GX46 MAINTENANCE INTERFACE PANEL

GUICK REFERENCE GUIDE

(version 1.0)

www.dbiaero.com

Maintenance Panel Overview:

The GX-46 Maintenance Interface Panel (MIP) is a rack mounted unit with the ability to break out every interface available on the *Inmarsat* GX-46 system. The unit fits into a standard 19" rack with a 3RU height. It gets powered by a built-in 28VDC power supply capable of driving 43 amps.

Equipment Part Numbers:

Description	Part Number
GX-46 MIP	DB10-1446-01

Incorporated Features:

Option	Included
ARINC 429 transmit	Switched output between PMU and customer external
ARINC 429 receive	Switched output between PMU and customer external for status
Internal GPS	No
Internal compass	No
CEPT ports	No
ISDN ports	No
FX ports	No
Ethernet ports	MGMT, PG1, AV1, AG1, EN3, KPSU
PMU interface	Yes
Front I/O connector	Yes
External LRU power input	No
RS232 Tx/Rx	3 channels (USB converted)
RS422 Tx/Rx	1 channel (USB converted)

User Interface Firmware:

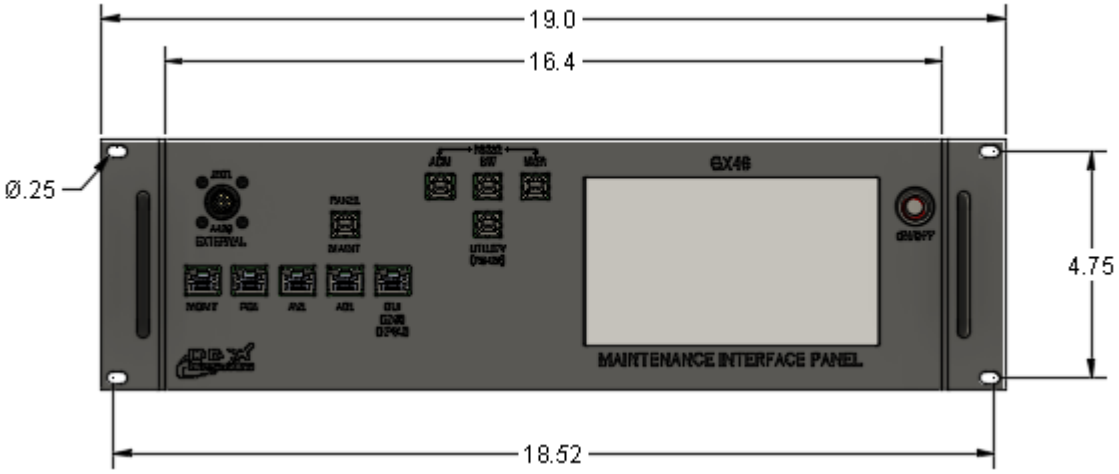
The Maintenance Interface Panel runs using our proprietary firmware package named *Peridot*. Consult the *Peridot* user's manual for specific information on using this panel's touchscreen interface.

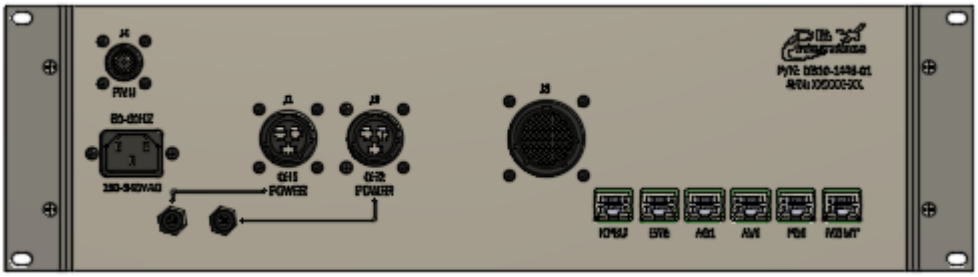
J101 Connector:

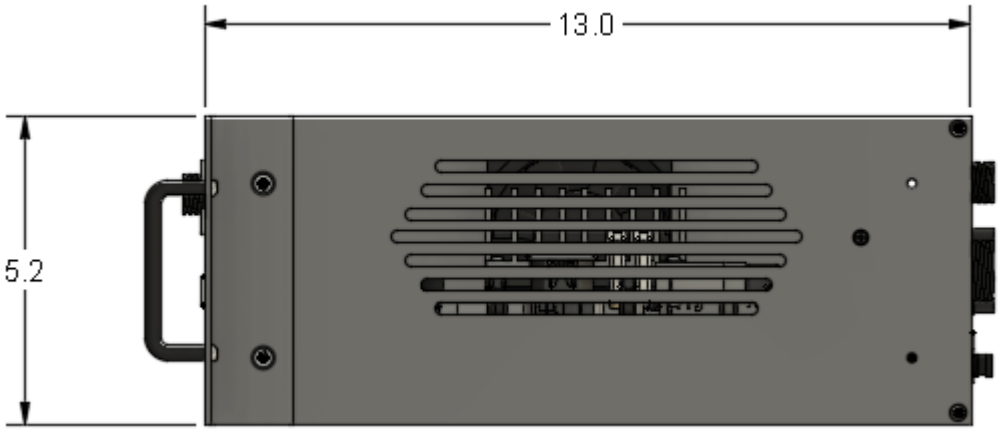
There is a 9-pin connector on the front of the panel that can power low amperage peripherals and accept an ARINC 429 databus. **There is a mating connector, backshell, and 9 pins supplied with the MIP.** The ARINC 429 routes through switching and can output to the J3 connector instead of the PMU bus. When routing this way, the MIP can decode the external bus and if labels are recognized will display navigational data for troubleshooting. Keep the amperage below 5A on each pin. There is no protection against over-current.

