MAINTENANCE AND OPERATION
INSTRUCTION MANUAL

Band Scanner GPS

FM Band Spectrum Analyzer
and RDS/RBDS Decoder-Reader

12 Channel GPS Receiver

DEVA®
BROADCAST

Publish Date: 10-Jul-2023

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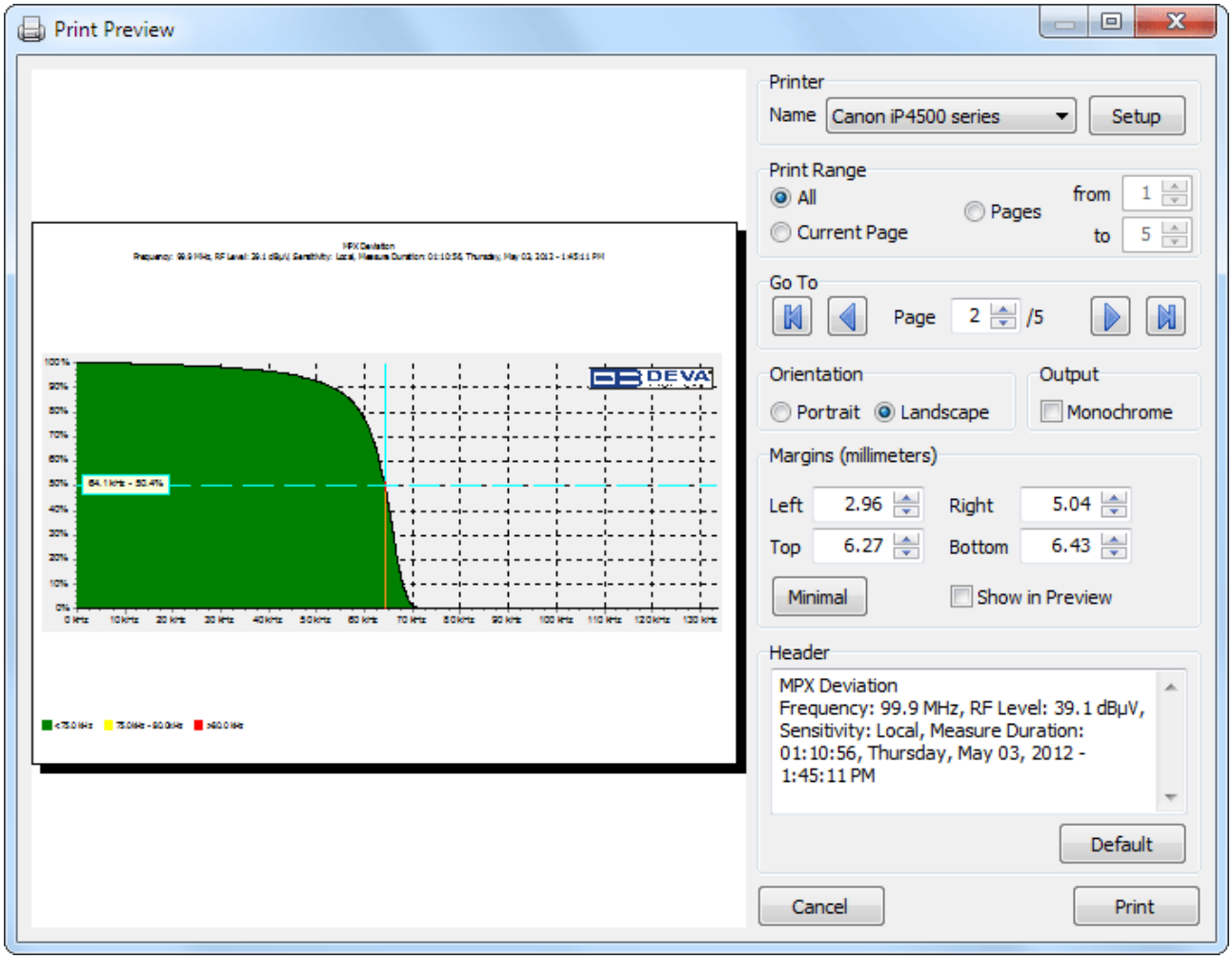
Print Capabilities



Dialog content differs from tool to tool but functionality remains the same.

Select the printer from the **Printer** drop-down. From the Setup button you can modify your Printer settings if necessary (paper size, orientation, etc.).

Print Range provides easy way to select only desired pages to be printed.

From **Go To** section can be changed currently previewed page.

Output can be set to **Monochrome** independently of printer capabilities and will automatically convert the graphic(s) from color to monochrome.

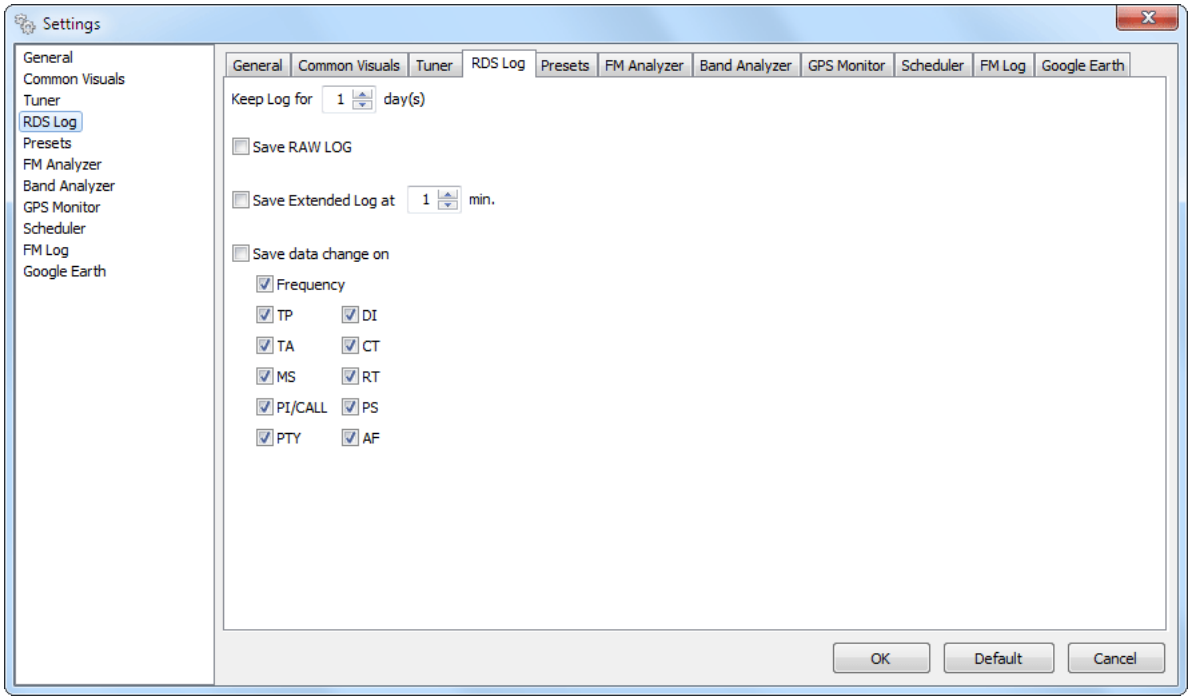
Margins allow to predefine reserved white space around graphic(s). Clicking on **Minimal** button will set margins to minimum allowed values for the printer selected. **Show in Preview** checkbox shows/hides margins in preview as dotted lines, but not include them in output.

