

## Appendix C RS232 Protocol

RS232 settings are internally definable via jumper blocks, to accommodate interfacing with a wide range of control products.

Baud rate	9600 or 19200
Echo status	AUTO or REQUEST

**Baud rate:** Maximum number of bits per second. The duration of a single bit is equal to 1 / baud rate.  
**Echo status:** Specifies whether the **STATUS** of each parameter shown in the protocol will automatically (**AUTO**) be echoed back to the controller when there is any change, or whether the user must manually request (**REQ**) the status information be sent to the controller. Please refer to page 15 or information on changing these settings.

All commands will follow the format:

<Header><Command Identifier><Argument 1><Argument 2><Argument 3>  
where:

<Header> = <FEh><E8h> (254 232)  
<Command identifier> = <byte>  
<Argument x> = <byte>

Each command will be able to access the system configuration directly, eliminating the need to press any button on the Dreadnaught II's front panel.

Examples:

- 1) To select put the Dreadnaught II into standby: Send FE, E8, 01, 00, 00, 00 (all values in Hex).  
Where FE and E8 are the header, 01 = command, 00 = main standby, 00 = put unit in standby and 00 = filler (4 characters required)
- 2) To activate the Surround buss: Send FE, E8, 01, 01, 01, 00  
Where FE and E8 are the header, 01 = command, 01 = surround buss, 01 = activate surround buss and 00 = filler (4 characters required)

Command	Description	Argument 1	Argument 1 Description	Argument 2	Argument 2 Desc	Argument 3	Arg 3 Desc
01	Standby	0	Main standby	0	Put unit in standby		
		0	Main standby	1	Take unit out of standby.		
		1	Surround bus	0	Make surround bus inactive.		
		1	Surround bus	1	Activate surround bus.		
02	Status	0	Return amplifier status.				
The RS232 can be set using a hardware jumper to automatically send changes to the RS232 port.							
Status Byte #	Byte Description	bit	Value Description				
1	Bus	0	Main bus				
		1	Surround bus				
2	Temperature	0	Channel 1				
		1	Channel 2				
		2	Channel 3				
		3	Channel 4				
		4	Channel 5				
3	Fuse Plus Rail	0	Channel 1				
		1	Channel 2				
		2	Channel 3				
		3	Channel 4				
		4	Channel 5				
4	Fuse Minus Rail	0	Channel 1				
		1	Channel 2				
		2	Channel 3				
		3	Channel 4				
		4	Channel 5				
5	Channel Sense	0	Channel 1				
		1	Channel 2				
		2	Channel 3				
		3	Channel 4				
		4	Channel 5				

# RS232 Hardware Connections

RTS and CTS are not implemented in Dreadnaught II

## DB9

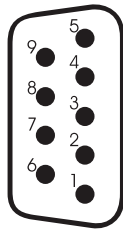
Pin	I/O	
1 - DCD	0	Jumped
2 - Dreadnaught II sends on this pin	0	
3 - Dreadnaught II receives on this pin	1	
4 - DTR	1	
5 - GND		
6 - DSR	0	
7 - RTS	1	
8 - CTS	0	
9 - Ring	---	

CN2

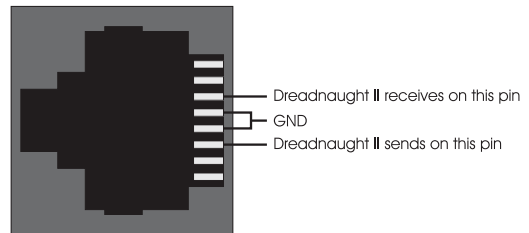
## RJ45

Pin	I/O	
1 - RTS	1	Jumped
2 - DTR	1	
3 - Dreadnaught II receives on this pin	1	
4 - GND		
5 - GND		
6 - Dreadnaught II sends on this pin	0	
7 - DCD	0	
8 - CTS	0	

