

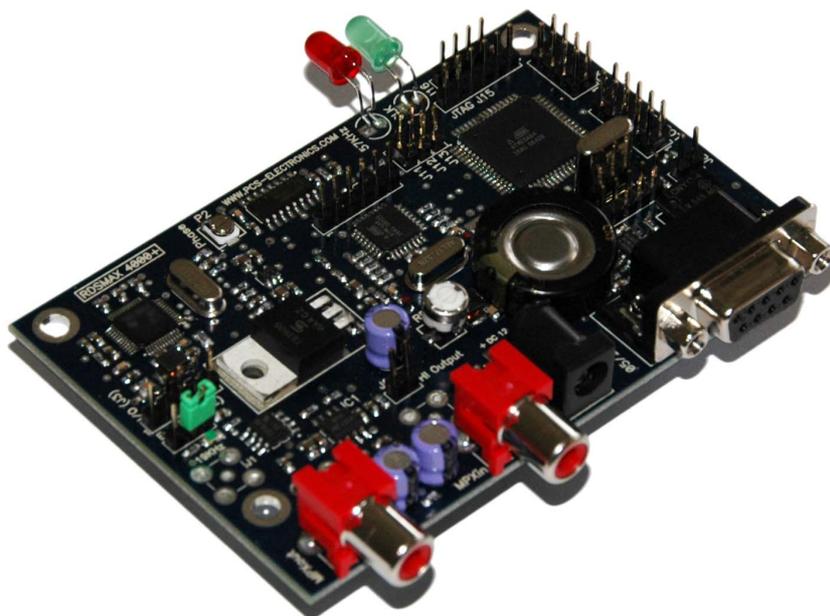


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RDSMAX 4000+ (07/2007)

New professional Digital Rds Encoder



The new RDSMAX 4000+ is a new high performance RDS (Radio Data System) encoder with Digital Signal Processors (DSP). This complete redesign replaces our RDSMAX 30 and brings new features & greatly enhanced performance. 3 built-in DSP processors, high quality manufacturing and new software all help to bring out the best possible RDS experience. This encoder will finally provide your MAXPRO 3+ or any other FM exciter with professional RDS capability. Digital over-sampled RDS carrier synthesis and sharp band-pass filters ensure clean RDS signal and reliability you can depend upon. RDSMAX 4000+ scrolls PS faster than previous versions and supports more PS than you'll ever need. Compatibility with any RDS tuner out there is not a problem. RDSMAX 4000+ can also pick up MP3 ID tag from Winamp and send it as PS or RT to your RDS-enabled receiver. Jazler support is assured via compatibility with the RDS MAX 30. In short, if you're using your PC and WinAmp or Jazler/Zarasoft (others are coming soon) to play your audio over the transmitter, now you'll finally be able to send the song and artist name to your listeners!

RDS MAX comes with MPX feed-through function, meaning all you have to do is connect it between the stereo encoder and the transmitter. RDSMAX 4000+ is perfect for a demanding, but cost-conscious broadcaster. High quality components and printed circuit board assure 24/7 operation for years.

Why is RDSMAX 4000+ so great?

- Extended number of PS to 100 (more than that are not practical for the GUI, although there is lots of SRAM space left so e-mail if you need more).
- Faster PS scrolling now possible, now as well for external switchable messages.
- Completely glitch-free under all conditions.
- Optional LCD display shows all important RDS parameters including PS, RT, TA, TP, TIME, DATE, PTY etc.
- 8 external messages now supported, up to 64 characters each, scrollable.
- No problem with any RDS radio tuner out there
- If you have RDS MAX 3.0 already, you're eligible for a rebate (email us)
- High quality RDS signal, provided by 3! separate on-board processors
- Basic EON support
- TA jumper on the board, for easy and convenient TA toggle
- Full protocol details and basic windows driver are freely available if you want to experiment with the unit



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Why is RDSMAX 4000+ better than RDSMAX 30?

- New high-quality board manufacturing technology
- More PS, faster scrolling
- Improved reliability and a number of other enhancements
- Rock-solid solid-state memory design, will retain RDS data for 45 years minimum (not battery based anymore)
- New optional LCD module supports a number of views and shows PS/RT as it will show on radios/tuners!
- Radical board redesign (admit it, it's a beauty)
- Fully-featured RealTimeClock, including leap years

Technical specifications:

- Requires DC stabilized voltage, 11-18V/0.2A
- MPX output Impedance: 75 Ohms, unbalanced
- MPX input Impedance: 10K Ohms, unbalanced
- Memory data retaining period: 45 years
- On-Board real-time-clock data retaining period without power supply: 1-2 days
- PC Board Size: 98x65mm (compatible to RDSMAX30 including holes)
- Audio connectors: all RCA jacks are mounted on the board, place for optional MCX provided
- Power jack: on board, 2.1mm, center positive
- RDS carrier: 57KHz, phase locked to stereo pilot or internally generated (mono)
- RDS carrier level: 0 - 2V, adjustable with jumper and trimmer; (HI 0-2V) and (LO 0-1V)
- RS232 port speed: 2400, 14400 or 19200 or 38400bps, selectable with jumpers
- High Quality Digitally Generated RDS carrier with additional LC filter
- Audio Input/Output Level: 0 dB (input level is preserved at output - no level change by the unit)
- Maximum MPX audio level: handles up to 8Vpp max without distortion
- RS232 connector on the PCB for connectivity with a PC
- True Galvanic Isolation from RS232 (PC) port, preventing ground loops (hum), a feature not found in competing units
- Included program supports all Windows flavors! Jazler and Zarasoft are supported (use 14400bsp port speed).

