Titan RS-232 command set

9.3.2001

SSP-30 + MKII

Technical specification

9600bps (with an external baud rate converter), 8 data bits, one stop bit, no parity
binary transmission, no flow control

Input commands

SINGLE BYTE USER COMMANDS

The following commands are all single bytes sent to the RS-232 port. They create various output data depending on the system status, so a comprehensive output data feedback can't be given. *The reception of these commands must be first activated by sending **RS_ENABLE_CONTROL** command before each command! See SPECIAL COMMANDS section below.*

For information of the commands, refer to Titan User's Manual section User Interface Commands.

UI_DUMMY	1
REMOTE_CONTROL_PLUS	2
REMOTE_CONTROL_MINUS	3
REMOTE_CONTROL_PLUSREPEAT	4
REMOTE_CONTROL_MINUSREPEAT	5
UI_STANDBY_TOGGLE	6
UI_MUTE	7
UI_SOURCEPLUS	8
UI_SOURCEMINUS	9
UI_MODEMINUS	10
UI_MODEPLUS	11
UI_COMPRESSION_TOGGLE	12
UI_AUDIO_IN1	13
UI_AUDIO_IN2	14
UI_AUDIO_IN3	15
UI_AUDIO_IN4	16
UI_AUDIO_IN5	17
UI_AUDIO_IN6	18
UI_AUDIO_IN7	19
UI_AUDIO_IN8	20
FRONTPANEL_CONTROL_PLUS	21
FRONTPANEL_CONTROL_MINUS	22
UI_NOISE	23
UI_LEVEL	24
UI_DELAY	25
UI_TAPEMON_STICKY_TOGGLE	26
UI_THX	27
UI_F1	28
UI_F2	29
UI_F3	30
UI_TAPEMON_NONSTICKY_TOGGLE	31
UI_MUTE_ON	32
UI_MUTE_OFF	33
UI_STANDBY	34
UI_WAKEUP	35
UI_NORMAL	36

UI_COMPRESSION_ON	37
UI_COMPRESSION_OFF	38
UI_TAPEMON_OFF	39
UI_TAPEMON_STICKY_ON	40
UI_TAPEMON_NONSTICKY_ON	41
UI_MONO	42
UI_STEREO	43
UI_PROLOGIC	44
UI_MUSIC1	45
UI_MUSIC2	46
UI_MUSIC3	47
UI_MUSIC4	48
REMOTE_VOLUME_PLUS	49
REMOTE_VOLUME_MINUS	50
REMOTE_VOLUME_PLUSREPEAT	51
REMOTE_VOLUME_MINUSREPEAT	52
FRONTPANEL_VOLUME_PLUS	53
FRONTPANEL_VOLUME_MINUS	54
UI_MONO_TOGGLE	55
UI_PROLOGIC_TOGGLE	56
UI_MUSIC1_TOGGLE	57
UI_MUSIC2_TOGGLE	58
UI_MUSIC3_TOGGLE	59
UI_MUSIC4_TOGGLE	60
UI_LEFT	61
UI_CENTER	62
UI_RIGHT	63
UI_RIGHT_SURROUND	64
UI_LEFT_SURROUND	65
UI_SUBWOOFER	66
UI_SETUP_STEP	67
UI_BASS_PLUS	68
UI_BASS_MINUS	69
UI_TREBLE_PLUS	70
UI_TREBLE_MINUS	71
UI_AUDIO_IN9	72
UI_AUDIO_IN10	73
UI_AUDIO_IN11	74
UI_AUDIO_IN12	75
UI_AUDIO_IN13	76
UI_AUDIO_IN14	77
UI_AUDIO_IN15	78
UI_AUDIO_IN16	79
UI_AUDIO_IN17	80
UI_AUDIO_IN18	81
UI_AUDIO_IN19	82
UI_AUDIO_IN20	83
UI_AUDIO_IN21	84
UI_AUDIO_IN22	85
UI_AUDIO_IN23	86
UI_AUDIO_IN24	87
UI_AUDIO_IN25	88
UI_AUDIO_IN26	89
UI_AUDIO_IN27	90
UI_AUDIO_IN28	91
UI_AUDIO_IN29	92
UI_AUDIO_IN30	93
UI_AUDIO_IN31	94
UI_AUDIO_IN32	95
UI_SPEAKER	96

