# DB Integrations

# AEROSAT MAINTENANCE INTERFACE PANEL

## GUICK REFERENCE GUIDE
(version 1.0)



*www.dbiaero.com*
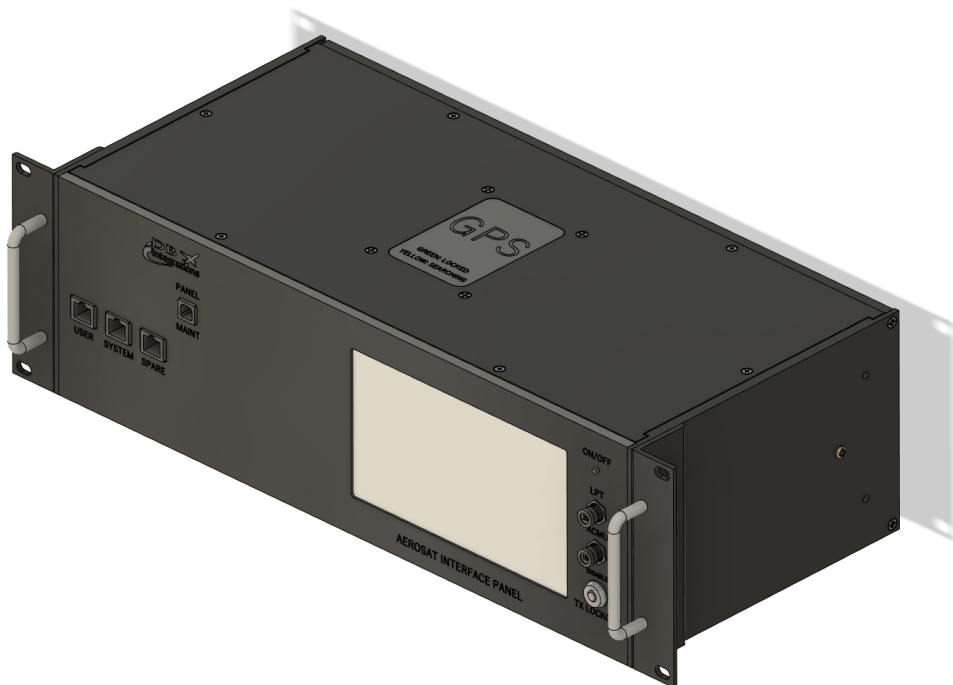
## Maintenance Panel Overview:

The Aerosat Maintenance Interface Panel (MIP) is a rack mounted unit with the ability to break out every interface available on the Astronics T-series Ku systems. 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 |
|---|---|
| Aerosat MIP | DB10-1340-01 |

## 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 | USER, SYSTEM, SPARE |
| USB pass-through ports | 0 |
| Console RS232 ports | 0 |
| Keyed TX disable | Yes |
| Front I/O connector | No |
| 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: |
|---|---|
| LPT/BDC | 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 |
| ACMU | 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 | TV/DATA | "TV & DATA" = Grounded<br>"DATA ONLY"= Open | X | X |
| 2 | J3 - pin 14 | FLAPS 0 | "FLAPS 0" = Grounded<br>"OPEN" = Open | X | X |
| 3 | J3 - pin 7 | FLAPS 10 | "FLAPS 10" = Grounded<br>"OPEN" = Open | X | X |
| 4 | J3 - pin 2 | FLAPS 20 | "FLAPS 20" = Grounded<br>"OPEN" = Open | X | X |
| 5 | J3 - pin 8 | FLAPS 39 | "FLAPS 39" = Grounded<br>"OPEN" = Open | X | X |
| 6 | J3 - pin 24 | DOOR OPEN | "DOOR OPEN" = Grounded<br>"DOOR CLOSED" = Open | X | X |
| 7 | J3 - pin 4 | W.O.W. | "ON GROUND" = Grounded<br>"IN AIR" = Open | WOW | Low |
| 8 | J3 - pin 9 | CWAP | "ENABLED" = Grounded<br>"DISABLED" = Open | WiFi | Low |