This encoder will work independently from the PC (memory stays unchanged for at least 45 years after power-off, RTC-clock keeps running for 1-2 days without power, which can be extended with extra battery).

If you want to play with the windows driver, a basic version is included on the installation CD so you can start immediately (it is written in Visual Basic60). Entire protocol has been simplified and is now really easy to use.

What do the jumpers and controls do?

- J1: External 19KHz pilot input (make sure J2 is set to the left to enable external input)
- J2: Pilot extraction selection (LEFT: External input | RIGHT: Extraction from MPX/Audio input)
- J3: Optional I/O break-out board (Pin1: GND, Pin2: 19KHz pilot input, Pin3: GND, Pin4: +12V, Pin5: RDS out)
- J4: MPX output, to the FM transmitter
- J5: MPX input, to the stereo encoder
- J6: RDS carrier level selection (Installed=high 0-2V, not installed=low 0-1V)
- J7: RS232 connector, connect to the PC via 1:1 cable (RS232 extension cable)
- J8: Currently not used
- J9: Optional external LCD module
- J10: Selectable external messages, connect 8 switches here, each switch connects to ground when active
- J11 and J12: Baud Rate selection jumpers

J11	J12	Baud Rate
Installed	Installed	38400bps (for fastest updates)
Installed	Not Installed	2400bps (for very long cable runs)
Not Installed	Installed	19200bps
Not Installed	Not Installed	14400bps (RDSMAX30 compatibility)

J13: TA override jumper (to use set TA to 1 in Windows and connect switch to this jumper for manual control)

J14: Optional I/O break-out board, enables USB or COM port connectivity

J15, J16: Not used

J17: Power supply, 11-18V, center is positive, use stabilized power supply (500mA)

P1: RDS carrier level adjustment

P2: RDS carrier phase adjustment trimmer

D1: GREEN – must blink at all times

D2: RED – pilot locked to 19KHz when this LED is OFF



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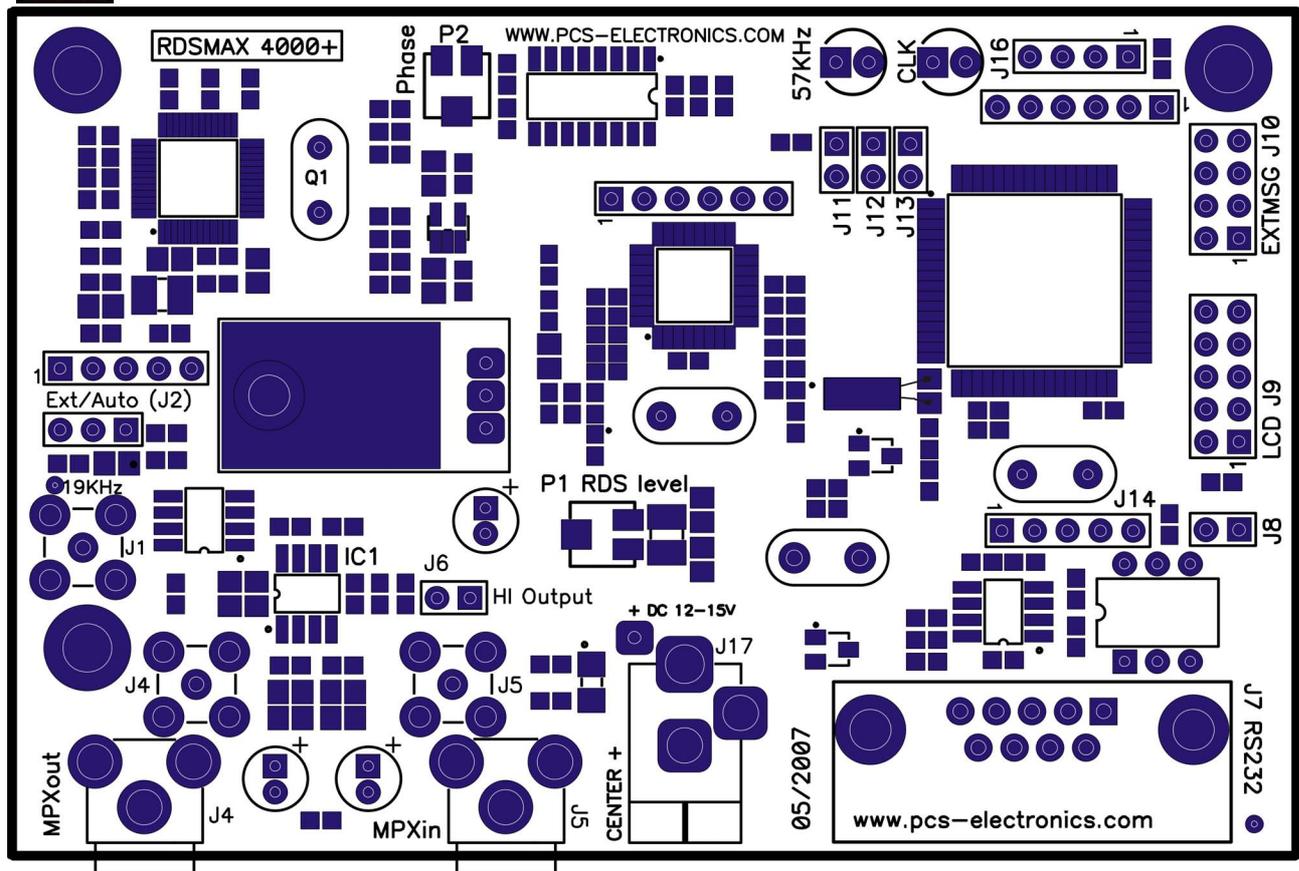