Header can be altered into different fashions and restored to default by Default button.

After adjusting all of the properties you are able to print the graphic just by pressing the "**Print**" button.

Log Capabilities

RDS LOG SETTINGS



Keep Log – In this field you must select the length of the log in days. Maximum value: 30 days. Data older than the maximum assigned will be erased from the Log automatically (see "Automatic Log Maintenance" on page 94).

Save RAW Log – By selecting this option the saving of the RAW data stream will be enabled.
ATTENTION: "Save RAW Log" feature should be used only if is really necessary, because the RAW RDS data stream generates high capacity of stored data files. This may cause creating of big files and slowing down your PC functionality. This problem may occur when Minimal System Requirements are not covered or near minimum.

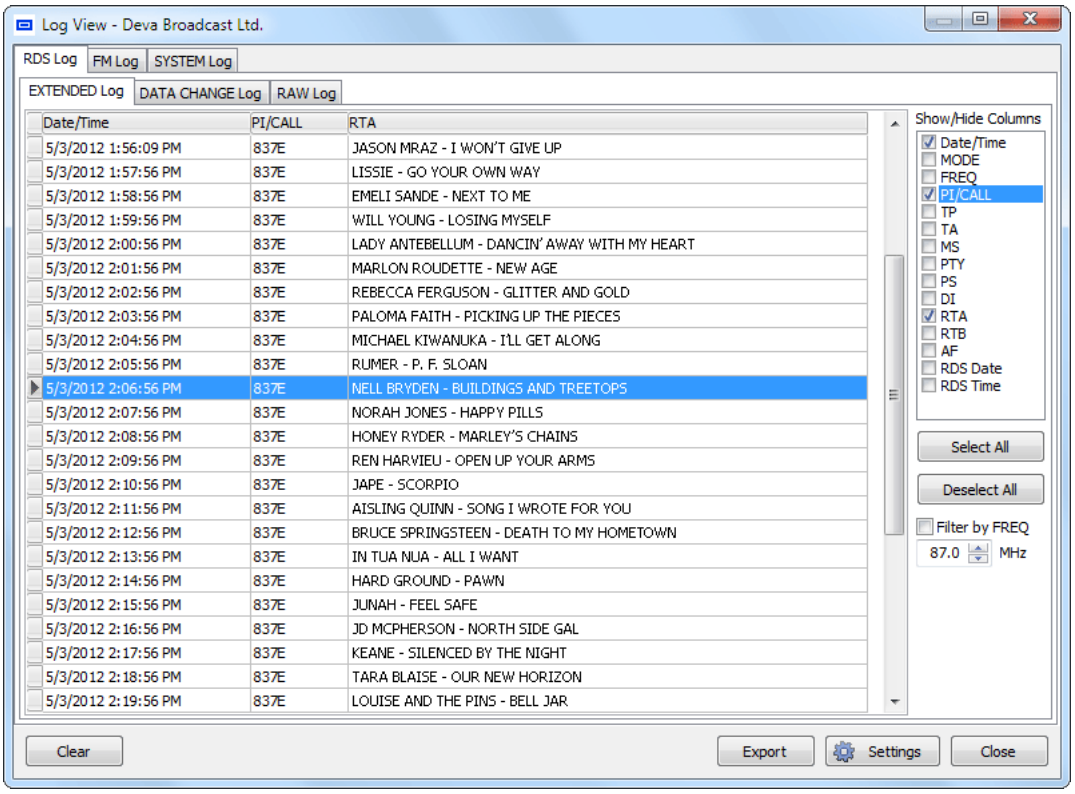
Save Extended Log – This option allows saving of the main RDS parameters and the tuner condition. The saving period may be changed up to 30 minutes.

Save data change on – Enabling this feature allows saving all of the changes, detected in listed parameters.

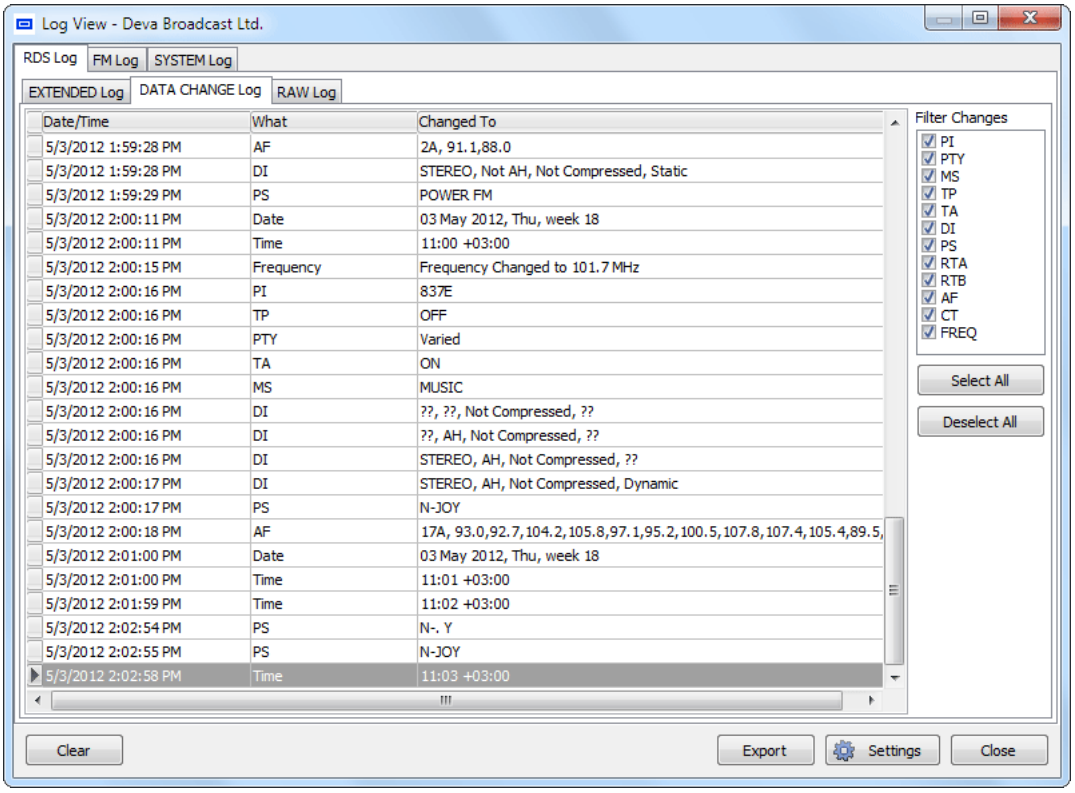
NOTE: In case of changing the working frequency or the input signal source, the "Change On" log conditions are reset and the incoming data will be treated as new.