UI_SUBWOOFER_PLUS	97	
UI_SUBWOOFER_MINUS	98	
UI_CINE_EQ_TOGGLE	99	
UI_AUDIO_IN_EXT71	100	
UI_TRIM_PLUS	101	
UI_TRIM_MINUS	102	
UI_OSD_SETUP	103	
UI_CURSOR_UP	104	
UI_CURSOR_DOWN	105	
UI_CURSOR_LEFT	106	
UI_CURSOR_RIGHT	107	
UI_CURSOR_ENTER	108	
UI_ESCAPE	109	
UI_CURSOR_UP_REPEAT	110	
UI_CURSOR_DOWN_REPEAT	111	
UI_CURSOR_LEFT_REPEAT	112	
UI_CURSOR_RIGHT_REPEAT	113	
UI_OSD_SETUP_STEP	114	
UI_TONE_CTRL	115	
UI_AUDIO_SOURCE_CTRL	116	
UI_VIDEO_SOURCE_CTRL	117	
UI_MULTIROOM_CTRL	118	
UI_MODE_CTRL	119	
UI_SOURCE_CTRL	120	
UI_BRIGHTNESS	121	
UI_OSD_STATUS	122	
UI_SYSTEM_SELECT	123	
UI_PRESET1	124	
UI_PRESET2	125	
UI_PRESET3	126	
UI_PRESET4	127	
UI_PRESET5	128	
UI_CENTER_PLUS	129	
UI_CENTER_MINUS	130	
UI_SURROUND_PLUS	131	
UI_SURROUND_MINUS	132	
UI_BASS_MIX_TOGGLE	133	
UI_TRIM_PLUS_REPEAT	134	
UI_TRIM_MINUS_REPEAT	135	
UI_AUDIO_IN_EXT71_TOGGLE	136	
UI_VIDEO_DISPLAY_MODE	137	
UI_EXTERNAL_BRIGHTNESS	138	
UI_ZONE_VOLUME_PLUS	139	
UI_ZONE_VOLUME_MINUS	140	
UI_ZONE_SOURCE_PLUS	141	
UI_PHONES_VOLUME_PLUS	142	
UI_PHONES_VOLUME_MINUS	143	
UI_INPUT_SEARCH	144	// not ready
UI_FRONT_PANEL_LOCK_TOGGLE	145	
UI_TRIM_MODE_PLUS	146	
UI_TRIM_MODE_MINUS	147	
UI_SYSTEM_OFF_TOGGLE	148	

MULTI BYTE USER COMMANDS

The following commands need two bytes: <command> and <data>

*The reception of these commands must be first activated by sending **RS_ENABLE_CONTROL** command before each command! See SPECIAL COMMANDS section below.*

UI_SET_VOLUME 180

Main zone volume: <data> = 10…100

10 = -90dB, 100 = 0dB

SPECIAL COMMANDS

The following commands need one, two or several bytes: <command> [<data>] [<data>] …

RS_ENABLE_CONTROL 224

Password: <data> = <82> <83> <33>

Activates the reception of USER COMMANDS described above. *Reception is disactivated after every reveived user command!*

RS_DISABLE_CONTROL 225

Diactivates the reception of USER COMMANDS described above.

RS_QUERY_SYSTEM_STATUS 227

Request for various status information

HEADER: <227> <255>

RS_VOLUME (see ***Output data*** section)
RS_MUTE (see ***Output data*** section)
RS_AUDIO_SOURCE (see ***Output data*** section)
RS_VIDEO_SOURCE (see ***Output data*** section)
RS_OPER_MODE (see ***Output data*** section)
RS_ZONE_AUDIO_SOURCE (see ***Output data*** section)
RS_ZONE_VIDEO_SOURCE (see ***Output data*** section)
RS_ZONE_VOLUME (see ***Output data*** section)
RS_ZONE_MUTE (see ***Output data*** section)
RS_DIMMER (see ***Output data*** section)
RS_TAPEMONITOR (see ***Output data*** section)
RS_STEREO_MODE (see ***Output data*** section)
RS_SIGNAL_TYPE (see ***Output data*** section)
RS_AUDIO_INPUT_TYPE (see ***Output data*** section)
RS_COMPRESSION (see ***Output data*** section)
RS_CINEEQ (see ***Output data*** section)
RS_THX (see ***Output data*** section)
RS_VIDEO_INPUT_TYPE (see ***Output data*** section)
RS_BASS (see ***Output data*** section)
RS_TREBLE (see ***Output data*** section)
RS_CENTER (see ***Output data*** section)
RS_SURROUND (see ***Output data*** section)
RS_SUBWOOFER (see ***Output data*** section)
RS_TRIGGER1 (see ***Output data*** section)
RS_TRIGGER2 (see ***Output data*** section)
RS_TV_SYSTEM (see ***Output data*** section)

COMMANDS FOR TESTING PURPOSES

The following commands need one or two bytes: <command> [<data>]

RS_TEST_OPERATIONS 226

Balanced input bypass off: <data> = <0>
Balanced input bypass on: <data> = <1>
Microphone off: <data> = <2>
Microphone on: <data> = <3>
Button ID transmission on: <data> = <4>

RS_LIGHT_LED 228

User interface LED ID: <data> = <LED ID>

Switches off every other LEDs

Output data

The following data is sent out to RS-port whenever the status of the current parameter or function is changed.