Fig. 1: RDSMAX 4000+ board layout

BRIEF INTRODUCTION TO RDS (RADIO DATA SYSTEM FOR VHF/FM BROADCASTING)

The use of more and more frequencies for radio programs in the VHF/FM range makes it increasingly difficult to tune a conventional radio to a desired program. This kind of difficulty is solved with the Radio Data System, that has been on the market since 1987, and whose spectacular evolution is still continuing. RDS has by now conquered all receiver price classes and one can easily imagine that it will soon be part of the standard equipment of any radio receiver.

The development of RDS started some 20 years ago in the European Broadcasting Union, EBU. The developers aimed at making radio receivers very user-friendly, especially car radios when these are used where a transmitter network with a number of alternative frequencies (AF) are present. In addition listeners should be enabled to see the program service name (PS) on an eight character alpha-numerical display and the transmitter frequency information, displayed on non-RDS radios, is then only used, in the background, by an RDS radio. All this has become possible by the using, for many years, microprocessor controlled PLL tuner technology, permitting a radio to be retuned within milliseconds. During this process the audio signal is muted which because of the short time is usually not detected by the ear. Thus, the radio is able to choose the transmitter frequency, among a number of alternatives that gives the best quality reception. It is also sure that the switch-over is made to exactly the same program service by performing a kind of identity check using the program identity (PI) code.

Travel information with RDS is possible using the Travel Program (TP) and Travel Announcement (TA) flags. Information is broadcast for motorists, identified in parallel with the ARI system with the corresponding RDS features TP/TA. But ARI is being replaced on a European scale, so it will cease after the year 2005. A more recent development of RDS is the digitally coded Traffic Message Channel (TMC) which is now planned to be introduced all over Europe, within projects funded by the European Union. However, present RDS radios are not yet suitable for RDS-TMC.

Once a radio is tuned to a program service broadcast within a network, using the RDS feature Enhanced Other Networks (EON) additional data about other programs from the same broadcaster will be received. This enables the listener, according to his choice, to have his radio operating in an automatic switch-mode for travel



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information or a preferred Program Type (PTY, e.g. News) and this information comes from a service that, at a given time, does not necessarily contain such travel information nor even broadcasts the desired program type.

Many of the Hi-Fi home tuners or receivers at this IFA implement, apart from the usual RDS features (PI, PS, TP,TA, AF), some of the newer features such as Program Type-PTY, Radiotext-RT and Clock-Time, displaying the time/date.

RDS is absolutely future proof and will not be replaced by DAB, at least until such time as when FM broadcasting ceases to exist and this, for sure, is not going to happen within the next 20 years, in spite of the breathtaking developments of the new era of digital broadcasting.

HERE IS WHAT YOU NEED TO USE RDSMAX 4000+

POWER SUPPLY

This unit is designed to work with a power supply or even a wall-wart that gives 11-18V at 200mA, provided it has a good smoothing cap (any noticed hum is a result of a poor power supply). You can connect the DC supply by inserting the plug into J17 (center is positive!). A proper stabilized power supply is recommended.

ENCLOSURE

If you want to make your own, use aluminum or other metal, small ventilation holes are recommended. Fix the PCB with all screws tightly and place a metal distancer under the 7805 regulator to ensure heat transfer to the enclosure. There should be a shield between the exciter and the encoder, if you have them both in the same enclosure. Attractive and predrilled enclosure of exact size with all the apertures is readily available and cheap; please check our website for details and pricing.

FM EXCITER (TRANSMITTER)

You will need a FM transmitter which will transmit the RDS signal to receivers. RDSMAX 4000+ has been designed specifically for the MAX family of transmitters, but can be used with any other FM exciter with either MPX input or RDS input. You can also insert this unit between the stereo encoder and the exciter.

FM RECEIVER (RADIO)

It is good to have a RDS-enabled radio handy; you will need it to setup the encoder and verify proper operation, if nothing else. Optional LCD display unit is extremely useful as well for this purpose and can be set to display PS and RT, time and date, the usual parameters and status.

CIRCUIT DESCRIPTION

Audio signal from the stereo encoder or any other audio source, if your setup is MONO, enters the RDS encoder through MPX in. Special DSP circuitry with very sharp filters extracts the stereo carrier, if there is one, and locks the 57 KHz RDS carrier to the 19 KHz pilot. If there is no stereo pilot to lock-on to, unit uses its own 57 KHz pilot. Locked PLL is indicated by RED led turning off (57KHz).

A small on-board computer calculates RDS data and produces modulation waveforms which are filtered with sharp pass-band filters and anti-aliasing filters. Signal is then mixed with the input MPX and sent out through MPX out. This is where you will connect your transmitter and obtain full RDS operation.

