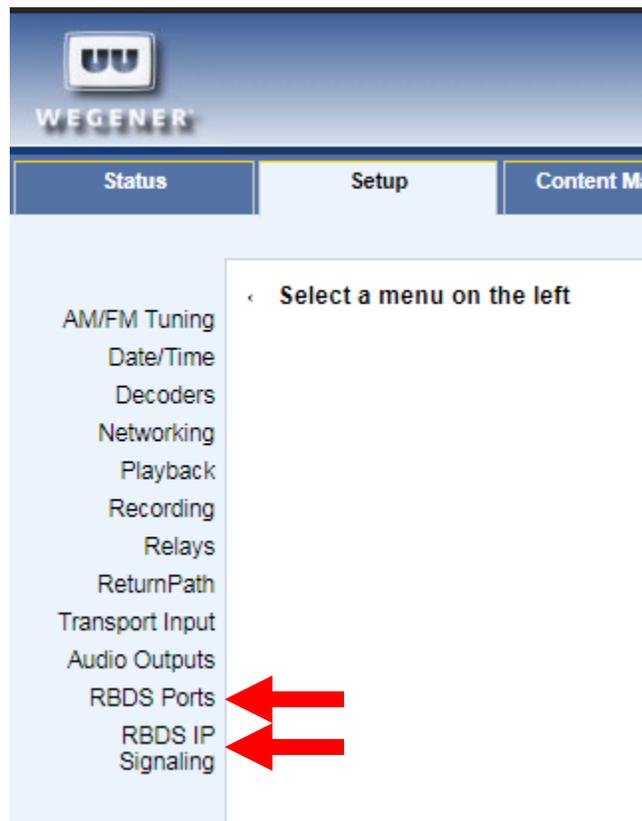

Figure 2 - RBDS Tabs

RBDS Ports Page:

Each Port on the receiver has individual settings which can be assigned specific to that Port.

An Example of Port 1 default settings are below:

RBDS Port 1 Settings	
Baud Rate (Format fixed at 8-N-1)	9600
RBDS Template (See instructions)	${TITLE};${ARTIST}

Click here to edit the RBDS IP Signaling parameters.

✎ Edit

There are 2 adjustable settings on this page:

1) Baud Rate of RS-232 output, between 1200 and 9600.
2) RBDS Format (Character) Template

To adjust either of these settings, select the light-blue "Edit" button:

RBDS Port 1 Settings	
Baud Rate (Format fixed at 8-N-1)	9600
RBDS Template (See instructions)	${TITLE};${ARTIST}

Click here to edit the RBDS IP Signaling parameters.

✎ Edit

Once "Edit" Has been selected, you can edit either of the above 2 fields. Usually, the Baud Rate will not need to be adjusted, but the Template field often does need to be edited.

RBDS Port 1 Settings	
Baud Rate (Format fixed at 8-N-1)	9600 ▾
RBDS Template (See instructions)	${TITLE};${ARTIST}

✔ Update   ⊘ Cancel

Baud Rate: This is a drop down menu, select one of 4 values to change this value.

RBDS Template: The RBDS template space is where you are able to format the output according to your needs. This output string is a simple TCP/UDP formatted packet which will contain the string as assigned in this field.

Default:

${TITLE};${ARTIST}

This results in the following out when passed:

Rodeo;Garth Brooks

Extended examples:

DPS = Now Playing ${TITLE} by ${ARTIST}

This results in the following out when passed:

DPS = Now Playing Rodeo by Garth Brooks

RBDS Port 1 Settings	
Baud Rate (Format fixed at 8-N-1)	9600 ▼
RBDS Template (See instructions)	${TITLE} by ${ARTIST} on 101.1 Today's Best Country

${TITLE} by ${ARTIST} on 101.1 Today's Best Country

This results in the following out when passed:

Rodeo by Garth Brooks on 101.1 Today's Best Country

Including Duration: You can also include the duration if desired in the string. You may include either MM:SS formatted duration or millisecond formatted duration.

