



# SD SMU MAINTENANCE INTERFACE PANEL

**QUICK REFERENCE GUIDE**  
(version 3.0)



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## Maintenance Panel Overview:

The SD SMU Maintenance Interface Panel (MIP) is a rack mounted unit with the ability to break out every interface available on the Satcom Direct SMU Ku/Ka system. The unit fits into a standard 19” rack with a 3RU height. It gets powered by a built-in 24VDC power supply capable of driving 5 amps.

## Equipment Part Numbers:

Description	Part Number
SD SMU MIP	DB10-1305E-01

## Incorporated Features:

Option	Included
ARINC 429 transmit	2 paralleled channels
Internal GPS	Yes
Internal compass	Yes
CEPT ports	0
ISDN ports	0
FX ports	0
Ethernet ports	ETH4, ETH 5
USB pass-through ports	0
Console RS232 ports	0
Keyed TX disable	No
Front I/O connector	Yes
External LRU power input	Yes
Ethernet Control	Yes

## User Interface Firmware:

The Maintenance Interface Panel runs using our proprietary firmware package named *Obsidian Plus*. Consult the *Obsidian Plus* user’s manual for specific information on using this panel’s touchscreen interface.

## Application Programming Interface:

The Maintenance Interface Panel incorporates an API to remotely control most functions that are capable through the touchscreen. Consult the *Obsidian Plus* API user manual for specific information on using this panel’s interface.

**Default Power Button Configuration:**

Power Button Name:	Function:
SMU LRU	External power to J3 - pin 37 External power to J3 - pin 45 External power to J3 - pin 46 External power to J3 - pin 53  External power to J101 - pin 28 External power to J101 - pin 31
SMU FAN	External power to J4 - pin 4 External power to J4 - pin 5

**Default Discrete Out Button Configuration:**

Discrete Out Number:	Pin:	Name:	Function:	Icon Image	Icon State
1	J3 - pin 22	TX DISABLE	“TX DISABLED” = Grounded “TX ENABLED” = Open	Mute	Low
2	J3 - pin 14	WOW	“GROUNDED” = Grounded “OPEN” = Open	X	X
3	J3 - pin 7	WOW MODE	“WOW=GROUNDED” = Grounded “WOW=OPEN” = Open	X	X
4	J3 - pin 2	SPARE 1	“GROUNDED” = Grounded “OPEN” = Open	X	X
5	J3 - pin 8	SPARE 2	“GROUNDED” = Grounded “OPEN” = Open	X	X
6	J3 - pin 24	SPARE 3	“GROUNDED” = Grounded “OPEN” = Open	X	X
7	J3 - pin 4	SPARE 4	“GROUNDED” = Grounded “OPEN” = Open	X	X
8	J3 - pin 9	SPARE 5	“GROUNDED” = Grounded “OPEN” = Open	X	X
9	J3 - pin 5	SPARE 6	“GROUNDED” = Grounded “OPEN” = Open	X	X
12	J3 - pin 15	SMU RESET	“RESETTING” = Grounded “NORMAL OP” = Open	X	X

### Default Discrete In Button Configuration:

Discrete In Number:	Pin:	Name:	Function:	Icon Image	Icon State
1	J1 - pin 10	SYS AVAIL	“AVAILABLE” = Grounded “NOT AVAIL” = Open	Fault	Low
2	J1 - pin 9	DATA AVAIL	“AVAILABLE” = Grounded “NOT AVAIL” = Open	Data	Low
3	J1 - pin 4	SPARE 1	“GROUNDED” = Grounded “OPEN” = Open	X	X

### Panel Pinout Overview:

The next sections show all of the pinouts for the Maintenance Interface Panel. Items highlighted in yellow indicate a direct pass-through to the J101 connector. The pin designations are configurable through a loadable file; therefore, the pins may be used for any actual signals as desired. The ones listed here are suggested or named by default. Each signal must be below a maximum of 1 ampere each.

### Panel J1 Connector Pinouts:

<b>J1, 57 pin female CPC</b> TE Connectivity, P/N: 1-796329-1  <b>Mates With:</b> TE Connectivity, P/N: 206437-1 Pin P/N: M39029/64-369 pins  <b>Backshell:</b> TE Connectivity, P/N: 182930-1			
Pin 1	No connection	Pin 21	No Connection
Pin 2	No connection	Pin 22	Spare (J101, pin 9)
Pin 3	No connection	Pin 23	Ground
Pin 4	Discrete 3 Input (from SMU)	Pin 24	Spare (J101, pin 8)
Pin 5	No connection	Pin 25	Spare (J101, pin 3)
Pin 6	No connection	Pin 26	No Connection
Pin 7	No connection	Pin 27	No Connection
Pin 8	No connection	Pin 28	No Connection
Pin 9	Discrete 2 Input (from SMU)	Pin 29	No Connection
Pin 10	Discrete 1 Input (from SMU)	Pin 30	Ground
Pin 11	No connection	Pin 31	Ground
Pin 12	No connection	Pin 32	Spare (J101, pin 10)
Pin 13	No connection	Pin 33	Spare (J101, pin 4)