SETUP AND TESTING

Clean-up the desk and carefully unwrap the package. Depending on the configuration of the purchased RDS encoder you will either find just the PCB with the CD or the encoder mounted into an enclosure with encoder and serial cable. We do not always send the CD since some countries enforce strict regulations pertaining to import of CDs (Mexico is a good example). If your CD is missing simply download your driver from our website. You will find it under Support. Quickly check the PCB for any defects inflicted during shipping. If all checks out fine, proceed to the next step.

RDSMAX 4000+ is quite easy to setup (see picture below for typical setup). What we do have to do however is:

- 1.) Connect cables (MPX in, MPX out, power and serial cable to PC)
- 2.) Optimally adjust RDS carrier level (a bit more than needed to get your radio receiver nearby going)

Below is a picture of a typical setup, stereo encoder, FM transmitter and RDS encoder. Make sure you use coaxial (microphone) shielded cable. Connect centre conductor to ground. We'd like to point out here that you



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should keep the wires short and mount this setup in an enclosure or separate enclosures. Also connect COM or USB port to your PC and connect all power connections to the power supply.

This should cover 90% of installations, but there are those special cases where some extra work might be needed. Still, with a little patience, good instructions and steady hand it should be a breeze. If you're stuck at some point, don't hesitate to contact us with your questions. Note that we have a Forum on our website; you can post your questions there also.

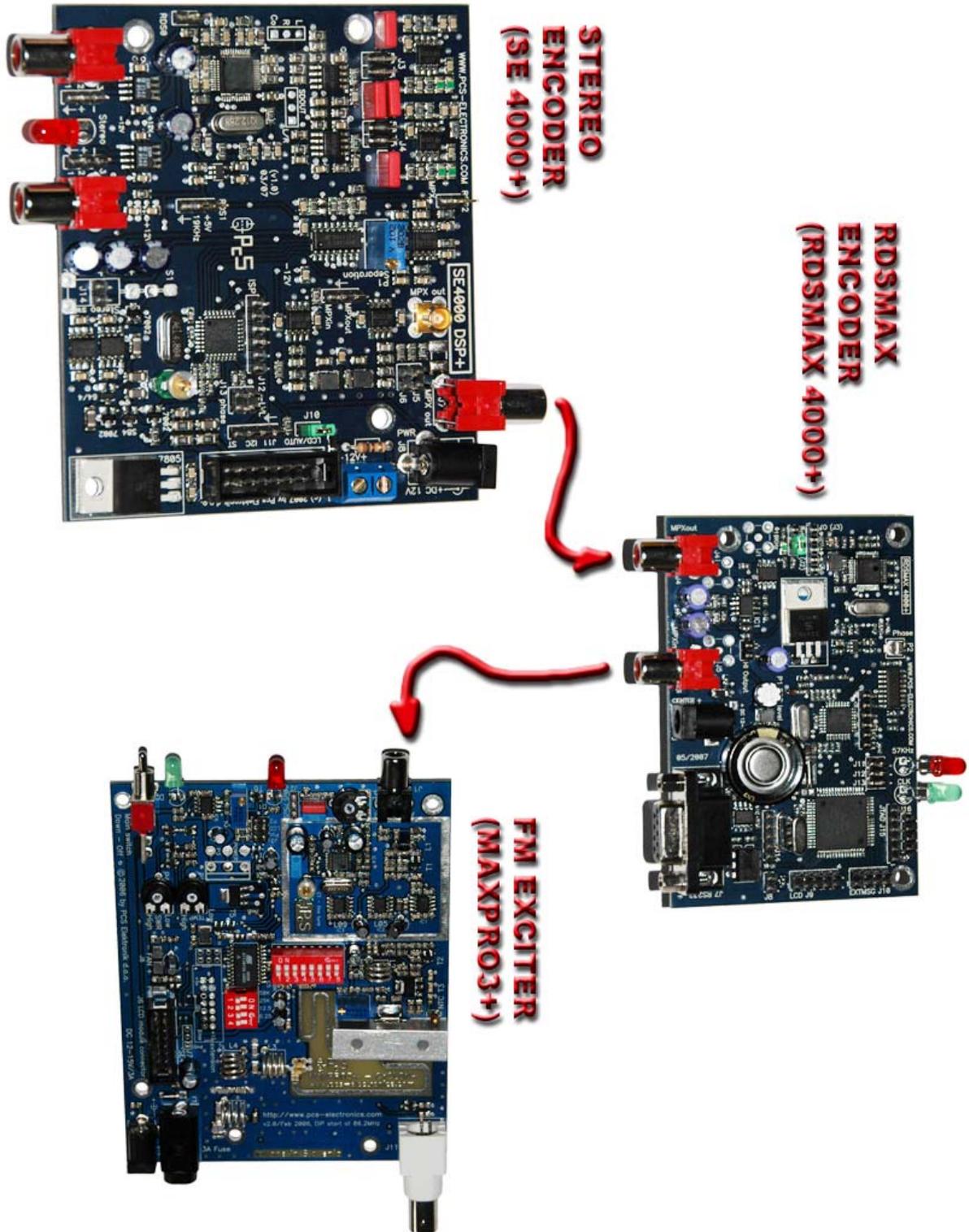


Fig. 2: RDSMAX 4000+ in a serious setup with SE4000+ and MAXPRO 3+ (15W of crisp-clean stereo RDS FM signal)



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HOUSTON, WE'VE GOT A PROBLEM

We all know things can go wrong, it happens even to the best. Perhaps a more detailed look at the board will help. If not, let's look at some of the possible problems and solutions:

