SL TEMPLATE CONTROL OFFSETS   Edition 1.2

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BM ;CONTROL STRUCTURE

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;CONTROL OBJECT:

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OFFSET	MEMBER	DESCRIPTION
0	CNNAME[8]	
8	CNTYPE	
9	CNLOWU	
0A	CNLOW	
0B	CNHIGHU	
0C	CNHIGH	
0D	CNATTR1	
0E	CNATTR2	
0F	CNATTR3	
10	CNCNMSB	
11	CNCNLSB	
12	CNPORTS	
13	CNMCHAN	
14	CNSETMSB	
15	CNSETLSB	
16	CNMSTEPV	
17		
18	CNSPARE,3	
19	CNSXATTR1	
1A	CNSXSIZE	
1B	CNUPDPSN	
1C	CNSXBUF[12]	
29	NORMCNSIZE	Actual Control Size = 29H = 41 Bytes.

ALTERNATIVE MEMBER NAMES:

CNDEVID	EQU	CNCNLSB	MMC Device Number
CNDISP	EQU	CNATTR3	Control Display Type
CNLINKRTP	EQU	CNSPARE	LINKED RELATIVE TEMPLATE NUMBER
CNLINKCN	EQU	CNSPARE+1	LINKED CONTROL NUMBER

SYSEX DATA TYPES:

SXDTNONE	EQU	0	
SXDTSINGLE	EQU	1	
SXDTLSBMSB	EQU	2	
SXDTMSBLSB	EQU	3	
SXDTROLO	EQU	4	

CONTROL TYPES:

CTSPARE	EQU	0	
CTCC	EQU	1	
CTNRPN	EQU	2	
CTRPN	EQU	3	
CTSYSEX	EQU	4	
CTMMC	EQU	5	
CTNOTEON	EQU	6	
CTNOTEOFF	EQU	7	
CTBANKSEL	EQU	8	
CTPROGCG	EQU	9	
CTPBEND	EQU	10	
CTDRUMNOTE	EQU	11	
CTTEMPCG	EQU	12	
CTREALTIME	EQU	13	
CTTEMPGRP	EQU	14	
CTMAX	EQU	14	

BM ;CONTROL ATTRIBUTES BYTE 1 [BIT TEST POSITIONS]

CASLSV1ST	EQU	0	1=SEND THE MS VALUE FIRST [DRS20JUN05: SWAPPED]
CASEND2BV	EQU	1	1=SEND A 2BYTE VALUE
CARELTOO	EQU	2	1=RELEASE, AS WELL AS PRESS, VALUE SENT
CATOGGLE	EQU	3	1=TOGGLE THE VALUE SENT (HIGH/LOW)
CACYCBTN	EQU	4	1=CYCLIC/STEP BUTTON ACTION
		5	
CARAWDATA	EQU	6	1=USE RAWDATA IN CONTROL SYSEX BUFFER

GENERAL PORT ROUTING ENABLE BITS

CAM1PORT	EQU	0	
CAM2PORT	EQU	1	
CAUSBPORTA	EQU	2	
CAUSBPORTB	EQU	3	
CAUSBPORTC	EQU	4	
TYPE		6+5	Bit6 Bit5 0 0 0Xh = ComnPort - Bits 0-4 are ignored (should be cleared) 0 1 2Xh = KeybPort - Bits 0-4 are ignored (should be cleared) 1 0 4Xh = Specific - Bits 0-4 indicate the ports to use. 0 0 6Xh = invalid For Ports specific to the control in question you should use 4Xh eg 40h - means dont transmit to any port 41h - means send to M1-Out Port * 42h - means send to M2-Out Port * 44h - means send to USB Port1 48h - means send to USB Port2 * 50h - means send to USB Port3 (Hidden Port) 54h - means send to USB Port1 and Port 3 *Not used on Nocturn Keyboard

CNMCHAN BITS

		0-3	MIDIChannel 00-0Fh
TYPE		6+5	Bit6 Bit5 0 0 0Xh = ComnChan - Bits 0-3 are ignored (should be cleared) 0 1 2Xh = KeybPort - Bits 0-3 are ignored (should be cleared) 1 0 4Xh = Specific - Bits 0-3 indicate the ports to use. 0 0 6Xh = invalid For MIDIChannels specific to the control in question you should use 4Xh eg 40h - means MIDIChannel #1 47h - means MIDIChannel #8 4Fh - means MIDIChannel #16 00h - means get MIDIChannel from ComnChan 20h - means get MIDIChannel from KeybChan

BM ;CONTROL ATTRIBUTES BYTE 2 [BIT TEST POSITIONS]

CASEND1CN	EQU	0	1=ONLY SEND ONE CONTROL NUMBER (NOT USED)
CALSCN1ST	EQU	1	1=SEND THE LS CONTROL NUMBER FIRST (NOT USED)
CANOSNAP	EQU	2	1=snap-shot: dont send this control during a snap-shot operation
CAINVERT	EQU	3	1=INVERT THE CONTROL VALUE.
CASEENCATCHUP	EQU	4	0=SEEN, 1=NOT SEEN.

CMPOTMODE	EQU	60h	BIT5+6: 00=JUMP 01=PICKUP 10=GLOBAL 11=TEMPLATE

CATCHBTN	EQU	0	0/1 = TCHPAD/BUTTON TYPE.
CATCHON	EQU	1	0/1 = OFF/ON TCHPAD-BUTTON STATUS.

;CONTROL ATTRIBUTES BYTE 3 [BIT TEST POSITIONS]

BITS 0-4=DISPLAY FORMAT.

CMDISPTYP	EQU	1Fh	DISPLAY-FORMAT BIT MASK

MIDI PORT BYTE - BIT ATTRIBUTES:

MAM1PORT	EQU	0	
MAM2PORT	EQU	1	
MAUSBPORTA	EQU	2	['CONTROLS]
MAUSBPORTB	EQU	3	[KEYBOARD]
MAUSBPORTC	EQU	4	[AUTOMAP2]
TYPE		6+5	

BM ;DISPLAY TYPES

FT127	EQU	0	
FT6463	EQU	1	
FTMMC	EQU	2	
FTOFFON	EQU	3	
FTBLANK	EQU	4	BLANK DISPLAY TYPE
FTLABEL	EQU	5	FOR NO-CONTROL: DISPLAY CNNAME INSTEAD OF DEFAULT 'OFF'
FTREL1	EQU	6	RELATIVE ENCODER CHANGE TX'd
FTREL2	EQU	7	RELATIVE ENCODER CHANGE TX'd
FTNOTE	EQU	8	
FT16K	EQU	9	14-BIT ENCODER DISPLAY]
FTLABEL2	EQU	15	FOR NO-CONTROL: DISPLAY CNNAME + STRING IN CN-SXBUFFER
FTLED	EQU	16	LED " "/"ON" DISPLAY TYPE
FTVPOT	EQU	17	LOGIC VPOT DISPLAY TYPE
FTEND	EQU	17	

SPECIAL SYSEX COMMAND CODES:

SXSOSX	EQU	F0h	START OF SX CODE
SXSETT	EQU	FFh	DATA SETTING POSITION INDICATOR
SXEOSX	EQU	F7h	END OF SX INDICATOR.

NORMMAXCN	EQU	90	NORMAL MAXIMUM NUMBER OF CONTROLS
PGSIZE	EQU	PGGBSIZE+(NORMMAXCN*NORMCNSIZE)	[TOTAL TEMPLATE SIZE]
SHORTCNMAXCN	EQU	144	MAXIMUM NUMBER OF SHORT-CONTROLS