TRACKING THE HISTORY SAVED IN THE RDS LOG

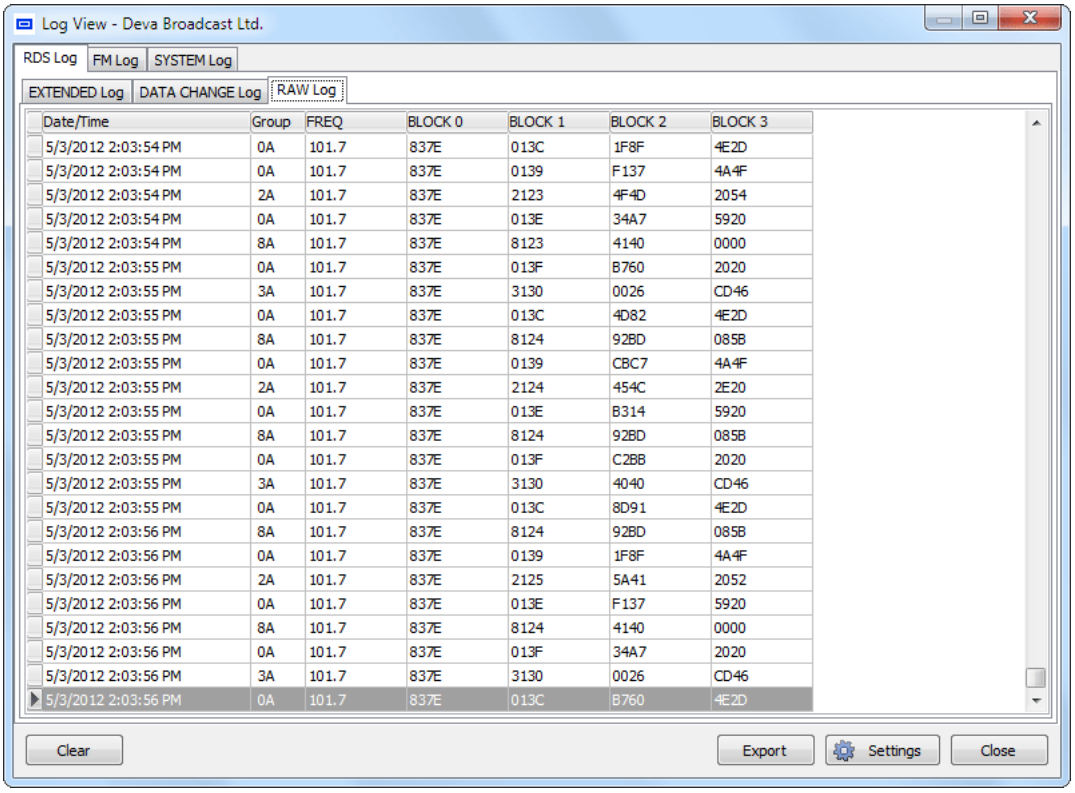
Using the LOG VIEW function allows the user to track and analyze all of the RDS data, saved in the history. Each one LOG provides access to all the actions and records accumulated by previously assigned schedule.



In the Extended Log sub window are listed main RDS parameters and tuner condition, saved at predefined period. In the right side are situated filtering options, allowing to choose preferred columns and frequency.



In the Data Change Log sub window are listed all occurred changes. In the right side are situated filtering options, allowing to choose which changes to be listed.



Date/Time	Group	FREQ	BLOCK 0	BLOCK 1	BLOCK 2	BLOCK 3
5/3/2012 2:03:54 PM	0A	101.7	837E	013C	1F8F	4E2D
5/3/2012 2:03:54 PM	0A	101.7	837E	0139	F137	4A4F
5/3/2012 2:03:54 PM	2A	101.7	837E	2123	4F4D	2054
5/3/2012 2:03:54 PM	0A	101.7	837E	013E	34A7	5920
5/3/2012 2:03:54 PM	8A	101.7	837E	8123	4140	0000
5/3/2012 2:03:55 PM	0A	101.7	837E	013F	B760	2020
5/3/2012 2:03:55 PM	3A	101.7	837E	3130	0026	CD46
5/3/2012 2:03:55 PM	0A	101.7	837E	013C	4D82	4E2D
5/3/2012 2:03:55 PM	8A	101.7	837E	8124	92BD	085B
5/3/2012 2:03:55 PM	0A	101.7	837E	0139	CBC7	4A4F
5/3/2012 2:03:55 PM	2A	101.7	837E	2124	454C	2E20
5/3/2012 2:03:55 PM	0A	101.7	837E	013E	B314	5920
5/3/2012 2:03:55 PM	8A	101.7	837E	8124	92BD	085B
5/3/2012 2:03:55 PM	0A	101.7	837E	013F	C2BB	2020
5/3/2012 2:03:55 PM	3A	101.7	837E	3130	4040	CD46
5/3/2012 2:03:55 PM	0A	101.7	837E	013C	8D91	4E2D
5/3/2012 2:03:56 PM	8A	101.7	837E	8124	92BD	085B
5/3/2012 2:03:56 PM	0A	101.7	837E	0139	1F8F	4A4F
5/3/2012 2:03:56 PM	2A	101.7	837E	2125	5A41	2052
5/3/2012 2:03:56 PM	0A	101.7	837E	013E	F137	5920
5/3/2012 2:03:56 PM	8A	101.7	837E	8124	4140	0000
5/3/2012 2:03:56 PM	0A	101.7	837E	013F	34A7	2020
5/3/2012 2:03:56 PM	3A	101.7	837E	3130	0026	CD46
5/3/2012 2:03:56 PM	0A	101.7	837E	013C	B760	4E2D

In the RAW Change Log sub window contains information on all the RAW data passed through. (see “Log Export” on page 93) (see also “Group Replayer”)