Problem: No RDS signal

Solution: Open RDS carrier level. If it does not help also ensure that:

- Power supply is connected (green LED should be blinking)
- MPXout is connected to your FM exciter (MPXin or audio input). Make sure you haven't swapped the cables.
- Make sure RDS signal is enabled in the Windows program, there is a checkbox right next to the send data button.
- Try to update the settings via Windows program and reset power again to ensure the unit resets properly. If this does not help, disconnect power and short-circuit the on-board supercap (large capacitor) to ensure complete reset.
- Make sure the baud rate settings for the RDS encoder and Windows application match. Default setting is 14400 bps.
- Make sure correct COM port is selected for your Windows program. You can check this under File>Setup. Usually the port will be COM1 (or COM2). If you're using USB I/O adapter board, it will usually be COM5. You can check this in windows control panel (setup, hardware).

Problem: There is a bug for this or that function

Solution: Report the bug to the manufacturer or post about it in the forum. Also check the support section of the website.

SOFTWARE INSTALLATION

Install the RDSMAX 4000+ driver from the provided CD or download the latest version from our website. Set the used COM port and baud rate under File>Setup. Default baud rate is 14400. If you wish to change this default baud rate, do not forget to appropriately change the jumper settings on the RDSMAX 4000+ board. Use 2400, if you wish to use extremely long RS232 cable runs, or 38400 for faster update time. Please send us any bug reports or suggestions for further improvement. We will take your comments and suggestions into consideration and there is a very good chance that they will be implemented.

