



Russound Dual Tuner (ST2, ST2S and ST2XM)

RS-232 Communication Quick Start and Hex Code Listing

Russound ST2 RS-232 Quick Start Guide

This document is meant to give you, the integrator, the knowledge of our protocols to be able to control our ST2 Dual Tuner.

Following are the basics you need to do or know to properly connect to and control Russound Products:

<ul style="list-style-type: none"> Com Settings: • 19200 baud rate • 8 Data bits • 1 Start bit • 1 Stop bit • No flow control • No parity
<ul style="list-style-type: none"> For most all equipment, you will need a DB9 to DB9 <i>STRAIGHT THRU</i> Serial Cable If you are using a USB to serial adapter, we suggest a Radio Shack model. (Belkin, Tripp Lite and Keyspan are known to be problematic) <ul style="list-style-type: none"> Pin 1: NC • Pin 2: Transmit • Pin 3: Receive • Pin 4: NC • Pin 5: Ground Pin 6: NC • Pin 7: NC • Pin 8: NC • Pin 9: NC
<ul style="list-style-type: none"> The ST2 has a internal default source setting of 1 and 2 (tuner1=source1/tuner2=source2) These source settings specify which tuner you are controlling. If these source settings are needed to be changed, refer to the ST2 manual for info on this process. The codes listed in this manual are defined assuming that the ST2 is left at this default setting.

It's really easy...

The following base string is used for controlling every function of the ST2:

Byte #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Value	F0	00	7D	kk	00	00	70	05	02	01	00	02	01	00	dd	00	70	00	kk	00	01	xx	F7

For each desired function, change only the following 4 bytes as needed (4, 15, 19 and 22)

Byte #4(kk)= Source Number 00=source1, 01=source2, 02=source3, 03=source4, 04=source5, 05=source6

Byte #15(dd) = Event ID (This specifies what function you are wanting to perform)

Byte #19(kk)= Source Number (This specifies which tuner you are speaking to)

Byte #22(xx)= Checksum (This must be recalculated anytime that bytes 4, 15 or 19 are changed)

The ST2 has a internal default source setting of 1 and 2 (tuner1=source1 / tuner2=source2)

The codes in this document are defined assuming that the ST2 is left at this default setting.

Bytes 4 & 19 (kk) would need to be changed if the ST2 source settings are changed from the default.

Tuner 1 (source1) Power On F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3A 00 70 00 00 00 01 28 F7

Becomes

Tuner 1 (source3) Power On F0 00 7D 02 00 00 70 05 02 01 00 02 01 00 3A 00 70 00 02 00 01 2C F7

(Bytes 4 & 19 went from 00 to 02 for a total increase of 4, therefore the checksum also needs to increase 4 from 28 to 2C)

Russound ST2 RS-232 Hex Code Listing

Tnr1 Power On	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3A 00 70 00 00 00 01 28 F7
Tnr1 Power Off	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3B 00 70 00 00 00 01 29 F7
Tnr2 Power On	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3A 00 70 00 01 00 01 2A F7
Tnr2 Power Off	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3B 00 70 00 01 00 01 2B F7
Tnr1 Tune Up	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 2F 00 70 00 00 00 01 1D F7
Tnr1 Tune Dn	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 30 00 70 00 00 00 01 1E F7
Tnr2 Tune Up	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 2F 00 70 00 01 00 01 1F F7
Tnr2 Tune Dn	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 30 00 70 00 01 00 01 20 F7
Tnr1 Digit-0	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 0A 00 70 00 00 00 01 78 F7
Tnr1 Digit-1	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 01 00 70 00 00 00 01 6F F7
Tnr1 Digit-2	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 02 00 70 00 00 00 01 70 F7
Tnr1 Digit-3	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 03 00 70 00 00 00 01 71 F7
Tnr1 Digit-4	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 04 00 70 00 00 00 01 72 F7
Tnr1 Digit-5	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 05 00 70 00 00 00 01 73 F7
Tnr1 Digit-6	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 06 00 70 00 00 00 01 74 F7
Tnr1 Digit-7	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 07 00 70 00 00 00 01 75 F7
Tnr1 Digit-8	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 08 00 70 00 00 00 01 76 F7
Tnr1 Digit-9	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 09 00 70 00 00 00 01 77 F7
Tnr2 Digit-0	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 0A 00 70 00 01 00 01 7A F7
Tnr2 Digit-1	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 01 00 70 00 01 00 01 71 F7
Tnr2 Digit-2	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 02 00 70 00 01 00 01 72 F7
Tnr2 Digit-3	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 03 00 70 00 01 00 01 73 F7
Tnr2 Digit-4	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 04 00 70 00 01 00 01 74 F7
Tnr2 Digit-5	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 05 00 70 00 01 00 01 75 F7
Tnr2 Digit-6	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 06 00 70 00 01 00 01 76 F7
Tnr2 Digit-7	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 07 00 70 00 01 00 01 77 F7
Tnr2 Digit-8	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 08 00 70 00 01 00 01 78 F7
Tnr2 Digit-9	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 09 00 70 00 01 00 01 79 F7
Enter Direct Tuning Mode	
Tnr1	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 17 00 70 00 00 00 01 05 F7
Tnr2	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 17 00 70 00 01 00 01 07 F7
Enter Direct Bank Mode	
Tnr1	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 15 00 70 00 00 00 01 03 F7
Tnr2	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 15 00 70 00 01 00 01 05 F7
Enter Direct Preset Select Mode	
Tnr1	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 16 00 70 00 00 00 01 04 F7
Tnr2	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 16 00 70 00 01 00 01 06 F7
Tnr1 Preset1 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3C 00 70 00 00 00 01 2A F7
Tnr1 Preset2 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3D 00 70 00 00 00 01 2B F7
Tnr1 Preset3 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3E 00 70 00 00 00 01 2C F7

