KRELL EVOLUTION 2 STATUS FEEDBACK DESCRIPTION

Version 1.0 Wednesday, April 18, 2007

OVERVIEW

The Evolution 2 (Evo-2) can report back it's operational status via the RS232 port. The system reports it's operational status by transmitting a block of status data. Status block data consists of 15 binary bytes (8 Bits). The first and last byte always contains hexadecimal code 55 to facilitate message framing and synchronization. The RS232 protocol settings for Evo-2 status and control are as follows:

9600 Baud
8 Data Bits
1 Stop Bit
No Parity

The feedback system is only available via the RS232. Status can be activated two ways. The first way is to ask for status by sending the RS232 command "STAZ". The second way is to enable Auto Status by sending the RS232 command "ASTEZ". This command causes the Evo-2 to transmit a status block whenever a change in status is detected. Auto Status is disabled by sending the RS232 command "ASTDZ". Auto Status remains enabled until AC power is removed or turned off. When AC power is reapplied, Auto Status assumes a disabled state.

All numeric values subsequently described are decimal values unless otherwise noted. Numeric decimal byte values require expression in binary. (Example: Decimal 10 = Binary 00001010 = Hex 0A). Description of the status block bytes is as follows:

BYTE 1: Start of Message

Bit	7	6	5	4	3	2	1	0
Description	0	1	0	1	0	1	0	1

Bit 7 – 0: Hexadecimal 55

BYTE 2: General Status I

Bit	7	6	5	4	3	2	1	0
Description	0	User Mute	Menu Mode	Tape 2 Bus Enable	Input 12V Trigger	0	0	Main Power

Bit 7:	Reserved	0 = Always read as zero
Bit 6:	User Mute	1 = Preamp is muted, 0 = un-muted
Bit 5:	Menu Mode	1 = Preamp is in Menu Mode, 0 = Normal
Bit 4:	Tape 2 Bus	1 = Tape 2 bus is selected, 0 = Main Bus
Bit 3:	Input 12V Trigger	1 = 12V input trigger is active, 0 = inactive
Bit 2:	Reserved	0 = Always read as zero
Bit 1:	Reserved	0 = Always read as zero
Bit 0:	Main Power	1 = Main power is on, 0 = off

BYTE 3: General Status II

Bit	7	6	5	4	3	2	1	0
Description	Phase Reversed	Auto Status	Main Tape Monitor	0	0	Trigger 2	Trigger 1	0

Bit 7: Phase — 1 = Channel phase is reversed, 0 = normal
Bit 6: Auto Status — 1 = Auto Status is Enabled, 0 = disabled
Bit 5: Main Tape Monitor — 1 = Tape Monitor Output, 0 = Main output
Bit 4: Reserved — 0 = Always read as zero
Bit 3: Reserved — 0 = Always read as zero
Bit 2: Trigger 2 on — 1 = Trigger 2 output is on, 0 = off
Bit 1: Trigger 1 on — 1 = Trigger 1 output is on, 0 = off
Bit 0: Reserved — 0 = Always read as zero

BYTE 4: General Status III

Bit	7	6	5	4	3	2	1	0
Description	Linked	dB Volume	20dB Mute Mode	Left Channel	Right Channel	Unbalanced	Theater Mode	0

Bit 7: Linked — 1 = EVO-2 is linked to one or more other EVO-2, 0 = Standalone
Bit 6: dB Volume — 1 = Volume Display is in dB, 0 = Numeric Volume Display
Bit 5: 20dB Mute Mode — 1 = Mute reduces volume by –20dB, 0 = Fully Muted
Bit 4: Left Channel — 1 = Preamp is the Left unit of a Stereo Pair, 0 = None
Bit 3: Right Channel — 1 = Preamp is the Right unit of a Stereo Pair, 0 = None
Bit 2: Unbalanced — 1 = Stereo image is off balance, 0 = Stereo image is balanced
Bit 1: Theater Mode — 1 = Theater mode input is selected, 0 = Normal input mode
Bit 0: Reserved — 0 = Always read as zero

BYTE 5: Current Main Volume

Bit	7	6	5	4	3	2	1	0
Description	VOL 7 MSB	VOL 6	VOL 5	VOL 4	VOL 3	VOL 2	VOL 1	VOL 0 LSB

Bit 7 - 0: Numerical Volume Index and Indication range from 0 to 151 (Dimensionless)
Bit 7 - 0: dB Volume index range from 0 to 141

dB Volume indicator	dB Index
- Inf	0 (Output muted)
-75.0	1
-72.0	2
-69.0	3
-67.0	4
-65.0	5
-63.0	6
-61.0	7

dB Index values 8 to 17 corresponds to –59.0dB to –50.0dB in 1.0 dB steps
dB Index values 18 to 141 corresponds to –49.5dB to +12.0dB in 0.5 dB steps
dB Index value 117 corresponds to 0.0dB