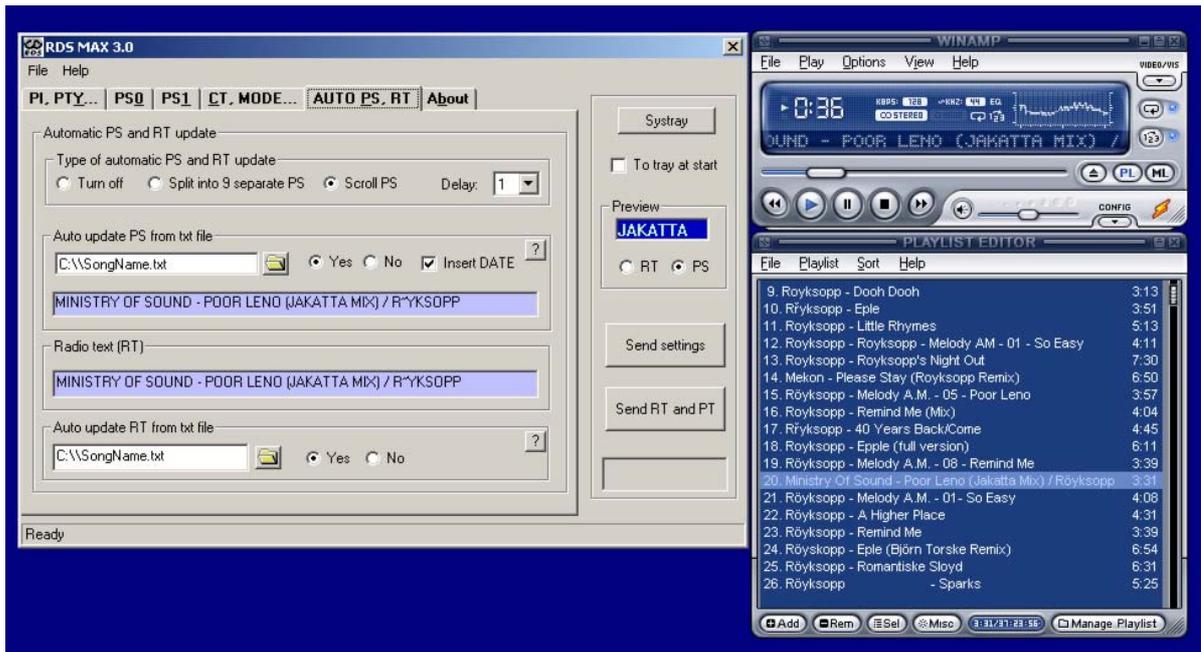


RDSMAX 4000+ windows application splash screen

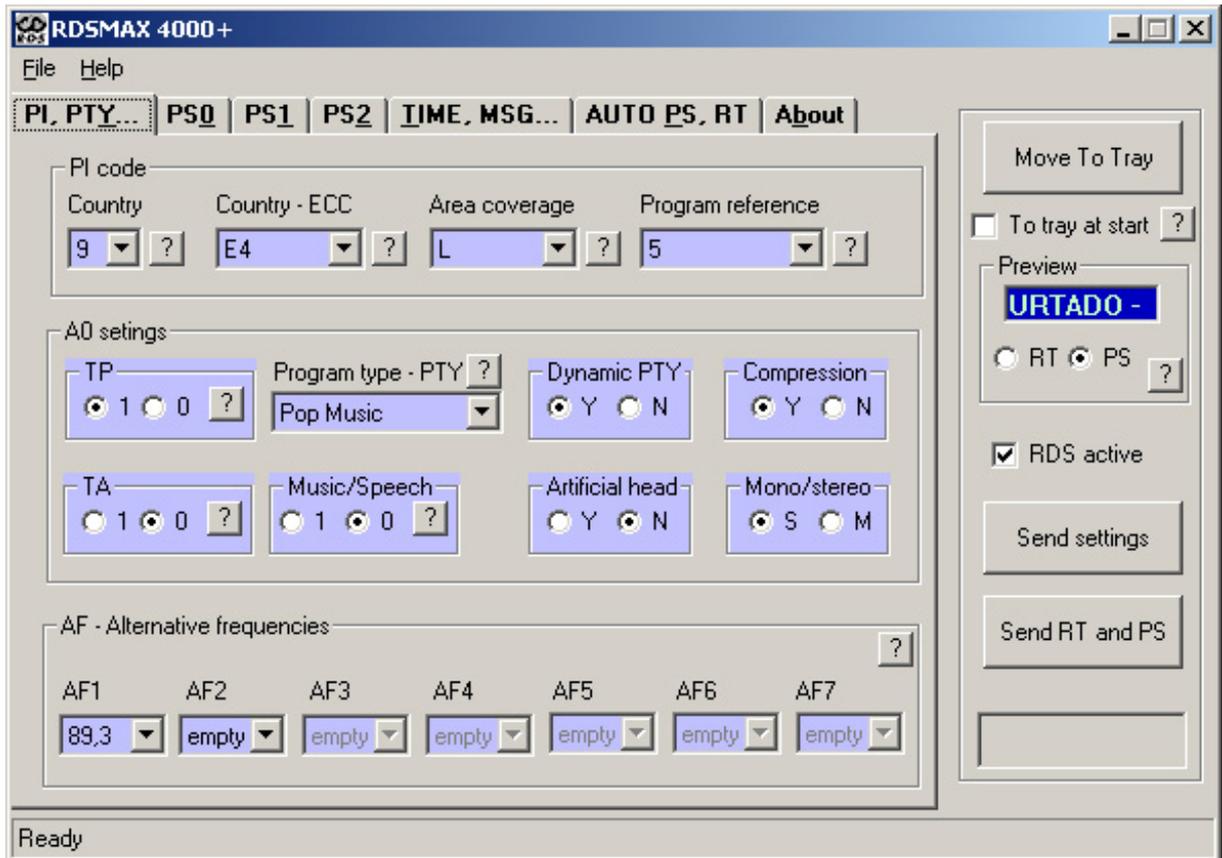


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RDSMAX 4000+ is pulling mp3 song name directly from WinAmp (can be configured to insert song name into PS or RT or both)



RDSMAX 4000+ AF, MS, TA, TP, DI codes, ECC, PI....



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RDSMAX 4000+

File Help

PI, PTY... PS0 PS1 PS2 **TIME, MSG...** AUTO PS, RT About

Computer time and date

PC Time: 20.59.54 PC date: 31.7.2007 Synchronize time

External Switchable Messages

MSG1: EXTERNAL MESSAGE 2, SEE HELP FOR MORE DETAILS
 MSG2: EXTERNAL MESSAGE 2
 MSG3: EXTERNAL MESSAGE 3
 MSG4: EXTERNAL MESSAGE 4
 MSG5: EXTERNAL MESSAGE 5
 MSG6: EXTERNAL MESSAGE 6
 MSG7: EXTERNAL MESSAGE 7
 MSG8: EXTERNAL MESSAGE 8

Move To Tray

To tray at start

Preview: **FURTADO**

RT PS

RDS active

Send settings

Send RT and PS

Ready

RDSMAX 4000+ CT and external switchable preset messages

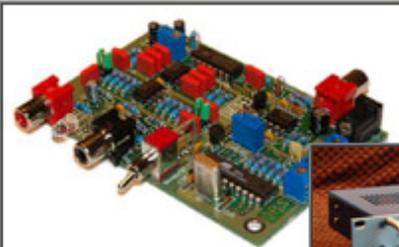
RDSMAX 4000+

File Help

PI, PTY... PS0 PS1 **PS2** TIME, MSG... AUTO PS, RT About

Dynamic PS (89-99)

PS89	0		0		0
PS90	1		0		0
PS91	0		0	@DATE	2
PS92	0		0	@TIME	1

Move To Tray

To tray at start

Preview: **URTADO -**

RT PS

RDS active

Send settings

Send RT and PS

Ready

RDSMAX 4000+ supports 100 PS segments, if you enter @TIME or @DATE it automatically displays current date or time on receiver!

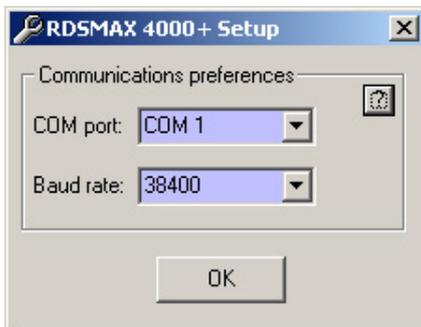


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RDSMAX 4000+ about window



RDSMAX 4000+ Setup window

PRESET MESSAGES

This is for advanced users only. Eight preset messages are currently implemented and can be selected with eight external switches. These switches must be connected to J10 via flat-cable header. Switches go towards ground when active. Messages are automatically scrolled, if longer than 8 characters. Up to 64 characters can be used per message. If you need more please let us know.

THANK YOU FOR PURCHASING RDSMAX 4000+!

We hope you will enjoy it as much as we do and remember to tell your friends about it. Please feel free to leave your comments at our website or post your experience in our forum.

From all of us we wish you happy broadcasting!