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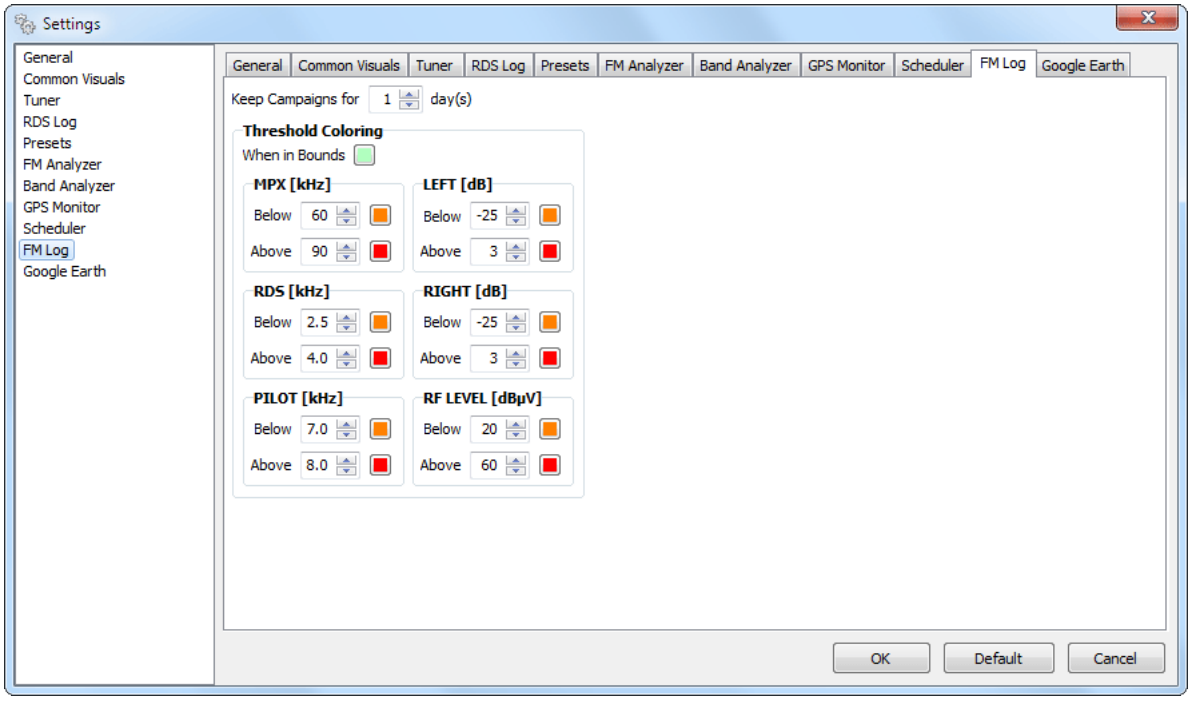
FM LOG SETTINGS

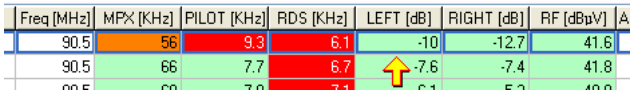


Keep Campaigns for – This field defines the time period (in days) for which the Campaigns in Log should be stored. Maximum value is 30 days. Data older than the maximum assigned period will be erased from the FM Log automatically (see “Automatic Log Maintenance” on page 94).

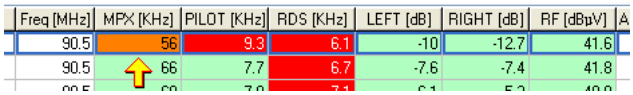
Thresholds - allows setting individual boundary for each measured parameter including color for border values.

NOTE: Thresholds are only for visual representation and don’t have influence elsewhere.

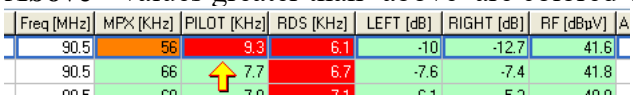
When in Bounds - Values greater than ‘below’ and lesser than ‘above’ are colored with selected color.



Below - Values lesser than ‘below’ are colored with selected color.

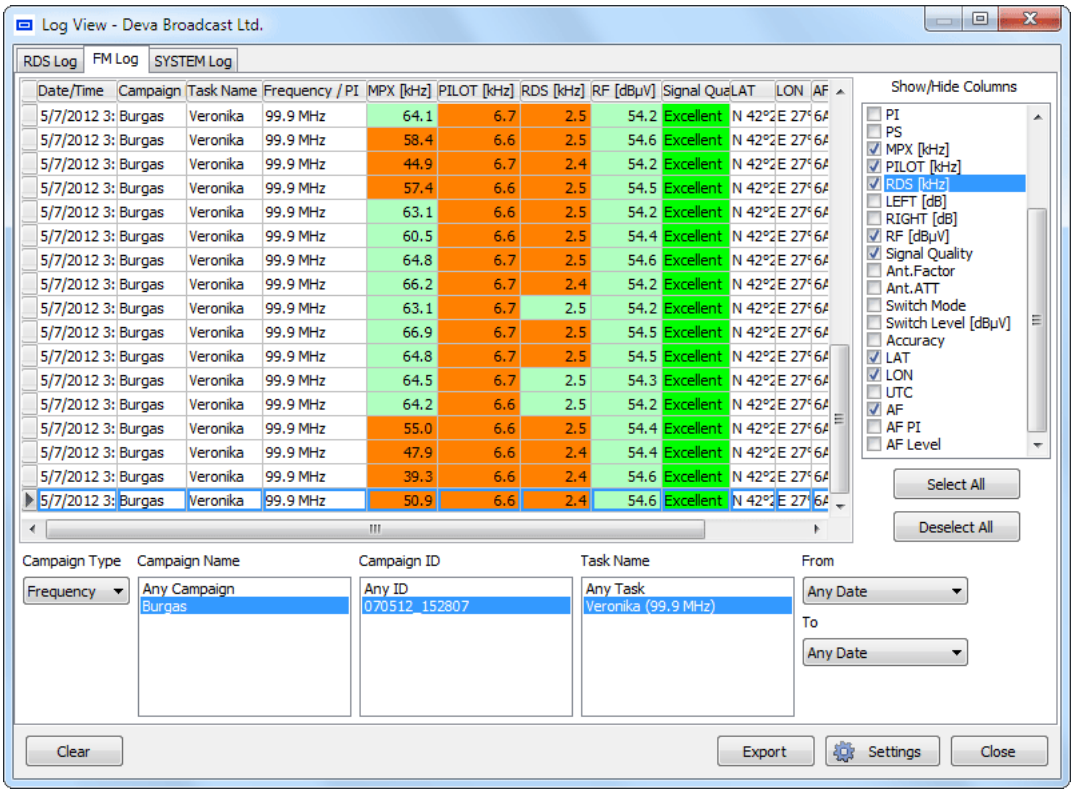


Above - Values greater than ‘above’ are colored with selected color.



NOTE: Units for MPX, RDS and PILOT depend on Tuner Mode (RDS - KHz, RBDS - %).

TRACKING THE HISTORY SAVED IN THE FM LOG



FM Log contains all data collected through Scheduling Process. At the bottom are situated refining controls which gives the possibility to extract necessary data.

Campaing Type - Exclude all Campaign Types from view except selected one. Selecting 'Any Type' shows all Types available.

Campaign Name - Exclude all Campaigns from view except selected one. Selecting 'Any Campaign' shows all Campaigns available.

Campaign ID - Exclude all IDs from view except selected one. Selecting 'Any ID' shows all IDs available within selection.

Task Name - Exclude all Tasks from view except selected one. Selecting 'Any Task' shows all Tasks available within selection (See notes below).

From - Exclude all records prior to selected date.

To - Exclude all records past selected date.

In the right side are situated filtering options, allowing to choose preferred columns.

Select/Deselect All buttons select/deselect all columns at once.