CN3

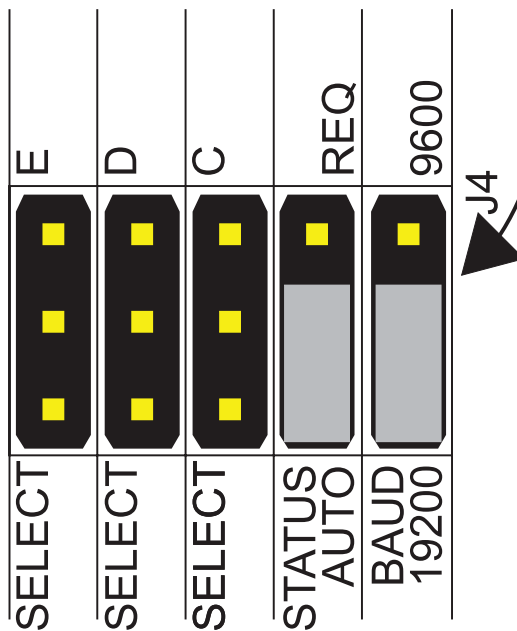
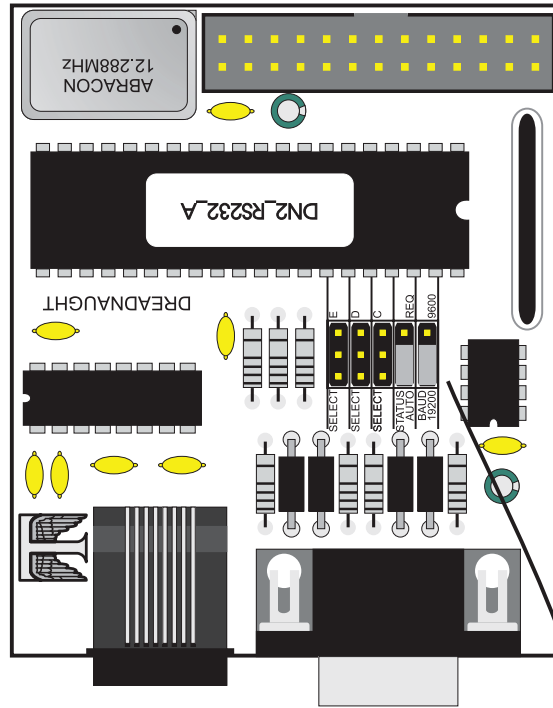


Rear panel view of DB9 connector  
(From outside of unit).



**Figure 6 – Dreadnaught II RS232 Jack Pinout**

These are the connector drawings only. The RS232 cable must be a regular RS232 or mouse extender cable, wired pin for pin.



**Figure 7 – Dreadnaught II RS232 Jumper Settings**

**RS232 Jumper Settings**

There are 2 possible Baud rates: **9600** and **19200**. The factory default is **19200**. To change the baud rate to **9600**, move the jumper to the center and top pins (if the RS232 board is orientated as in figure 7).

The **STATUS** can be returned to the controller either: automatically every time a parameter has changed, or the user can request it manually. The factory default is **AUTO**. To set the Echo **STATUS** to return status information only upon request, move the **AUTO/REQ** jumper to the top pins, or nearer to **REQ** on the RS232 board.

The three **SELECT** jumpers are not currently implemented.

## Appendix D Specifications

**Inputs:** Analog Audio:  
 1 Single-ended per channel (RCA) on each module type.  
 1 Balanced per channel (XLR) on each module type.  
 Input Impedance: 50 K $\Omega$  Single-ended or Balanced, for each phase (both modules).  
 Input sensitivity: Mono Module: (Single-ended) 2.18V RMS input for 225W into 8 ohms.  
 (Balanced) 1.09V RMS input for 225W into 8 ohms.  
 Stereo Module: (Single-ended) 1.5V RMS input for 100W into 8 ohms.  
 (Balanced) 0.75V RMS input for 100W into 8 ohms.  
 Gain: Mono Module: (Single-Ended) 26dB (20x).  
 (Balanced) 32dB (40x).  
 Stereo Module: (Single-Ended) 25.5dB (19x).  
 (Balanced) 31.5dB (38x).  
 Polarity: (Single-ended) Non-Inverting.  
 (Balanced) Pin-2 = Positive, Pin-3 = Negative for Non-Inverting Output.