Examples:

${TITLE};${ARTIST};${DURATION}

This results in the following out when passed:

Rodeo;Garth Brooks;04:12

${TITLE};${ARTIST};${MDURATION}

This results in the following out when passed:

Rodeo;Garth Brooks;252000

Notice the open and closing curly brackets required for the Title and Artist variables. Enlarged below is the character these represent:

{ open curly bracket

} close curly bracket

Failure to assign these correctly will affect the output and will fail to pass the data correctly.

Once you have assigned the settings you would like to use, select "Update" and this will save the settings. At the next song that plays on this port, the data will be fed according to your specifications.

RBDS Port 1 Settings	
Baud Rate (Format fixed at 8-N-1)	9600 ▼
RBDS Template (See instructions)	${TITLE} by ${ARTIST} on 101.1 Today's Best Country

➡️ ✓ Update ⊘ Cancel

RBDS IP Signaling Page:

This page provides the input location for destination IP and port numbers. Each Port can be set to multiple destinations.

On an initial setup, the page will look like below.

RBDS IP Signaling for Port 1

Click here to edit the RBDS port parameters and RBDS template string.

✎ Edit

RBDS IP Signaling for Port 2

Click here to edit the RBDS port parameters and RBDS template string.

✎ Edit

RBDS IP Signaling for Port 3

Click here to edit the RBDS port parameters and RBDS template string.

✎ Edit

RBDS IP Signaling for Port 4

Click here to edit the RBDS port parameters and RBDS template string.

✎ Edit

To add a destination to selected port, click "Edit", then "Add Destination". Using Port 1 as an example below:

RBDS IP Signaling for Port 1

Click here to edit the RBDS port parameters and RBDS template string.

✎ Edit

RBDS IP Signaling for Port 1

No RBDS IP signaling destinaions are defined. Click "Add Destination" below to add one.

+ Add Destination   ✓ Update   ⊘ Cancel

Once you've selected "Add Destination", you'll see the below, which allows the input of the destination info. Three pieces of information here will complete the setup:

1) Select either "udp" or "tcp" from the dropdown
2) Input the destination IP
3) Input the destination Port #

RBDS IP Signaling for Port 1

Type	IP Address	IP Port	
udp ▼			🗑

Udp/tcp selection

Destination IP — edit the RBDS port parameters and RBDS template string

Destination Port

+ Add Destination ✓ Update ⊘ Cancel

Click "Update" to save

Once filled in completely, select "Update" to store the settings. A success message will be displayed, like below.

RBDS IP Signaling for Port 1

Type	IP Address	IP Port
udp	192.168.40.100	54574

Click here to edit the RBDS port parameters and RBDS template string.

✏ Edit

✓ Successfully updated settings.

The next song element will send the data to this configured IP/Port. The setup is complete.

Viewing the Output Logging:

Data fed either via serial or TCP/UDP is logged in the "Operational" log of the receiver. To get to these logs, select the "Logs" Tab from the top of the screen.

Then, select "Operational" from the left side of the screen.

Example Logged Outputs:

Serial Data:

This data tells us that at 14:43:54.11 ET the receiver sent "Brave;Sara Bareilles" out of Serial Port #2 on 2/4/2019.

TCP Data:

This data tells us that at 11:46:49.63 ET the receiver sent "Jack & Diane; JohnMellencamp;04:11" via TCP out to IP address 192.168.40.100 on Port 53222. It also confirms that the listen socket on the remote device received and confirmed the data by the "Delivered: Yes" message.

UDP Data:

2603897 2019-05-22 11:49:37.19	IP RBDS Sent	Slot 1	Destination: Serial Port: PAD Message: Delivered?:		udp://192.168.40.100:54574 1 Uptown Funk;Mark Ronson & Bruno Mars;03:53 Unknown

This data tells us that at 11:49:37.19 ET the receiver sent "Uptown Funk;Bruno Mars;03:53" via UDP to IP address 192.168.40.100 on Port 54574. The delivery message in this case is "Unknown" as UDP cannot confirm delivery like TCP.