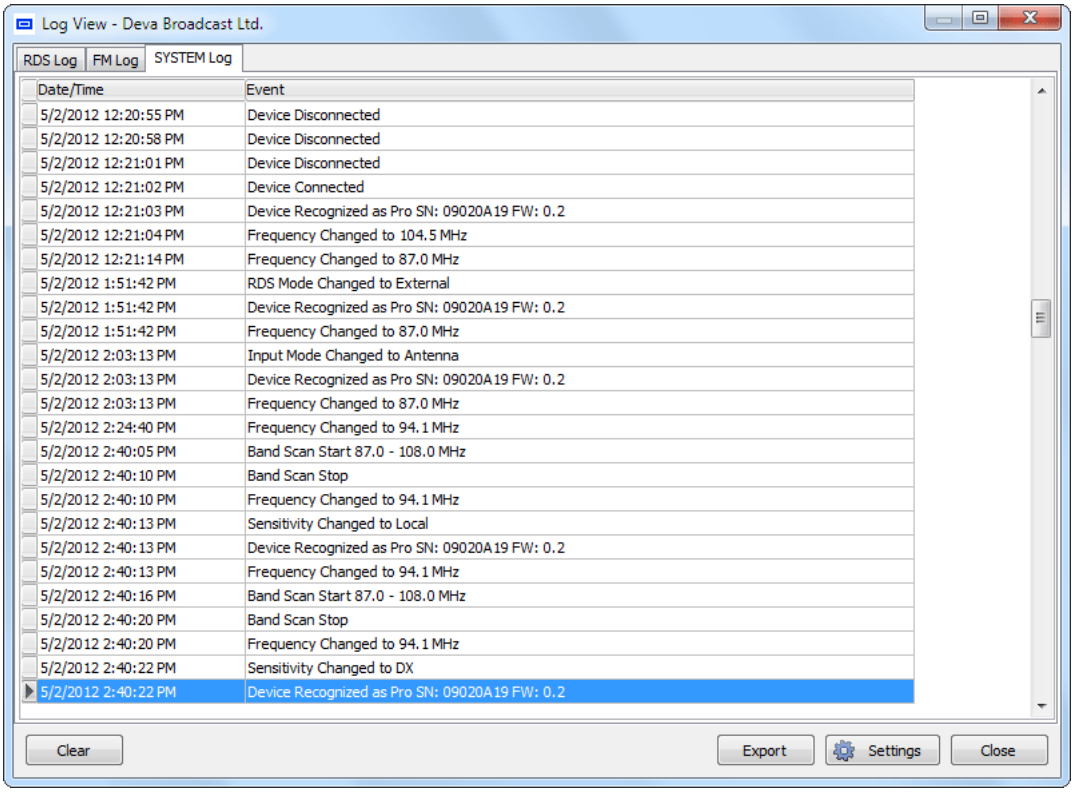
Export - Exports refined data for future use. (see "Log Export" on page 93)(see "Measurements Visualisation in Google Earth" on page 81).

Data Coloring. By coloring individual data cells it is possible to make fast conclusion which parameter is out of range (see "FM Log Settings" on page 90). Also, when exporting data to Google Earth, data coloring is applied too, but bounds are constant regarding broadcasting authorities.

Notes about Refining Back and Forth:

When refining data some strange behaviour may be experienced. This is because of indefinite property of refining controls and their close relation. Refining, especially when controls are set to 'Any' state, is obvious. Confusion comes when mixing indefinite with constant selections. Keep in mind that refining controls alter each other i.e. when changed they try to exclude redundant data from other controls. For example: selected Task for 'CMP 1' is 'Fr 99.9'. When selecting 'CMP 2', Task turns to 'Any'. Because 'CMP 2' don't include Task 'Fr 99.9', only choice remains 'Any', while trying to keep refining as close as possible. Sometimes given criteria may lead to non-existing result, nevertheless the software tries to grant only existing choices. To avoid confusion restore controls to 'Any' state and try not to mix mutually exclusive criteria.

TRACKING THE HISTORY SAVED IN THE SYSTEM LOG

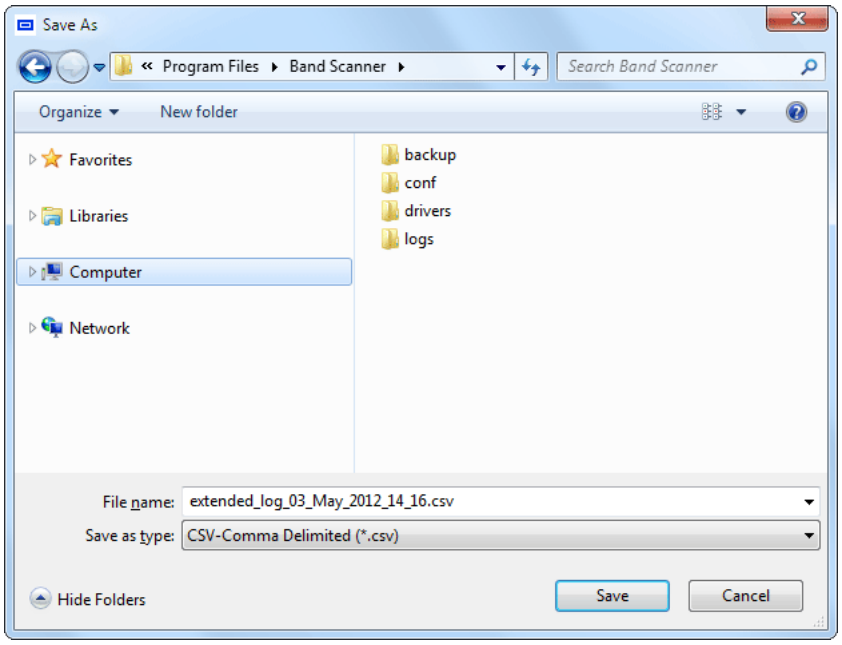


All the System messages carry information about the system's changes and have no direct influence on the RDS parameters reading.

LOG EXPORT

Regardless of type, all Logs could be exported to CSV (Comma Delimited) format (see "General Settings" on page 22) and can be opened and used with Microsoft Excel or any CSV-compatible software.

Clicking on [Export] will open 'Save As' dialog:



Exporting process automatically pre-generates suitable name, including type of log and current date.

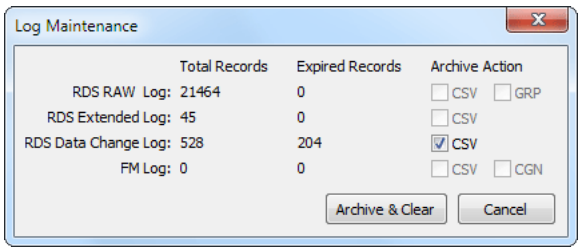
Additionally RAW Log can be saved as proprietary GRP format applicable into "Group Replayer" Tool. FM Log can be saved as proprietary CGN format for use in Measurements Visualisation in Google Earth.

NOTE: Erasing or modifying of the exported files do not cause any influence to the normal program execution.

AUTOMATIC LOG MAINTENANCE

Upon startup the Band Scanner Software performs automatic check of log retention depending on Log Settings. This helps to “fight” the log pile-up and at the same time offers possibility to backup the expired records in safe manner.

When expired records are found the following window will appear:



To Archive/Backup (and Clear afterwards) expired records, just select the suitable format for archive action and click on “Archive & Clear” button. If not sure or need to delay the maintenance process, simple click the “Cancel” button.

Backup files could be found under the “backup” folder, which resides inside the software installation (typically: C:\Program Files\Band Scanner\backup).