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We also carry a big range of:

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- AM transmitters with extremely clear modulation (PWM design)
- Various accessories for professional and hobby FM radio stations
- A large assortment of hard to obtain RF components (RF transistors; MRF, 2SC, coils, silver plated wire, coaxial cable, capacitors, quartz crystals and many others)
- PC based FM transmitters (PCI MAX pc based FM transmitter turns your PC into a radio station)
- A large number of beginners guides to get you started
- A large selection of free schematics is as well available at our website.

VISIT OUR NEW WEBSITE!

LEGAL INFO

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APPENDIX A: OPTIONAL LCD MODULE

It is now possible to connect optional LCD module to our RDS encoder. This can be done by simply purchasing/ordering the LCD module and plugging it into the encoder into the provided header (J9). Make sure you do not reverse the connector, simply ensure that the flat cable goes away from the board and not towards the center.

User's Guide for LCD display module

LCD module is pretty easy to use. There are three basic views which can be easily selected by pressing the only available button. The other control available is the contrast adjustment trimmer at the back of the unit. You can increase or decrease contrast by rotating the trimmer.

Primary view

Primary view shows the PS and RT text. The displayed PS text is the one being sent to the receivers at the same moment so this text matches the text on the receivers. Additionally the number of PS field is shown, making it easier to see what's going on and potentially troubleshoot the problems.

The bottom line shows RT text, which is also scrolled to allow full 64-character text to be shown in a 16-character line. This text may not scroll with the same speed as on the receiver due to limitations of the RDS standard. RT text is sent to the receivers and receivers then decide how and when to scroll it depending on display size etc. The test on the receiver and LCD display will be the same, though, which is the main thing.

This is a very popular view and probably the one you will use most of the time. It eliminates the need to keep a radio tuner close to the transmitter when performing adjustments or for RDS monitoring purposes.



LCD module: Primary view

RDS parameters view

RDS parameters view shows the most important RDS parameters. TP (Traffic program), TA (Traffic Announcement), PTY (Program type) and since we had some space left also MS.



LCD module: RDS parameters view



TIME/DATE view

TIME/DATE view shows the current on-board time and date. This may be useful for troubleshooting purposes or simply as a convenient and somewhat too complex clock/calendar.



LCD module: TIME/DATE view

STATUS view

Status view shows the currently selected BAUD speed and status. This may come handy for troubleshooting or simply as a convenience and added extra.



LCD module: STATUS view

OTHER views

If you need another parameter shown on the LCD display, please contact our technical support and we will make required changes in the software to accommodate your needs.



APPENDIX B: OPTIONAL INPUT/OUTPUT BOARD WITH USB

This optional board serves a couple of purposes and is a good and usefull addition to the RDS MAX encoder. The supported functions of this board are:

1. Three on-board BNC connectors

It is often preferable in professional RDS equipment that all audio connections are made with BNC connectors. This board makes this possible. You can connect three different signals to the three available BNC connectors using the usual shielded audio cables. Suitable solder pads are provided on RDS encoder board and the I/O board. Typical setup would use the BNC connectors for:

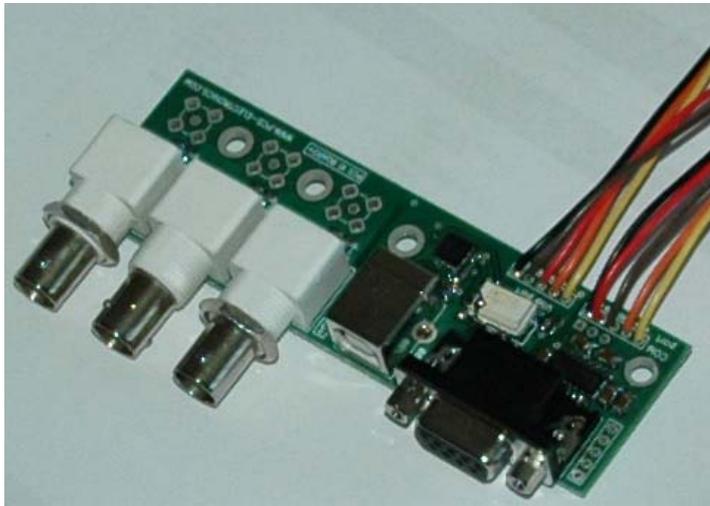
- MPX IN (MPX signal from stereo encoder)
- MPX OUT (MPX signal going to the FM exciter)
- 19KHz pilot (From Stereo encoder, which is usually equipped with the same type of BNC output for this signal)

2. USB interface instead of the usual RS232

Nowadays it may be difficult to find a laptop or even a PC with a COM port. It may thus be more convenient to send data to the encoder via USB cable. This can be accomplished by using the IO board. Installing the USB interface is as simple as plugging a 5-lead header into J14. Be carefull to match the black wire with pin number one. You will also need to install USB port driver on your PC, which is a simple and painless process taking less than a minute. NOTE: THIS USB INTERFACE PRESERVES FULL GALVANIC ISOLATION!

3. RS232 interface

RS232 interface is included for convenience, in case you will not be placing RDS board close to the edge of the enclosure and do not want to use USB. It includes the typical MAX232 circuit and you can use this for any of your other microcontroller projects needing RS232 interface. It is fully compliant with the RS232 standard.



IO board: 3x BNC and USB or RS232 interface



APPENDIX C: COMMUNICATION PROTOCOL EXPLAINED

If you are one of the many interested in developing your own RDSMAX application, look no further. The entire protocol will be explained here in detail. Also check the provided sample VB application. If you're still stuck, do drop us an email and we will be more than happy to help you out.