## Default Discrete In Button Configuration:

| Discrete In Number: | Pin: | Name: | Function: | Icon Image | Icon State |
|---|---|---|---|---|---|
| 13 | J1 - pin 12 | TX MUTE | "TX ENABLED" = Grounded<br>"TX MUTED" = Open | Mute | High |
| 1 | J1 - pin 10 | STATUS | "SAT COMM" = Grounded<br>"NO NETWORK" = Open | Data | Low |

## TX Lockout Keyswitch:

The TX LOCKOUT keyswitch will break the connection between the ACMU and LPT/BDC to disable transmissions. There is an icon on the homescreen that indicates when the system is able to transmit.

## 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:

**J1, 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 | Signal | Pin | Signal |
|---|---|---|---|
| Pin 1 | No Connection | Pin 21 | No Connection |
| Pin 2 | No Connection | Pin 22 | No Connection |
| Pin 3 | No Connection | Pin 23 | Ground |
| Pin 4 | No Connection | Pin 24 | No Connection |
| Pin 5 | No Connection | Pin 25 | No Connection |
| 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 | No Connection | Pin 29 | No Connection |
| Pin 10 | Status (from ACMU) | Pin 30 | Ground |
| Pin 11 | TX mute (to LPT/BDC) | Pin 31 | Ground |
| Pin 12 | TX mute (from ACMU) | Pin 32 | No Connection |
| Pin 13 | No Connection | Pin 33 | No Connection |
| Pin 14 | No Connection | Pin 34 | No Connection |
| Pin 15 | No Connection | Pin 35 | No Connection |
| Pin 16 | No Connection | Pin 36 | No Connection |
| Pin 17 | No Connection | 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 |

<table>
<tr><td colspan="2" style="text-align:center"><b>J1, 57 pin female CPC<br>TE Connectivity, P/N: 1-796329-1<br><br>Mates With:<br>TE Connectivity, P/N: 206437-1<br>Pin P/N: M39029/64-369 pins<br><br>Backshell:<br>TE Connectivity, P/N: 182930-1</b></td></tr>
</table>

| 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 J3 Connector Pinouts:

<table>
<tr><td colspan="2" style="text-align:center"><b>J3, 63 pin male CPC<br>TE Connectivity, P/N: 206455-2<br><br>Mates With:<br>TE Connectivity, P/N: 205842-1<br>Pin P/N: M39029/63-368 pins<br><br>Backshell:<br>TE Connectivity, P/N: 182930-1</b></td></tr>
</table>

| Pin 1 | No Connection | | Pin 12 | ARINC 429 Rx - 1A (from ACMU) |
|-------|---------------|---|--------|-------------------------------|
| Pin 2 | Discrete 4 Switched Lo (to ACMU) | | Pin 13 | Ground |
| Pin 3 | No Connection | | Pin 14 | Discrete 2 Switched Lo (to ACMU) |
| Pin 4 | Discrete 7 Switched Lo (to ACMU) | | Pin 15 | No Connection |
| Pin 5 | No Connection | | Pin 16 | No Connection |
| Pin 6 | No Connection | | Pin 17 | No Connection |
| Pin 7 | Discrete 3 Switched Lo (to ACMU) | | Pin 18 | ARINC 429 Tx - 2A (to ACMU) |
| Pin 8 | Discrete 5 Switched Lo (to ACMU) | | Pin 19 | ARINC 429 Tx - 2B (to ACMU) |
| Pin 9 | Discrete 8 Switched Lo (to ACMU) | | Pin 20 | ARINC 429 Rx - 1B (from ACMU) |
| Pin 10 | ARINC 429 Tx - 1A (to ACMU) | | Pin 21 | Ground |
| Pin 11 | ARINC 429 Tx - 1B (to ACMU) | | Pin 22 | Discrete 1 Switched Lo (to ACMU) |