<b>J1, 57 pin female CPC</b> <b>TE Connectivity, P/N: 1-796329-1</b>  <b>Mates With:</b> <b>TE Connectivity, P/N: 206437-1</b> <b>Pin P/N: M39029/64-369 pins</b>  <b>Backshell:</b> <b>TE Connectivity, P/N: 182930-1</b>			
Pin 14	No connection	Pin 34	No Connection
Pin 15	Spare (J101, pin 25)	Pin 35	No Connection
Pin 16	Spare (J101, pin 2)	Pin 36	No Connection
Pin 17	Spare (J101, pin 17)	Pin 37	No Connection
Pin 18	No Connection	Pin 38	No Connection
Pin 19	No Connection	Pin 39	No Connection
Pin 20	No Connection	Pin 40	No Connection
Pin 41	No Connection	Pin 49	No Connection
Pin 42	No Connection	Pin 50	No Connection
Pin 43	No Connection	Pin 51	No Connection
Pin 44	No Connection	Pin 52	No Connection
Pin 45	No Connection	Pin 53	No Connection
Pin 46	No Connection	Pin 54	No Connection
Pin 47	No Connection	Pin 55	No Connection
Pin 48	No Connection	Pin 56	No Connection
		Pin 57	No Connection

### Panel J2 Connector Pinouts:

<b>J2, 28 pin female CPC</b> <b>TE Connectivity, P/N: 206038-1</b>  <b>Mates With:</b> <b>TE Connectivity, P/N: 206039-1</b> <b>Pin P/N: M39029/64-369 pins</b>  <b>Backshell:</b> <b>TE Connectivity, P/N: 182661-1</b>			
Pin 1	Spare (J101, pin 50)	Pin 12	Spare (J101, pin 41)
Pin 2	Spare (J101, pin 55)	Pin 13	Spare (J101, pin 54)
Pin 3	Spare (J101, pin 48)	Pin 14	Spare (J101, pin 53)
Pin 4	Spare (J101, pin 42)	Pin 15	Spare (J101, pin 13)

<p align="center"><b>J2, 28 pin female CPC</b>  <b>TE Connectivity, P/N: 206038-1</b></p> <p align="center"><b>Mates With:</b>  <b>TE Connectivity, P/N: 206039-1</b>  <b>Pin P/N: M39029/64-369 pins</b></p> <p align="center"><b>Backshell:</b>  <b>TE Connectivity, P/N: 182661-1</b></p>			
Pin 5	Spare (J101, pin 49)	Pin 16	Ground
Pin 6	Spare (J101, pin 51)	Pin 17	Ground
Pin 7	Spare (J101, pin 40)	Pin 18	Ground
Pin 8	Spare (J101, pin 47)	Pin 19	Ground
Pin 9	Spare (J101, pin 35)	Pin 20	Spare (J101, pin 57)
Pin 10	Spare (J101, pin 43)	Pin 21	Spare (J101, pin 20)
Pin 11	Ground	Pin 22	Spare (J101, pin 26)
Pin 23	Spare (J101, pin 27)	Pin 26	Spare (J101, pin 18)
Pin 24	Spare (J101, pin 34)	Pin 27	Spare (J101, pin 11)
Pin 25	Spare (J101, pin 12)	Pin 28	Spare (J101, pin 19)

### Panel J3 Connector Pinouts:

<p align="center"><b>J3, 63 pin male CPC</b>  <b>TE Connectivity, P/N: 206455-2</b></p> <p align="center"><b>Mates With:</b>  <b>TE Connectivity, P/N: 205842-1</b>  <b>Pin P/N: M39029/63-368 pins</b></p> <p align="center"><b>Backshell:</b>  <b>TE Connectivity, P/N: 182930-1</b></p>			
Pin 1	No Connection	Pin 18	ARINC 429 Tx - 2A (to SMU)
Pin 2	Discrete 4 Switched Lo (to SMU)	Pin 19	ARINC 429 Tx - 2B (to SMU)
Pin 3	No Connection	Pin 20	ARINC 429 Rx - 1B (from SMU) (J101, pin, 6)
Pin 4	Discrete 7 Switched Lo (to SMU)	Pin 21	Ground
Pin 5	Discrete 9 Switched Lo (to SMU)	Pin 22	Discrete 1 Switched Lo (to SMU)
Pin 6	No Connection	Pin 23	Ground
Pin 7	Discrete 3 Switched Lo (to SMU)	Pin 24	Discrete 6 Switched Lo (to SMU)
Pin 8	Discrete 5 Switched Lo (to SMU)	Pin 25	No Connection
Pin 9	Discrete 8 Switched Lo (to SMU)	Pin 26	No Connection
Pin 10	ARINC 429 Tx - 1A (to SMU)	Pin 27	No Connection

