

## Appendix B – P and S Codes

### A.1 P Codes

P (Parameter) codes, when used in the parameter field of a SET command, allow you to set parameters on the module via remote control, just like setting the switches on a module under local control. Each is a number from 0 to 255, also represented as an eight-digit binary number (in parentheses). The P codes provide remote access to the settings. P codes also appear in the response to a CONFIG? query, showing the current parameter settings on the card. When using binary numbers in the parameter field of a SET command, they must be preceded by the letter "B", as for example:

```
<MULTIPLEXER ADDRESS>:<CARD ADDRESS>:SET:P02 = B00000001;
```

In addition to the P codes, it is also possible to turn service on or off for the card by sending **SRVC = ON** or **SRVC = OFF** in the ISiCL parameter field with a SET command. (Refer to the Access or CrossConnect server manuals for more information about the ISiCL commands.)

A typical response to an SNC-101S CONFIG? Query looks like this:

```
1:C12:STATUS;;
```

```
* OK  
CHANNEL CARD 12, TYPE 139  
UNDER LOCAL CONTROL  
SRVC = ON  
P01 = 1 (B00000001)  
P02 = 1 (B00000001)  
P03 = 33 (B00100001);
```

A typical response to an SNC-101T CONFIG? query looks like this:

```
3:C12:CONFIG?;;
```

```
* OK  
CHANNEL CARD 12, TYPE 140  
UNDER REMOTE CONTROL  
SRVC = ON  
P01 = 1 (B00000001)  
P02 = 255 (B11111111)  
P03 = 1 (B00000001)  
P04 = 49 (B00110001)  
P05 = 151 (B10010111)  
P06 = 80 (B01010000);
```

There are six P codes for the SNC-101T module. Configuration codes P1 through P3 define the operating conditions of the module, and codes P4 through P6 are used to set the time delay at the transmitter site(s). Table B-1 presents the remote configuration settings (P codes) for the SNC-101S module. Table B-2 shows the P codes for the SNC-101T module.

**Table B-1. SNC-101S Parameter Codes – P Codes**

P Code	Parameter	Binary Digits								Value	Description	
		7	6	5	4	3	2	1	0			
SRVC	Service									ON	Turn service on (enable module).	
										OFF	Turn service off (disable module).	
P01	Timeslot	B	0	0	0	0	0	0	0	0	0 or 1	Select the TDM timeslot code.
	Not used	B	0	0	0	0	0	0	0	0	0	Not used – set to 0
P02	Not used	B	0	0	0	0	0	0	0	0	0	Not used
P03	TERM	B	0	0	0	0	0	0	0	0	0	DI-B multiplexer
												1
	AUX	B	0	0	0	0	0	0	0	0	0	Not used – set to 0
	CAS	B	0	0	0	0	0	0	0	0	0	Timeslot 16 not reserved
												1
	1PPS-SEL	B	0	0	0	0	0	0	0	0	0	BNC 1PPS (TRAK 8821)
												1
	Not used	B	0	0	0	0	0	0	0	0	0	Not used
	ALM_POL	B	0	0	0	0	0	0	0	0	0	Normally open (TRAK 8821)
												1
DATA RATE	B	0	0	0	0	0	0	0	0	11	64 kB/s	
											10	32 kB/s
											01	16 kB/s
											00	8 kB/s

**Table B-2. SNC-101T Parameter Codes – P Codes**

P Code	Parameter	Binary Digits								Value	Description		
		7	6	5	4	3	2	1	0				
SRVC	Service									ON	Turn service on (enable module)		
										OFF	Turn service off (disable module)		
P01	Timeslot	B	0	0	0	0	0	0	0	0	0 or 1	Select the timeslot: 1 to 24 in T1 mux where selected slot is 5-bit switch code + 1 0 to 31 in E1 mux where selected slot is 5-bit switch code	
	Not used	B	0	0	0	0	0	0	0	0	0	Not used – set to 0	
P02	Not used	B	0	0	0	0	0	0	0	0	0	Not used	
P03	TERM	B	0	0	0	0	0	0	0	0	0	0	DI-B multiplexer
												1	Terminal or DI-A multiplexer
	AUX	B	0	0	0	0	0	0	0	0	0	Not used – set to 0	
	CAS	B	0	0	0	0	0	0	0	0	0	0	Timeslot 16 not reserved
												1	Timeslot 16 reserved (E1 only)
	1PPS-SEL	B	0	0	0	0	0	0	0	0	0	0	BNC 1PPS (TRAK 8821)
												1	RS422 1PPS (Spectracom 8195)
	GPS-ALM	B	0	0	0	0	0	0	0	0	0	0	Make delay calculations regardless of GPS receiver alarm condition(s).
												1	Do not make new delay calculations if origination point GPS receiver is in alarm.
	ALM_POL	B	0	0	0	0	0	0	0	0	0	0	Normally open (TRAK 8821)
											1	Normally closed (Spectracom 8195)	
DATA RATE	B	0	0	0	0	0	0	0	0	0	11	64 kB/s	
											10	32 kB/s	
											01	16 kB/s	
											00	8 kB/s	
P04	DLY23...DLY 16	B	0	0	0	0	0	0	0	0	Varies	Target delay setting – Bit value equals 65536 x 100 nS of delay – D23 is the MSB.	
P05	DLY15...DLY 8	B	0	0	0	0	0	0	0	0	Varies	Target delay setting – Bit value equals 256 x 100 nS of delay.	
P06	DLY7...DLY0	B	0	0	0	0	0	0	0	0	Varies	Target delay setting – Bit value equals 100 nS of delay. D0 is the LSB.	