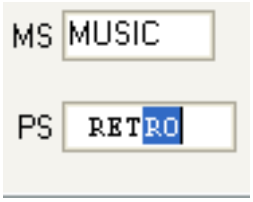
Specialities

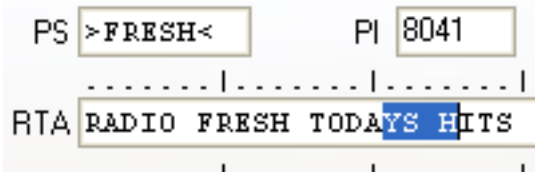
MAIN-PS OR 0AB-PS

Band Scanner program vizualizes PS in 2 different places - “Main” tab and “0AB” tab. At first glance, there is nothing in particular, but the difference is significant and may cause some misleadings!

In “Main” tab PS is visualized by “Whole PS” rule. “Whole PS” means that between 1-st and 8-th symbol there are no breakings. Even 1 missed symbol causes the rule to be wrong. This rule is used also when detecting “Change On”.

In “0AB” tab “Whole PS” rule has no use - every arrived PS symbol is visualized, no matter of the previous one or its place. Clicking inside the PS field you will notice that selection moves across the field, indicating where the current symbols were inserted. Same “selection crawl” can be found on “Main” tab along with both RT fields.





NOTE: In case the RDS stream is coming with errors, the “Whole PS” rule will be wrong at most of the cases, even PS may not be shown at all.

WHERE MY ALTERNATIVE FREQUENCIES GONE?

Sometimes the AF List on “Main” tab is constantly empty. To find them, open the “0AB” tab and find the AF Analyzer Tool. There may be a lot of reasons why this happens, but the most common ones are:

A) The tuned station doesn’t transmit AF and/or there are no “Declared AF”.

B) The program can’t “catch” all AF repetitions (errors in the stream). But AF Analyzer reports some readings. First the number of AFs must be transmitted (declared) followed by the AFs as described in the RDS/RBDS Standard. In this case the announced number of AFs doesn’t cover the received AFs, thus the program can’t specify the full AF List and indicates nothing.

APPENDIX A

RDS: EUROPE VS AMERICA

The European Broadcasting Union (EBU) and its member countries originated the concept of "Radio Data" transmission. The European RDS specification, CENELEC Standard EN50067, was first published in 1984. It was revised in 1986, 1990, 1991 and 1992.

European RDS has grown in use following initial adoption of the Standard. RDS is nearly universal throughout Europe; it is almost impossible to find a European FM broadcasting station that does not carry a radio data subcarrier.

The popularity of RDS in Europe is very much in contrast with initial reluctance on the part of US broadcasters to embrace this technology. This can be ascribed to material differences in broadcasting practices.

Almost without exception, FM broadcasting in the United States is 'detached' and independent - each station originates its own programming. America's National Public Radio might be considered as an exception, though for most of the broadcast day even NPR stations originate, or at least schedule, their own programs.

Most of European broadcasting is similar to the concept of network radio that was common in the US prior to the 1950s. In Europe, a central program originator may have many transmitting facilities of modest power situated throughout the country, at several different frequencies to blanket a designated service area. The European disposition, toward lower-power transmitters can be found on the "local radio" level, as well.

The European concept of a service area equates to the US broadcaster's market. The subtle difference between these designations further characterizes broadcasting practices and ethics. RDS benefits the European broadcaster through almost an altruistic endeavor to be of service to his listeners. The US broadcaster is marketing his programming and is primarily interested in how he can create additional revenue from RDS.

THE RDS SYSTEM

RDS is a digital data channel, transmitted as a low-level subcarrier above the range of the composite stereo program signal in the FM baseband. The data transmission (baud) rate is comparatively low, yet it is quite robust because of data redundancy and effective error correction.

It is not within the scope of this Manual to cover the details of RDS subcarrier coding and modulation. For this, the reader is directed to the Specification appropriate to his location either the CENELEC EN50067 Specification for Europe or the United States NRSC Specification. Since the Manual will deal with specific implication of RDS implemented with the Band Scanner GPS, it is assumed that the user is familiar with the RDS concept.

APPENDIX B

RDS APPLICATIONS SUPPORTED

Following is an alphabetical list of the RDS applications supported by Band Scanner GPS. The standardized RDS application abbreviation is followed by an expansion of the application name and a short explanation of the function.

AF

List of Alternative Frequencies: In order holes in the coverage area to be filled, list of all frequencies where identical program could be heard simultaneously can be included by the network broadcaster or one with low-power rebroadcast transmitters (translators). The RDS receiver (particularlythe upscale car radio) constantly searches for the best signal that carries the same program. The radio will re-tune without noticeable interruption, when a better signal is found. The principal utility of this RDS function is with European radio networks and US stations with 'translators.'

CT

Clock Time and date: Time and date codes should use Coordinated Universal Time (UTC) and Modified Julian Day (MJD). If MJD = 0, the receiver should not be updated. The listener, however, will not use this information directly and the conversion to local time and date will be made in the receiver's circuitry. CT is used as time stamp by various RDS applications and thus it must be accurate.

DI

Decoder Information: This is one of several 'flags' that convey yes/no or other very basic data. This flag helps the receiver to indicate whether the broadcast is monaural or is transmitted in any of several methods of stereo or binaural broadcasting. As many as 16 encoding options may be accommodated! This is a rather esoteric function and, thus far, remains unused both in Europe and in the US.

ECC

Extended Country Code: RDS uses its own country codes. The first most significant bits of the PI code carry the RDS country code. The four bit coding structure only permits the definition of 15 different codes, 1 to F (hex). Since there are much more countries to be identified, some countries have to share the same code which does not permit unique identification. Hence there is the need to use the Extended Country Code which is transmitted in Variant 0 of Block 3 in type 1A groups and together with the country identification in bits b15 to b12 of the PI code render a unique combination. The ECC consists of eight bits.

EON

Enhanced Other Networks information: This feature can be used to update the information stored in a receiver about program services other than the one received. The alternative frequencies-PS name, Traffic Program and Traffic Announcement identification as well as Program Type and Program Item Number information can be transmitted for each other service. The relation to the corresponding program is established by means of the relevant Program Identification. Linkage information, consisting of four data elements, provides the means by which several program services may be treated by the receiver as a single service during times a common program is carried. Linkage information also provides a mechanism to signal an extended set of related services.

EWS

Emergency Warning System: The EWS is intended to provide coding for warning messages. These messages will be broadcasted only in case of emergency and will be evaluated by special receivers.

IH

In House application: This refers to data to be decoded only by the operator. Some examples noted are identification of transmission origin, remote switching of networks and paging of staff. The applications of coding may be decided by each operator itself.

M/S

Music / Speech Switch: This flag simply indicates whether music or speech is the primary broadcast programming. The purpose of this function is not well explained in the respective Standards; hence it comes as no surprise that it is not widely used.

ODA

Open Data Applications: The Open Data Applications feature allows data applications, not previously specified in EN 50067, to be conveyed in a number of allocated groups in an RDS transmission. The allocated groups are indicated by using type 3A group which is used to identify to a receiver the data application in use in accordance with the registration details in the EBU/RDS Forum - Open Data Applications Directory and the NRSC Open Data Applications Directory.