<p style="text-align: center;"><b>J3, 63 pin male CPC</b>  <b>TE Connectivity, P/N: 206455-2</b></p> <p style="text-align: center;"><b>Mates With:</b>  <b>TE Connectivity, P/N: 205842-1</b>  <b>Pin P/N: M39029/63-368 pins</b></p> <p style="text-align: center;"><b>Backshell:</b>  <b>TE Connectivity, P/N: 182930-1</b></p>			
Pin 11	ARINC 429 Tx - 1B (to SMU)	Pin 28	Ground
Pin 12	ARINC 429 Rx - 1A (from SMU) (J101, pin 5)	Pin 29	Ground
Pin 13	Ground	Pin 30	Ground
Pin 14	Discrete 2 Switched Lo (to SMU)	Pin 31	Ground
Pin 15	Discrete 12 Switched Lo (to SMU)	Pin 32	Ground
Pin 16	No Connection	Pin 33	Ground
Pin 17	No Connection	Pin 34	Ground
Pin 35	No Connection	Pin 50	Ground
Pin 36	No Connection	Pin 51	Spare (J101, pin 45)
Pin 37	Switched Power (SMU LRU)	Pin 52	Spare (J101, pin 44)
Pin 38	Ground	Pin 53	Switched Power (SMU LRU)
Pin 39	Ground	Pin 54	Spare (J101, pin 16)
Pin 40	Ground	Pin 55	Spare (J101, pin 24)
Pin 41	Ground	Pin 56	Spare (J101, pin 7)
Pin 42	Ground	Pin 57	Spare (J101, pin 39)
Pin 43	Ground	Pin 58	Spare (J101, pin 52)
Pin 44	Spare (J101, pin 36)	Pin 59	Spare (J101, pin 56)
Pin 45	Switched Power (SMU LRU)	Pin 60	Spare (J101, pin 15)
Pin 46	Switched Power (SMU LRU)	Pin 61	Spare (J101, pin 14)
Pin 47	Ground	Pin 62	Spare (J101, pin 33)
Pin 48	Spare (J101, pin 32)	Pin 63	Spare (J101, pin 46)
Pin 49	Spare (J101, pin 1)		

**Panel J4 Connector Pinouts:**

<p><b>J4, 9 pin male CPC</b> TE Connectivity, P/N: 206486-1</p> <p><b>Mates With:</b> TE Connectivity, P/N: 206485-1 Pin P/N: M39029/63-368 pins</p> <p><b>Backshell:</b> TE Connectivity, P/N: 1-206062-6</p>			
Pin 1	No Connection	Pin 5	Switched Power (SMU FAN)
Pin 2	No Connection	Pin 6	Ground
Pin 3	Ground	Pin 7	No Connection
Pin 4	Switched Power (SMU FAN)	Pin 8	No Connection
		Pin 9	Ground

**Panel J101 Connector Pinouts:**

<p><b>J101, 57 pin female CPC</b> TE Connectivity, P/N: 1-796329-1</p> <p><b>Mates With:</b> TE Connectivity, P/N: 206437-1 Pin P/N: M39029/64-369 pins</p> <p><b>Backshell:</b> TE Connectivity, P/N: 182930-1</p>			
Pin 1	Spare	Pin 27	Spare
Pin 2	Spare	Pin 28	Switched Power (SMU LRU)
Pin 3	Spare	Pin 29	Ground
Pin 4	Spare	Pin 30	Ground
Pin 5	ARINC 429 Rx - 1A (from SMU)	Pin 31	Switched Power (SMU LRU)
Pin 6	ARINC 429 Rx - 1B (from SMU)	Pin 32	Spare
Pin 7	Spare	Pin 33	Spare
Pin 8	Spare	Pin 34	Spare
Pin 9	Spare	Pin 35	Spare
Pin 10	Spare	Pin 36	Spare
Pin 11	Spare	Pin 37	Ground
Pin 12	Spare	Pin 38	Ground
Pin 13	Spare	Pin 39	Spare
Pin 14	Spare	Pin 40	Spare



**J101, 57 pin female CPC**  
**TE Connectivity, P/N: 1-796329-1**

**Mates With:**  
**TE Connectivity, P/N: 206437-1**  
**Pin P/N: M39029/64-369 pins**

**Backshell:**  
**TE Connectivity, P/N: 182930-1**

Pin 15	Spare	Pin 41	Spare
Pin 16	Spare	Pin 42	Spare
Pin 17	Spare	Pin 43	Spare
Pin 18	Spare	Pin 44	Spare
Pin 19	Spare	Pin 45	Spare
Pin 20	Spare	Pin 46	Spare
Pin 21	Ground	Pin 47	Spare
Pin 22	Ground	Pin 48	Spare
Pin 23	Ground	Pin 49	Spare
Pin 24	Spare	Pin 50	Spare
Pin 25	Spare	Pin 51	Spare
Pin 26	Spare	Pin 52	Spare
Pin 53	Spare	Pin 55	Spare
Pin 54	Spare	Pin 56	Spare
		Pin 57	Spare

## Contact Us:

Please feel free to contact us if you need any additional help with the operation of this device.

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