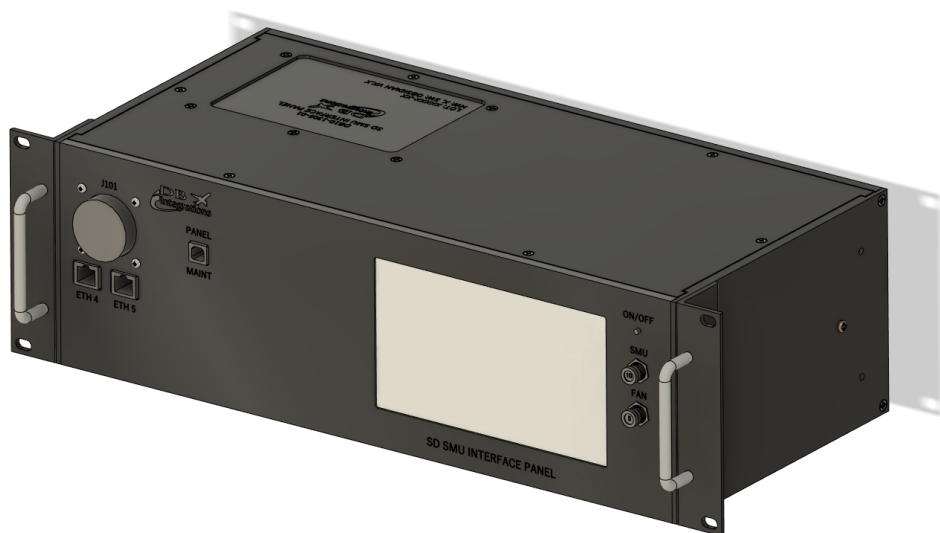




# SD SMU MAINTENANCE INTERFACE PANEL

QUICK REFERENCE GUIDE  
(version 2.0)



### 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  | DB10-1305-01 |

### 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                   |

### User Interface Firmware:

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

### Default Power Button Configuration:

| Power Button Name: | Function:  |
|--------------------|--|
| SMU LRU            | External power to J3 - pin 37<br>External power to J3 - pin 45<br>External power to J3 - pin 46<br>External power to J3 - pin 53<br><br>External power to J101 - pin 28<br>External power to J101 - pin 31 |
| SMU FAN            | External power to J4 - pin 4<br>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<br>“TX ENABLED” = Open | Mute       | Low        |
| 2                    | J3 - pin 14 | WOW        | “GROUNDED” = Grounded<br>“OPEN” = Open          | X          | X          |
| 3                    | J3 - pin 7  | WOW MODE   | “WOW=GROUNDED” = Grounded<br>“WOW=OPEN” = Open  | X          | X          |
| 4                    | J3 - pin 2  | SPARE 1    | “GROUNDED” = Grounded<br>“OPEN” = Open          | X          | X          |
| 5                    | J3 - pin 8  | SPARE 2    | “GROUNDED” = Grounded<br>“OPEN” = Open          | X          | X          |
| 12                   | J3 - pin 15 | SMU RESET  | “RESETTING” = Grounded<br>“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<br>“NOT AVAIL” = Open | Fault      | Low        |
| 2                   | J1 - pin 9  | DATA AVAIL | “AVAILABLE” = Grounded<br>“NOT AVAIL” = Open | Data       | Low        |
| 3                   | J1 - pin 4  | SPARE 1    | “GROUNDED” = Grounded<br>“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><br><b>TE Connectivity, P/N: 1-796329-1</b><br><br><b>Mates With:</b><br><b>TE Connectivity, P/N: 206437-1</b><br><b>Pin P/N: M39029/64-369 pins</b><br><br><b>Backshell:</b><br><b>TE Connectivity, P/N: 182930-1</b> |                             |        |                      |
|--|-----------------------------|--------|----------------------|
| 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)  |
| 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        |