BYTE 6: Reserved

Bit	7	6	5	4	3	2	1	0
Description	0	0	0	0	0	0	0	0

Bit 7 - 0: Reserved for future

BYTE 7: Main Input

Bit	7	6	5	4	3	2	1	0
Description	MAIN IN 7	MAIN IN 6	MAIN IN 5	MAIN IN 4	MAIN IN 3	MAIN IN 2	MAIN IN 1	MAIN IN 0

Bit 7 - 0: Current Main Input

Main Inputs

0 S 1
1 S 2
2 S 3
3 S 4
4 B 1
5 B 2
6 B 3
7 C 1
8 C 2
9 C 3
10 Tape

BYTE 8: Tape 2 Input

Bit	7	6	5	4	3	2	1	0
Description	TAPE 2 IN 7	TAPE 2 IN 6	TAPE 2 IN 5	TAPE 2 IN 4	TAPE 2 IN 3	TAPE 2 IN 2	TAPE 2 IN 1	TAPE 2 IN 0

Bit 7 - 0: Tape 2 Input

Tape 2 Inputs

0 S 1
1 S 2
2 S 3
3 S 4
4 B 1
5 B 2
7 B 3
7 C 1
8 C 2
9 C 3

BYTE 9: Balance Index

Bit	7	6	5	4	3	2	1	0
Description	BALANCE 7	BALANCE 6	BALANCE 5	BALANCE 4	BALANCE 3	BALANCE 2	BALANCE 1	BALANCE 0

Bit 7 - 0: Balance Index

0 Left only, Right is muted
1 Right is –5.0dB from Left
2 Right is –4.5dB from Left
3 Right is –4.0dB from Left
4 Right is –3.5dB from Left
5 Right is –3.0dB from Left
6 Right is –2.5dB from Left
7 Right is –2.0dB from Left
8 Right is –1.5dB from Left
9 Right is –1.0dB from Left
10 Right is –0.5dB from Left
11 Center
12 Left is –0.5dB from Right
13 Left is –1.0dB from Right
14 Left is –1.5dB from Right
15 Left is –2.0dB from Right
16 Left is –2.5dB from Right
17 Left is –3.0dB from Right
18 Left is –3.5dB from Right
19 Left is –4.0dB from Right
20 Left is –4.5dB from Right
21 Left is –5.0dB from Right
22 Right only, Left is muted

BYTE 10: Reserved

Bit	7	6	5	4	3	2	1	0
Description	0	0	0	0	0	0	0	0

Bit 7 - 0: Reserved for future

BYTE 11: Main Input Trim

Bit	7	6	5	4	3	2	1	0
Description	TRIM 7	TRIM 6	TRIM 5	TRIM 4	TRIM 3	TRIM 2	TRIM 1	TRIM 0

Bit 7 - 0: Current Main Input Trim

Main Input Trim Index

0	+6dB
1	+5dB
2	+4dB
3	+3dB
4	+2dB
5	+1dB
6	0dB (Neutral or No Trim)
7	-1dB
8	-2dB
9	-3dB
10	-4dB
11	-5dB
12	-6dB

BYTE 12: Reserved

Bit	7	6	5	4	3	2	1	0
Description	0	0	0	0	0	0	0	0

Bit 7 - 0: Reserved for future

BYTE 13: Operational Status I

Bit	7	6	5	4	3	2	1	0
Description	CAN Online	DC Error	0	0	0	0	0	0

Bit 7:	CAN Online	1 = CAN Communications is operational, 0 = Offline
Bit 6:	DC Error	1 = A DC Error is being evaluated, 0 = Normal
Bit 5:	Reserved	0 = Always read as zero
Bit 4:	Reserved	0 = Always read as zero
Bit 3:	Reserved	0 = Always read as zero
Bit 2:	Reserved	0 = Always read as zero
Bit 1:	Reserved	0 = Always read as zero
Bit 0:	Reserved	0 = Always read as zero

BYTE 14: Operational Status II

Bit	7	6	5	4	3	2	1	0
Description	CAN Online	Keypad Disable	Encoder Disable	0	0	0	0	0

Bit 7: RC5 Disable 1 = IR (RC5) Reception is disabled, 0 = Enabled
Bit 6: Keypad Disable 1 = Front Panel Pushbuttons are disabled, 0 = Enabled
Bit 5: Encoder Disable 1 = Rotary Encoder is disabled, 0 = Enabled
Bit 4: Reserved 0 = Always read as zero
Bit 3: Reserved 0 = Always read as zero
Bit 2: Reserved 0 = Always read as zero
Bit 1: Reserved 0 = Always read as zero
Bit 0: Reserved 0 = Always read as zero

BYTE 15: End of Message

Bit	7	6	5	4	3	2	1	0
Description	0	1	0	1	0	1	0	1

Bit 7 – 0: Hexadecimal 55