<table>
<tr><td colspan="4" align="center"><strong>J3, 63 pin male CPC</strong><br><strong>TE Connectivity, P/N: 206455-2</strong><br><br><strong><u>Mates With:</u></strong><br><strong>TE Connectivity, P/N: 205842-1</strong><br><strong>Pin P/N: M39029/63-368 pins</strong><br><br><strong><u>Backshell:</u></strong><br><strong>TE Connectivity, P/N: 182930-1</strong></td></tr>
<tr><td>Pin 23</td><td>Ground</td><td>Pin 44</td><td>No Connection</td></tr>
<tr><td>Pin 24</td><td>No Connection</td><td>Pin 45</td><td>Switched Power (LPT/BDC)</td></tr>
<tr><td>Pin 25</td><td>No Connection</td><td>Pin 46</td><td>Switched Power (LPT/BDC)</td></tr>
<tr><td>Pin 26</td><td>No Connection</td><td>Pin 47</td><td>Ground</td></tr>
<tr><td>Pin 27</td><td>No Connection</td><td>Pin 48</td><td>No Connection</td></tr>
<tr><td>Pin 28</td><td>Ground</td><td>Pin 49</td><td>No Connection</td></tr>
<tr><td>Pin 29</td><td>Ground</td><td>Pin 50</td><td>Ground</td></tr>
<tr><td>Pin 30</td><td>Ground</td><td>Pin 51</td><td>No Connection</td></tr>
<tr><td>Pin 31</td><td>Ground</td><td>Pin 52</td><td>No Connection</td></tr>
<tr><td>Pin 32</td><td>Ground</td><td>Pin 53</td><td>Switched Power (LPT/BDC)</td></tr>
<tr><td>Pin 33</td><td>Ground</td><td>Pin 54</td><td>No Connection</td></tr>
<tr><td>Pin 34</td><td>Ground</td><td>Pin 55</td><td>No Connection</td></tr>
<tr><td>Pin 35</td><td>No Connection</td><td>Pin 56</td><td>No Connection</td></tr>
<tr><td>Pin 36</td><td>No Connection</td><td>Pin 57</td><td>No Connection</td></tr>
<tr><td>Pin 37</td><td>Switched Power (LPT/BDC)</td><td>Pin 58</td><td>No Connection</td></tr>
<tr><td>Pin 38</td><td>Ground</td><td>Pin 59</td><td>No Connection</td></tr>
<tr><td>Pin 39</td><td>Ground</td><td>Pin 60</td><td>No Connection</td></tr>
<tr><td>Pin 40</td><td>Ground</td><td>Pin 61</td><td>No Connection</td></tr>
<tr><td>Pin 41</td><td>Ground</td><td>Pin 62</td><td>No Connection</td></tr>
<tr><td>Pin 42</td><td>Ground</td><td>Pin 63</td><td>No Connection</td></tr>
<tr><td>Pin 43</td><td>Ground</td><td></td><td></td></tr>
</table>

## Panel J4 Connector Pinouts:

| | |
|---|---|
| **J4, 9 pin male CPC**<br>**TE Connectivity, P/N: 206486-1**<br><br>**Mates With:**<br>**TE Connectivity, P/N: 206485-1**<br>**Pin P/N: M39029/63-368 pins**<br><br>**Backshell:**<br>**TE Connectivity, P/N: 1-206062-6** | |

| | | | | |
|---|---|---|---|---|
| Pin 1 | No Connection | Pin 5 | Switched Power (ACMU) |
| Pin 2 | No Connection | Pin 6 | Ground |
| Pin 3 | Ground | Pin 7 | No Connection |
| Pin 4 | Switched Power (ACMU) | Pin 8 | No Connection |
| | | Pin 9 | Ground |

## Contact Us:

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

DB Integrations, LLC
3405 Airport Road
Allentown, PA 18109

Phone: (610) 443-0201
Fax: (732) 486-0211

Email: support@dbiaero.com
Web: www.dbiaero.com