The output data consists of at least three bytes: <command> <data> <EOT>. For example when the main zone volume is changed to –25dB the following three bytes are sent out: 225 75 255.

RS_VOLUME 225
Main zone volume: <data> = 10…120
10 = -90dB, 100 = 0dB, 115 = +15dB

RS_MUTE 226
(user mute)
Main zone mute: <data> = 0/1
0 = unmuted, 1 = muted

RS_AUDIO_SOURCE 227
Main zone source: <data> = 1…64
1…16 = normal source
62 = internal tuner
63 = balanced audio in
64 = external 7.1 input

RS_VIDEO_SOURCE 228
Main zone composite/SVIDEO video source: <data> = 1…6

RS_OPER_MODE 229
<data> = 0/1
0 = standby
1 = on

RS_ZONE_AUDIO_SOURCE 230
2 zone source: <data> = 1…16

RS_ZONE_VIDEO_SOURCE 231
2 zone video source: <data> = 1…6

RS_ZONE_VOLUME 232
2 zone volume: <data> = 10…115
10 = -90dB, 100 = 0dB, 115 = +15dB

RS_ZONE_MUTE 233
2 zone mute: <data> = 0/1
0 = unmuted, 1 = muted

RS_DIMMER 234
Front panel display brightness: <data> = 0/1
0 = bright, 1 = dimmed

RS_TAPEMONITOR 235
TapeMonitor status: <data> = 0/1
0 = TapeMonitor off, 1 = TapeMonitor on

RS_STEREO_MODE 236
Stereo mode: <data> = 0…10
0 = stereo
1 = Dolby Pro Logic
2 = Natural
3 = Club
4 = Concert
5 = Stadium
6 = Party
7 = Mono downmix
8 = Custom music mode
9 = <not used>
10 = no stereo mode in use

RS_SIGNAL_TYPE 237

Audio signal type: <data> = 0…8

0 = <reserved>
1 = silent, zero signal
2 = Digital PCM
3 = Dolby Digital
4 = DTS
5 = MPEG
6 = Noise (generated by the DSP)
7 = Analog
8 = Digital Error (unrecognized or corrupted digital signal)

RS_AUDIO_INPUT_TYPE 238

Audio signal physical input type: <data> = 0…4

0 = Non-balanced Analog
1 = Coaxial
2 = Optical
3 = RF Demodulator (AC-3)
4 = AES/EBU
5 = Balanced Analog

RS_COMPRESSION 239

Late Night compression status: <data> = 0/1

0 = compression off, 1 = compression on

RS_CINEEQ 240

Cine EQ status: <data> = 0/1

0 = Cine EQ off, 1 = Cine EQ on

RS_VIDEO_INPUT_TYPE 241

Type of input video signal: <data> = 0…2

0 = unknown / no input signal
1 = Composite
2 = SVIDEO

RS_TREBLE 242

Treble equalizer: <data> = 0…24

0 = -12dB, 12 = 0dB, 24 = +12dB

RS_BASS 243

Bass equalizer: <data> = 0…24

0 = -12dB, 12 = 0dB, 24 = +12dB

RS_CENTER 244

Center trim level: <data> = 0…24

0 = -12dB, 12 = 0dB, 24 = +12dB

RS_SURROUND 245

Surround trim level: <data> = 0…24

0 = -12dB, 12 = 0dB, 24 = +12dB

RS_SUBWOOFER 246

Subwoofer trim level: <data> = 0…24

0 = -12dB, 12 = 0dB, 24 = +12dB

RS_TRIGGER1 247

Trigger 1 status: <data> = 0/1

0 = trigger inactive, 1 = trigger active

RS_TRIGGER2 248

Trigger 2 status: <data> = 0/1

0 = trigger inactive, 1 = trigger active

RS_TV_SYSTEM 249

TV system of the video input signal: <data> = 0…2

0 = unknown, 1 = PAL, 2 = NTSC

RS_THX 250

THX status: <data> = 0/1/2

0 = THX off, 1 = THX on, 2 = THX-EX on

RS_EOT 255

Sent out as a last byte of each transmission from the serial port