Baud rate and COM port

Communication with RDSMAX 4000+ uses RS232 protocol. There are 4 supported speeds, 2400, 14400, 19200 and 38400. 2400 was provided for extremely long cable runs, 14400 was used for compatibility with RDSMAX 30, 19200 and 38400 were added for cases where fast update time is an advantage.

A simple VB code would look like this:

```
MSComm1.CommPort = COMSelected 'This can be COM1, COM2 etc
Select Case COMSpeed
  Case 1
    MSComm1.Settings = "2400,N,8,1"
  Case 2
    MSComm1.Settings = "14400,N,8,1"
  Case 3
    MSComm1.Settings = "19200,N,8,1"
  Case 4
    MSComm1.Settings = "38400,N,8,1"
End Select
MSComm1.InputLen = 0
MSComm1.PortOpen = True
```

General Command Format

This is the format of a typical command sent to the RDSMAX encoder:

<StartByte>**Command****<EndCommandByte>****Value****<EndByte>**

<StartByte>: Signals start of new incoming command/parameter

The hex/binary value of this byte is 0x00 (0b00000000).

VB basic example: MSComm1.Output = Chr\$(0) 'Start (0)

Command: Command/parameter that you wish to send to the encoder

Simply send the command/parameter in ASCII form.

VB basic example: MSComm1.Output = "TA"

<EndCommandByte>: Signals end of the new incoming command, tells encoder to expect incoming command/parameter value

The hex/binary value of this byte is 0x01 (0b00000001).

VB basic example: MSComm1.Output = Chr\$(1) 'End Command start of value(1)

Value: Command/parameter value that you wish to send to the encoder

The method varies a bit from parameter to parameter, but usually you can simply send the command/parameter value in ASCII form. Check each parameter individually for correct setting.

VB basic example: MSComm1.Output = "1" 'sets TA to ON

<EndByte>: Signals the end of complete incoming command including command/parameter value, it tells encoder to process the received data

VB basic example: MSComm1.Output = Chr\$(2) 'End Command and value



PS

This is the most interesting feature for 99% of customers out there so we will dedicate a bit more time to it. RDS standard provides for a 8-character PS string which is used to identify radio station and is displayed by RDS-enabled radio receivers. Some countries prohibit changing this text dynamically, but others don't. Whatever your decision may be, RDSMAX supports either static or dynamic PS. It is best to check with the local authorities before setting up the RDS encoder.

The mechanism for handling dynamic (or static) PS text is best demonstrated by the following example:

Imagine a train traveling in a round trip involving 100 train stations. The train starts on station 00 (PS00) and goes through stations 01, 02.... until it passes through station 99 and finally returns to station 00. Every time a train stops at the station it sends the message back to the headquarters (PS text shown on RDS receiver). The amount of time the train stays at the station (delay – PD00 to PD99) varies and can be from 0 minutes (train does not stop) to 9 minutes. I hope this little analogy has illustrated the process. You have 100 8-character strings (PS00 to PS99) which are displayed one after the other until the entire loop repeats itself. You can define how long each of these strings is displayed, the parameter which defines this is PD (PD00 to PD99).

Example: If you wish to just have one static PS, set all delays to 0 and set just PD00 to 1. Then set PS00 to desired static PS, which will be displayed indefinitely.

General Command Format

This is the format of a PS00 command, which sets PS00 to ****TEST****:

```
<StartByte>PS00<EndCommandByte>**TEST**<EndByte>
```

VB basic example:

```
MSComm1.Output = Chr$(0) 'Start (0)
MSComm1.Output = "PS00"
MSComm1.Output = Chr$(1) 'End Command start of value(1)
MSComm1.Output = **TEST**
MSComm1.Output = Chr$(2) 'End Command and value
```

This is the format of a PD00 command, which sets PD00 to 5:

```
<StartByte>PD00<EndCommandByte>5<EndByte>
```

VB basic example:

```
MSComm1.Output = Chr$(0) 'Start (0)
MSComm1.Output = "PD00"
MSComm1.Output = Chr$(1) 'End Command start of value(1)
MSComm1.Output = "5"
MSComm1.Output = Chr$(2) 'End Command and value
```

RT

This is another popular feature, RDS allows for 64-character text string to be displayed on the receiver. However this feature is rarely used as you need to press a button to display it (PS is always displayed by default). Another "nail in RTs' coffin" is the fact that typical receiver only displays a maximum of 8-characters at a time meaning the message needs to be scrolled. However popular or unpopular it may be, we support it.

General Command Format

This is the format of a PS00 command, which sets PS00 to ****TEST****:

```
<StartByte>RT<EndCommandByte>**THIS IS A TEST OF RADIO TEXT FEATURE**<EndByte>
```

VB basic example:

```
MSComm1.Output = Chr$(0) 'Start (0)
MSComm1.Output = "RT"
MSComm1.Output = Chr$(1) 'End Command start of value(1)
MSComm1.Output = **THIS IS A TEST OF RADIO TEXT FEATURE**
MSComm1.Output = Chr$(2) 'End Command and value
```



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Format description for the other supported parameters coming soon: TP, MS, DID0, DID1, DID2, DID3, TA, DATE, TIME, AF0 to AF7, PTY, ECC, PREF, PI...