## A.2 S Codes

S (Status) codes appear in response to a STATUS? query. Like the P codes, they are eight-digit binary numbers. There are two S codes for the SNC-101S. There are six S codes for the SNC-101T module. A typical SNC-101S response to a STATUS? query looks like this:

```
1:C12:CONFIG?;
```

```
* OK  
CHANNEL CARD 12, TYPE 139  
S01 = 0 (B00000000)  
S02 = 130 (B10000010);
```

A typical SNC-101T response to a STATUS? query looks like this:

```
3:C12:STATUS;
```

```
* OK  
CHANNEL CARD 12, TYPE 140  
S01 = 0 (B00000000)  
S02 = 81 (B01010001)  
S03 = 0 (B00000000)  
S04 = 0 (B00000000)  
S05 = 1 (B00000001)  
S06 = 130 (B10000010);
```

Table B-3 presents the status messages (S codes) for the SNC-101S module. Table B-4 shows the S codes for the SNC-101T module.

**Table B-3. SNC-101S Status Codes – S Codes**

S Code	Parameter	Binary Digits								Value	Description		
			7	6	5	4	3	2	1			0	
S01	Configuration Error	B	0	0	0	0	0	0	0	0	0	0	Normal operation
											0	↑	1
	GPS receiver alarm	B	0	0	0	0	0	0	0	0	0	0	GPS receiver normal
											0	↑	1
	T1/E1 Mode	B	0	0	0	0	0	0	0	0	0	0	1.544 MHz (T1)
									0		0	↑	1
	PLL_LOCK	B	0	0	0	0	0	0	0	0	0	0	PLL locked (good)
								0		0	↑	1	PLL unlocked
Not used	B	0	0	0	0	0	0	0	0	0	0	Not used	
GPS receiver signal error	B	0	0	0	0	0	0	0	0	0	0	GPS receiver signals normal	
		0	↑									1	GPS receiver signals error
S02	Revision Code	B	0	0	0	0	0	0	0	0	0	Varies	Minor revision
					0	0	0	0	0	0	0	0	Varies

**Table B-4. SNC-101T Status Codes – S Codes**

S Code	Parameter	Binary Digits								Value	Description		
			7	6	5	4	3	2	1			0	
S01	Configuration Error	B	0	0	0	0	0	0	0	0	0	0	Normal operation
											0	↑	1
	GPS receiver alarm	B	0	0	0	0	0	0	0	0	0	0	GPS receiver normal
											0	↑	1
	T1/E1 Mode	B	0	0	0	0	0	0	0	0	0	0	1.544 MHz (T1)
									0		0	↑	1
	PLL_LOCK	B	0	0	0	0	0	0	0	0	0	0	PLL locked (good)
								0		0	↑	1	PLL unlocked
LOCK	B	0	0	0	0	0	0	0	0	0	0	Measured delay error (actual delay – target delay) is less than or equal to +/-1 uS.	
					0							1	Measured delay error is greater than 1 uS.

**Table B-4. SNC-101T Status Codes – S Codes (cont.)**

S Code	Parameter	Binary Digits									Value	Description		
			7	6	5	4	3	2	1	0				
	SYNC	B	0	0	0	0	0	0	0	0	0	0	Normal – Synchronization with timing packet from SNC-101S	
					↑							1	Cannot synchronize to timing packet from SNC-101S	
	Remote GPS receiver alarm	B	0	0	0	0	0	0	0	0	0	0	Remote GPS Receiver Normal	
					↑							1	Remote GPS Receiver Alarm	
	GPS receiver signal error	B	0	0	0	0	0	0	0	0	0	0	GPS receiver signals normal	
					↑							1	GPS receiver signals error	
S02	ERR_SIGN	B	0	0	0	0	0	0	0	0	0	0	Delay error is positive	
												↑	1	Delay error is negative
	Not used	B	0	0	0	0	0	0	0	0	0	0	Not used	
												↑	0	
	Delay Error Counter	B	0	0	0	0	0	0	0	0	0	0	Varies	Incremented each time a new delay error measurement is made
				↑	↑	↑	↑	↑	↑					
S03	Delay Error (MSB)	B	0	0	0	0	0	0	0	0	0	Varies	Delay error – Bit value is equal to 65536 x 100 nS of error.	
S04	Delay Error	B	0	0	0	0	0	0	0	0	0	Varies	Delay error – Bit value is equal to 256 x 100 nS of error.	
S05	Delay Error (LSB)	B	0	0	0	0	0	0	0	0	0	Varies	Delay error – Bit value is equal to 100 nS of error.	
S06	Revision Code	B	0	0	0	0	0	0	0	0	0	Varies	Minor revision	
			B	0	0	0	0	0	0	0	0	0	Varies	
				↑	↑									



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