**Outputs:** Analog Audio: 1 balanced output per channel.

**I/O** RS232: 1 DB9 and 1 RJ45 connector.

**Modes/Processes:** Standby, Stereo and Surround. Channels may be individually assigned to either buss.

**Power Output:** Mono Module: (8 ohms-one channel driven) 225 W (rated) 270 W (typical)  
 (8 ohms-five channels driven) 225 W (rated) 245 W (typical)  
 (4 ohms-one channel driven) 450 W (rated) 475 W (typical)  
 Stereo Module: (8 ohms-one to ten channels driven) 100W (rated) 115W (typical)  
 (4 ohms-one channel driven) 200W (rated) 210W (typical)

**Frequency Response:** (-3dB points @ full power) 0.3Hz - 250 kHz.

**THD+Noise:** Mono Module: <1%  
 Stereo Module: <1.25% (both channels driven into 100W @ 8 ohms).

**Signal to Noise Ratio:** (unweighted) >100dB

**Power Requirements:** 117 VAC, 18 amp; 230 VAC, 9 amp; 50-60 Hz; for full power in all channels.

**Power Consumption:**

No. of 1 ch. Modules	No. of 2 ch. Modules	Total no. of channels	STANDBY	IDLE	All chs. at rated power into 8 ohms
2		2	75W	125W	750W
3		3	100W	175W	1020W
4		4	125W	225W	1230W
5		5	150W	275W	1440W
	2	4	90W	145W	860W
	3	6	120W	205W	1275W
	4	8	150W	265W	1690W
	5	10	180W	325W	2080W
1	1	3	85W	135W	805W
1	2	5	115W	195W	1210W
1	3	7	145W	255W	1615W
1	4	9	175W	315W	2020W
2	1	4	105W	185W	1155W
2	2	6	135W	245W	1560W
2	3	8	165W	305W	1965W
3	1	5	130W	235W	1425W
3	2	7	160W	295W	1830W
4	1	6	155W	285W	1635W

**Trigger Inputs:** 5-12 VDC Pulse between 1 and 500mS.

**Dimensions:** 17 5/8" W x 8 7/16" H x 23 1/2" D (448 x 214 x 597 mm)

**Weight:** 98 Lbs. Stand alone (44.5 Kg), 111 Lbs. Boxed with accessories (50.4 Kg)

**Maximum Operating Temperature:** Internal: 176° F (80° C)  
 Room: 122° F (50° C)



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(3 Year optional extended service contract)

1. Theta Digital Corporation, henceforth referred to as Theta, warrants the product designated herein to be free of manufacturing defects in material and workmanship, subject to the conditions set forth herein, for a period of 90 days from the date of purchase by the original purchaser, henceforth referred to as purchaser. If the purchaser registers the unit with Theta by mailing in the warranty card, together with a copy of the bill of sale, within 14 days of the date of purchase, said purchaser will be registered for an extended service contract. The extended service contract extends the 90 days to a period of 3 years from the date of purchase by the original purchaser or no later than 7 years from the date of shipment to the authorized Theta dealer, whichever comes first.
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THETA DIGITAL CORPORATION  
5330 DERRY AVENUE, SUITE "R"  
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2. This unit contains voltages which can cause serious injury or death. Do not operate with covers removed. Refer all servicing to your authorized Theta dealer.
3. For continued protection against fire hazard, replace fuses only with the same type and rating of fuses as specified.