|   |               |        |               |
|---|---------------|--------|---------------|
| <b>J1, 57 pin female CPC</b><br><b>TE Connectivity, P/N: 1-796329-1</b>                           |               |        |               |
| <b>Mates With:</b><br><b>TE Connectivity, P/N: 206437-1</b><br><b>Pin P/N: M39029/64-369 pins</b> |               |        |               |
| <b>Backshell:</b><br><b>TE Connectivity, P/N: 182930-1</b>  |               |        |               |
| 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><br><b>TE Connectivity, P/N: 206038-1</b>                             |                      |        |                      |
| <b>Mates With:</b><br><b>TE Connectivity, P/N: 206039-1</b><br><b>Pin P/N: M39029/64-369 pins</b> |                      |        |                      |
| <b>Backshell:</b><br><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) |
| 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) |

|   |                      |        |                      |
|---|----------------------|--------|----------------------|
| <p><b>J2, 28 pin female CPC</b><br/> <b>TE Connectivity, P/N: 206038-1</b></p> <p><b>Mates With:</b><br/> <b>TE Connectivity, P/N: 206039-1</b><br/> <b>Pin P/N: M39029/64-369 pins</b></p> <p><b>Backshell:</b><br/> <b>TE Connectivity, P/N: 182661-1</b></p> |                      |        |                      |
| 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><b>J3, 63 pin male CPC</b><br/> <b>TE Connectivity, P/N: 206455-2</b></p> <p><b>Mates With:</b><br/> <b>TE Connectivity, P/N: 205842-1</b><br/> <b>Pin P/N: M39029/63-368 pins</b></p> <p><b>Backshell:</b><br/> <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)    |
| Pin 4   | No Connection                    | Pin 21 | Ground                          |
| Pin 5   | No Connection                    | 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 | No Connection                   |
| Pin 8   | Discrete 5 Switched Lo (to SMU)  | Pin 25 | No Connection                   |
| Pin 9   | No Connection                    | Pin 26 | No Connection                   |
| Pin 10  | ARINC 429 Tx - 1A (to SMU)       | Pin 27 | No Connection                   |
| Pin 11  | ARINC 429 Tx - 1B (to SMU)       | Pin 28 | Ground                          |
| Pin 12  | ARINC 429 Rx - 1A (from SMU)     | 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                          |

| <b>J3, 63 pin male CPC</b><br><b>TE Connectivity, P/N: 206455-2</b><br><br><b>Mates With:</b><br><b>TE Connectivity, P/N: 205842-1</b><br><b>Pin P/N: M39029/63-368 pins</b><br><br><b>Backshell:</b><br><b>TE Connectivity, P/N: 182930-1</b> |                          |        |                          |
|--|--------------------------|--------|--------------------------|
| 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:

| <b>J4, 9 pin male CPC</b><br><b>TE Connectivity, P/N: 206486-1</b><br><br><b>Mates With:</b><br><b>TE Connectivity, P/N: 206485-1</b><br><b>Pin P/N: M39029/63-368 pins</b><br><br><b>Backshell:</b><br><b>TE Connectivity, P/N: 1-206062-6</b> |                          |       |                          |
|---|--------------------------|-------|--------------------------|
| 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 align="center"><b>J101, 57 pin female CPC</b><br/> <b>TE Connectivity, P/N: 1-796329-1</b></p> <p align="center"><b>Mates With:</b><br/> <b>TE Connectivity, P/N: 206437-1</b><br/> <b>Pin P/N: M39029/64-369 pins</b></p> <p align="center"><b>Backshell:</b><br/> <b>TE Connectivity, P/N: 182930-1</b></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                    |
| 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                    |



|   |       |        |       |
|---|-------|--------|-------|
| <p><b>J101, 57 pin female CPC</b><br/> <b>TE Connectivity, P/N: 1-796329-1</b></p> <p><b>Mates With:</b><br/> <b>TE Connectivity, P/N: 206437-1</b><br/> <b>Pin P/N: M39029/64-369 pins</b></p> <p><b>Backshell:</b><br/> <b>TE Connectivity, P/N: 182930-1</b></p> |       |        |       |
| 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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