PI

Program Identification: This block of data identifies the broadcast station with a hexadecimal numerical code, which becomes the “digital signature” of the station. The code is assigned by the broadcasting authorities in most countries, but in the US it is calculated from a numerical encoding of station call letters. The receiver processes the PI code to assist automatic tuning features (station memories), and to prevent false switching to alternative frequencies that might be shared by broadcasters in nearby regions.

PIN

Program Item Number: The code enables the designed to use this feature receivers and recorders to respond to the preselected by the user program item(s).This feature is used via scheduled program time, to which in order to avoid ambiguity is added the day of the month.

PS

Program Service Name: This is the station's "street name" that will appear on the receiver faceplate display. The PS can be up to eight characters in length (including spaces) and can be as simple as the station's call letters: KWOW or KWOW FM, or a slogan: NEWSTALK or LIVE 95. The Program Service Name is automatically displayed, even on the automobile receivers. Because of driving safety considerations broadcasters are generally discouraged from scrolling messages in this field.As a matter of fact, it is a violation of both the CENELEC and the NRSC standards to scroll the PS display, although the practice has become universally common.

PTY

Program Type: The PTY data flag identifies the station format from a collection of pre-defined categories. Many RDS receivers are able to seek the listener's preferred format automatically. This means that a car radio can switch from a fading station to a stronger one that carries the same variety of music, though not the very same program, as provided by AF switching. The PTY function of RDS helps a broadcaster catch 'transient audience' share. A listing of the PTY categories is given in "PTY Code Description Used in RBDS Mode – North America" on page 101 and "PTY Code Description Used in RDS Mode – Europe, Asia" on page 102.

Under some programming circumstances, the PTY identifier may be made 'dynamic,' changing between categories for a station that "dayparts" (changes its format for specific time periods). The PTY code is not meant to change from song to song or to accommodate a top-of-the-hour newscast, however.

PTYN

Program TYpe Name: The PTYN feature allows the predefined by the RDS/RBDS Standard PTY to be further described using user-defined text (e.g. PTY=4: Sport and PTY=8: Football). The PTYN is not intended to change the default eight characters of PTY which will be used during search or wait modes. Its purpose is to show in details the program type once tuned to a program. If the broadcaster is satisfied with the default PTY name, it is not necessary to use additional data capacity for PTYN. The Program Type Name is not intended to be used for automatic PTY selection and must not be used for giving sequential information.

RT

RadioText: This is a 64-character block of plain text that the listener can select for visual display on the faceplate of the radio by pressing an INFO button on the receiver. This function is not available on many automobile radios for safety reasons, which has precipitated the frowned-upon practice of scrolling the PS field instead.

Most radios have limited alphanumeric display capability, so the 64 characters of RadioText march across the front panel, much akin those annoying LED advertising signs found in airport buses or fast food emporia. Like the scrolling-PS implementation, RadioText can announce song titles and performers, run special promotions or contests, or broadcast sponsors' messages.

RT+

RadioText Plus is “semantic analogue radio”. It allows the RDS feature RadioText (RT) to be read by the FM RDS receiving terminals. Based on the RDS RT messages, RT+ is completely backwards compatible with RT. The usage of RT+ allows the listener/user to derive additional benefits from the RDS Radio Text service. It enables FM RDS receivers to “read” Radio Text (to recognize designated objects and make them manageable) by user’s direct access to specific elements of the Radio Text messages. For example, that element could be programme associated metadata like Title and Artist of the currently playing song or a news headlines. This provides the listener with an “mp3-player feeling” while listening to analogue FM radio. The elements can also carry additional service messages or information about the Radio Station such as the telephone number or the web address of the Radio Station’s hotline. These objects, or more accurately RT+ information elements carried in the RDS RadioText (RT) messages, are identified by their location within the RT messages and by the class code of their content type. Once an information element is received and understood, a receiver is able to, for example, store the different RT+ information elements and the listener may then select and request a specific content type from the radio’s memory at an instant in time that suits the listener’s needs. Thus the listener is no longer forced to watch the RT information passing (scrolling) by. Moreover, RT+ offers selected RT message elements to car drivers on a static display, without risk of distracting the attention of the driver. Furthermore, RT+ is well suited for mobile phones with built-in FM receivers: telephone numbers can be directly used to initiate calls, and web addresses can be used to start browsing the web content offered by the radio programme provider. Last but not least, RT+ is also used for satellite radio broadcasting via DVB-S. It may be adopted by DRM and DAB in the future, too.

TA

Traffic Announcement: This is a temporary flag added to the RDS data stream only as a traffic bulletin is being aired. Some RDS car radios can be set to search for traffic bulletins among various TP stations (see TP below) while tuned to a listener’s preferred program, or even while playing a tape or CD. As soon as any TP station broadcasts a traffic bulletin, the receiver temporarily switches-over to receive it. When the bulletin is finished, the receiver switches back to the original program, tape or CD.

TDC

Transparent Data Channels: The transparent data channels consist of 32 channels, which may be used to send any type of data.

TMC

Traffic Message Channel: This feature is intended to be used for the coded transmission of traffic information.

TP

Traffic Program Identification: The TP flag identifies the station as one that routinely broadcasts traffic bulletins for motorists as part of its normal, everyday programming. When the TP flag is displayed on the receiver faceplate, the radio is searching for traffic announcements. The radio keeps track of TP stations offering this service to speed up the search-and-switch process.

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APPENDIX C.1

PTY Code Description Used in RBDS Mode – North America

PTY	Short Name	Description
1	News	News reports, either local or network in origin.
2	Information	Programming that is intended to impart advice.
3	Sports	Sports reporting, commentary, and/or live event coverage, either local or network in origin.
4	Talk	Call-in and/or interview talk shows either local or national in origin.
5	Rock	Album cuts.
6	Classic Rock	Rock oriented oldies, often mixed with hit oldies, from a decade or more ago.
7	Adult Hits	An up-tempo contemporary hits format with no hard rock and no rap.
8	Soft Rock	Album cuts with a generally soft tempo.
9	Top 40	Current hits, often encompassing a variety of rock styles.
10	Country	Country music, including contemporary and traditional styles.
11	Oldies	Popular music, usually rock, with 80% or greater non-current music.
12	Soft	A cross between adult hits and classical, primarily non-current softrock originals.
13	Nostalgia	Big-band music.
14	Jazz	Mostly instrumental, includes both traditional jazz and more modern “smooth jazz.”
15	Classical	Mostly instrumentals, usually orchestral or symphonic music.
16	Rhythm and Blues	A wide range of musical styles, often called “urban contemporary.”
17	Soft R and B	Rhythm and blues with a generally soft tempo.
18	Foreign Language	Any programming format in a language other than English.
19	Religious Music	Music programming with religious lyrics.
20	Religious Talk	Call-in shows, interview programs, etc. with a religious theme.
21	Personality	A radio show where the on-air personality is the main attraction.
22	Public	Programming that is supported by listeners and/or corporate sponsors instead of advertising.
23	College	Programming produced by a college or university radio station.
24	Spanish Talk	Call-in shows, interview programs, etc. in the Spanish language
25	Spanish Music	Music programming in the Spanish language
26	Hip-Hop	Popular music incorporating elements of rap, rhythm-and-blues, funk, and soul
27-28	Unassigned	
29	Weather	Weather forecasts or bulletins that are non-emergency in nature.
30	Emergency Test	Broadcast when testing emergency broadcast equipment or receivers. Not intended for searching or dynamic switching for consumer receivers. Receivers may, if desired, display “TEST” or “Emergency Test”.
31	Emergency	Emergency announcement made under exceptional circumstances to give warning of events causing danger of a general nature. Not to be used for searching - only used in a receiver for dynamic switching.