Tnr1 Preset4 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 3F 00 70 00 00 00 01 2D F7
Tnr1 Preset5 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 40 00 70 00 00 00 01 2E F7
Tnr1 Preset6 Save	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 41 00 70 00 00 00 01 2F F7
Tnr2 Preset1 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3C 00 70 00 01 00 01 2C F7
Tnr2 Preset2 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3D 00 70 00 01 00 01 2D F7
Tnr2 Preset3 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3E 00 70 00 01 00 01 2E F7
Tnr2 Preset4 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 3F 00 70 00 01 00 01 2F F7
Tnr2 Preset5 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 40 00 70 00 01 00 01 30 F7
Tnr2 Preset6 Save	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 41 00 70 00 01 00 01 31 F7
Tnr1 Preset Up	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 0E 00 70 00 00 00 01 7C F7
Tnr1 Preset Dn	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 0F 00 70 00 00 00 01 7D F7
Tnr2 Preset Up	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 0E 00 70 01 00 00 01 7E F7
Tnr2 Preset Dn	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 0F 00 70 01 00 00 01 7F F7
Tnr1 Bank Up	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 29 00 70 00 00 00 01 17 F7
Tnr1 Bank Dn	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 2A 00 70 00 00 00 01 18 F7
Tnr2 Bank Up	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 29 00 70 01 00 00 01 19 F7
Tnr2 Bank Dn	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 2A 00 70 01 00 00 01 1A F7
Tnr1 Seek Up	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 1B 00 70 00 00 00 01 09 F7
Tnr1 Seek Dn	F0 00 7D 00 00 00 71 05 02 01 00 02 01 00 24 00 7F 00 00 00 01 22 F7
Tnr2 Seek Up	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 1B 00 70 00 01 00 01 0B F7
Tnr2 Seek Dn	F0 00 7D 01 00 00 71 05 02 01 00 02 01 00 24 00 7F 00 01 00 01 24 F7
Tnr1 Scan	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 46 00 70 00 00 00 01 34 F7
Tnr2 Scan	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 46 00 70 00 01 00 01 36 F7
Tnr1 AM/FM Toggle	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 1A 00 70 00 00 00 01 08 F7
Tnr2 AM/FM Toggle	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 1A 00 70 00 01 00 01 0A F7
Tnr1 AM Select	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 4A 00 70 00 00 00 01 38 F7
Tnr1 FM Select	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 49 00 70 00 00 00 01 37 F7
Tnr2 AM Select	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 4A 00 70 00 01 00 01 3A F7
Tnr2 FM Select	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 49 00 70 00 01 00 01 39 F7
Tnr1Stero/MonoTggle	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 13 00 70 00 00 00 01 01 F7
Tnr2Stero/MonoTggle	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 13 00 70 00 01 00 01 03 F7
Tnr1 Stereo Select	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 33 00 70 00 00 00 01 21 F7
Tnr1 Mono Select	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 34 00 70 00 00 00 01 22 F7
Tnr2 Stereo Select	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 33 00 70 00 01 00 01 23 F7
Tnr2 Mono Select	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 34 00 70 00 01 00 01 24 F7
Tnr1Local/DistantTgl	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 14 00 70 00 00 00 01 02 F7
Tnr2Local/DistantTgl	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 14 00 70 00 01 00 01 04 F7
Tnr1 Local Sel	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 42 00 70 00 00 00 01 30 F7
Tnr1 Distant Sel	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 43 00 70 00 00 00 01 31 F7

Tnr2 Local Sel	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 42 00 70 00 01 00 01 32 F7
Tnr2 Distant Sel	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 43 00 70 00 01 00 01 33 F7
Tnr1 Category Up	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 54 00 70 00 00 00 01 42 F7
Tnr1 Category Dn	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 55 00 70 00 00 00 01 43 F7
Tnr2 Category Up	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 54 00 70 00 01 00 01 44 F7
Tnr2 Category Dn	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 55 00 70 00 01 00 01 45 F7
Tnr1 Category ChUp	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 58 00 70 00 00 00 01 46 F7
Tnr1 Category ChDn	F0 00 7D 00 00 00 70 05 02 01 00 02 01 00 59 00 70 00 00 00 01 47 F7
Tnr2 Category ChUp	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 58 00 70 00 01 00 01 48 F7
Tnr2 Category ChDn	F0 00 7D 01 00 00 70 05 02 01 00 02 01 00 59 00 70 00 01 00 01 49 F7