NOTE: These definitions can differ slightly between various language versions.

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APPENDIX C.2

PTY Code Description Used in RDS Mode – Europe, Asia

PTY	Short Name	Description
1	News	Short accounts of facts, events and publicly expressed views, reportage and actuality.
2	Current affairs	Topical program expanding or enlarging upon the news, generally in different presentation style or concept, including debate, or analysis.
3	Information	Program the purpose of which is to impart advice in the widest sense.
4	Sport	Program concerned with any aspect of sport.
5	Education	Program intended primarily to educate, of which the formal element is fundamental.
6	Drama	All radio plays and serials.
7	Culture	Programs concerned with any aspect of national or regional culture.
8	Science	Programs about the natural sciences and technology.
9	Varied	Used for mainly speech-based programs usually of light-entertainment nature, not covered by other categories. Examples include: quizzes, games, personality interviews.
10	Pop	Commercial music, which would generally be considered to be of current popular appeal, often featuring in current or recent record sales charts.
11	Rock	Contemporary modern music, usually written and performed by young musicians.
12	Easy Listening	Current contemporary music considered to be “easy-listening”, as opposed to Pop, Rock or Classical, or one of the specialized music styles, Jazz, Folk or Country. Music in this category is often but not always, vocal, and usually of short duration.
13	Light classics	Classical Musical for general, rather than specialist appreciation. Examples of music in this category are instrumental music, and vocal or choral works.
14	Serious classics	Performances of major orchestral works, symphonies, chamber music etc., and including Grand Opera.
15	Other music	Musical styles not fitting into any of the other categories. Particularly used for specialist music of which Rhythm & Blues and Reggae are examples.
16	Weather	Weather reports and forecasts and Meteorological information.
17	Finance	Stock Market reports, commerce, trading etc.
18	Children’s programs	For programs targeted at a young audience, primarily for entertainment and interest, rather than where the objective is to educate.
19	Social Affairs	Programs about people and things that influence them individually or in groups. Includes: sociology, history, geography, psychology and society.
20	Religion	Any aspect of beliefs and faiths, involving a God or Gods, the nature of existence and ethics.
21	Phone In	Involving members of the public expressing their views either by phone or at a public forum.
22	Travel	Features and programs concerned with travel to near and far destinations, package tours and travel ideas and opportunities. Not for use for Announcements about problems, delays, or roadworks affecting immediate travel where TP/TA should be used.
23	Leisure	Programs concerned with recreational activities in which the listener might participate. Examples include, Gardening, Fishing, Antique collecting, Cooking, Food & Wine etc.
24	Jazz Music	Polyphonic, syncopated music characterized by improvisation.
25	Country Music	Songs which originate from, or continue the musical tradition of the American Southern States. Characterized by a straightforward melody and narrative story line.
26	National Music	Current Popular Music of the Nation or Region in that country’s language, as opposed to International ‘Pop’ which is usually US or UK inspired and in English.
27	Oldies Music	Music from the so-called “golden age” of popular music.
28	Folk Music	Music which has its roots in the musical culture of a particular nation, usually played on acoustic instruments. The narrative or story may be based on historical events or people.
29	Documentary	Program concerned with factual matters, presented in an investigative style.
30	Alarm Test	Broadcast when testing emergency broadcast equipment or receivers. Not intended for searching or dynamic switching for consumer receivers.. Receivers may, if desired, display “TEST” or “Alarm Test”.
31	Alarm	Emergency announcement made under exceptional circumstances to give warning of events causing danger of a general nature. Not to be used for searching - only used in a receiver for dynamic switching.

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WARRANTY TERMS AND CONDITIONS

I. TERMS OF SALE: DEVA Broadcast Ltd. products are sold with an understanding of "full satisfaction"; that is, full credit or refund will be issued for products sold as new if returned to the point of purchase within 30 days following their receipt, provided that they are returned complete and in an "as received" condition.

II. CONDITIONS OF WARRANTY: The following terms apply unless amended in writing by DEVA Broadcast Ltd.

A. The Warranty Registration Card supplied with this product must be completed and returned to DEVA Broadcast Ltd. within 10 days of delivery.

B. This Warranty applies only to products sold "as new." It is extended only to the original end-user and may not be transferred or assigned without prior written approval by DEVA Broadcast Ltd.

C. This Warranty does not apply to damage caused by improper mains settings and/or power supply.

D. This Warranty does not apply to damage caused by misuse, abuse, accident or neglect. This Warranty is voided by unauthorized attempts at repair or modification, or if the serial identification label has been removed or altered.

III. TERMS OF WARRANTY: DEVA Broadcast Ltd. products are warranted to be free from defects in materials and workmanship.

A. Any discrepancies noted within TWO YEARS of the date of delivery will be repaired free of charge, or the equipment will be replaced with a new or remanufactured product at DEVA Broadcast Ltd. option.

B. Parts and labor for factory repair required after the two-year Warranty period will be billed at prevailing prices and rates.

IV. RETURNING GOODS FOR FACTORY REPAIR:

A. Equipment will not be accepted for Warranty or other repair without a Return Material Authorization (RMA) number issued by DEVA Broadcast Ltd. prior to its return. An RMA number may be obtained by calling the factory. The number should be prominently marked on the outside of the shipping carton.

B. Equipment must be shipped prepaid to DEVA Broadcast Ltd. Shipping charges will be reimbursed for valid Warranty claims. Damage sustained as a result of improper packing for return to the factory is not covered under terms of the Warranty and may occasion additional charges.

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PRODUCT REGISTRATION CARD

• All fields are required, or warranty registration is invalid and void

Your Company Name_____

Contact_____

Address Line 1_____

Address Line 2_____

City_____

State/Province_____ ZIP/Postal Code_____

Country_____

E-mail_____ Phone_____ Fax_____

Which DEVA Broadcast Ltd. product did you purchase?_____

_____

_____

Product Serial #_____

Purchase date_____/_____/_____ Installation date_____/_____/_____

_____
Your signature*

*Signing this warranty registration form you are stating that all the information provided to DEVA Broadcast Ltd. are truth and correct. DEVA Broadcast Ltd. declines any responsibility for the provided information that could result in an immediate loss of warranty for the above specified product(s).

Privacy statement: DEVA Broadcast Ltd. will not share the personal information you provide on this card with any other parties.