The pinout for this connector is shown in the J101 PINOUT page and also noted in the charts below.

Dimensions:







LRU Power Switching:

The Maintenance Interface Panel is capable of providing its own 28VDC for LRU power at a capacity of 40 amps. There are two channels available for switching power to the LRUs. Both channels are protected by circuit breakers and are monitored on the power input and output sides to let the user know if there is a problem. Any indications will be displayed on the touchscreen.

Default Power Button Configuration:

Power Button Name:	Function:
GMODMAN	External power to J1 - pin 1
K-PSU	External power to J2 - pin 1

Discrete Out Switching:

The Maintenance Interface Panel has seven switchable discrete outputs to the LRUs. Each is identified and switchable via the touchscreen.

Default Discrete Out Button Configuration:

Discrete Out Number:	Pin:	Name:	Function:	Icon Image	Icon State
1	J3 - pin 10	FORCE ACM	“GROUNDED” = Grounded “OPEN” = Open	X	X
2	J3 - pin 4	GND TX ENBL	“GROUNDED” = Grounded “OPEN” = Open	X	X
3	J3 - pin 9	DISCRETE 1	“GROUNDED” = Grounded “OPEN” = Open	X	X
4	J3 - pin 3	F/BM ENABLE	“GROUNDED” = Grounded “OPEN” = Open	X	X
5	J3 - pin 8	WOW	“GROUNDED” = Grounded “OPEN” = Open	WOW	Low
6	J3 - pin 2	DISCRETE 2	“GROUNDED” = Grounded “OPEN” = Open	X	X
7	J3 - pin 7	(reserved)	(reserved)	X	X
8	J3 - pin 1	GLOBAL MUTE	“GROUNDED” = Muted “OPEN” = Not muted	Mute	Low

Discrete In Switching:

The Maintenance Interface Panel has five discrete inputs from the LRUs. Each is identified and displayed with status via the touchscreen.

Default Discrete In Button Configuration:

Discrete In Number:	Pin:	Name:	Function:	Icon Image	Icon State
1	J3 - pin 34	TX MUTE	"MUTED" = Grounded "NOT MUTED" = Open	X	X
2	J3 - pin 35	SYS AVAIL	"AVAILABLE" = Grounded "NOT AVAIL" = Open	LRU fault	High
3	J3 - pin 36	DATA AVAIL	"AVAILABLE" = Grounded "NOT AVAIL" = Open	Data	Low
4	J3 - pin 28	DISCRETE 1	"GROUNDED" = Grounded "OPEN" = Open	X	X
5	J3 - pin 20	(reserved)	(reserved)	X	X

Position Module Interface (PMU):

The Maintenance Interface panel can connect to a DB Integrations, P/N: DB04-300-01 PMU. It will transmit and receive commands via the RS422 API of the PMU. The MIP will supply the 28VDC necessary to run the PMU.

ARINC 429 Switching:

The Maintenance Interface Panel can receive ARINC 429 data via a DB Integrations Position Module Unit (PMU) at the J4 connector or user injected data at the J101 connector. Switching is available via the touchscreen to route this data to the main ARINC 429 output pins of the MIP. This selection is stored in the MIP's memory and will output as it was shut down.

Ethernet Switch:

The Maintenance Interface Panel has a built-in Ethernet switch that routes traffic from the "GUI" RJ45 jack on the front of the panel to both the "EN3" and "KPSU" RJ45 jacks on the back. This is an unmanaged switch with no user interface for normal operation.

Panel Pinout Overview:

The next sections show all of the pinouts for the Maintenance Interface Panel. 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.

Panel J1 Connector Pinouts:

Connector on MIP: **3-pin, CPC, female** **Mates With:** **TE Connectivity, P/N: 206426-1** **Pin P/N: 66255-2** **Backshell:** **TE Connectivity, P/N: 206070-8**			
Pin 1	24VDC Switched Power (GMODMAN)	Pin 2	Ground

Panel J2 Connector Pinouts:

Connector on MIP: **3-pin, CPC, female** **Mates With:** **TE Connectivity, P/N: 206426-1** **Pin P/N: 66255-2** **Backshell:** **TE Connectivity, P/N: 206070-8**			
Pin 1	24VDC Switched Power (K-PSU)	Pin 2	Ground

Panel J3 Connector Pinouts:

Connector on MIP: **57-pin, CPC, male** **Mates With:** **TE Connectivity, P/N: 206437-1** **Pin P/N: M39029/64-369** **Backshell:** **TE Connectivity, P/N: 182930-1**			
Pin 1	Discrete 8 Switched Lo (to LRU)	Pin 6	No connection
Pin 2	Discrete 6 Switched Lo (to LRU)	Pin 7	Discrete 7 Switched Lo (to LRU)
Pin 3	Discrete 4 Switched Lo (to LRU)	Pin 8	Discrete 5 Switched Lo (to LRU)
Pin 4	Discrete 2 Switched Lo (to LRU)	Pin 9	Discrete 3 Switched Lo (to LRU)
Pin 5	No connection	Pin 10	Discrete 1 Switched Lo (to LRU)

Connector on MIP:
57-pin, CPC, male

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

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

Pin 11	No connection
Pin 12	No connection
Pin 13	No connection
Pin 14	No connection
Pin 15	No connection
Pin 16	No connection
Pin 17	No connection
Pin 18	No connection
Pin 19	No connection
Pin 20	Discrete 5 Input (from LRU)
Pin 21	Ground
Pin 22	No connection
Pin 23	No connection
Pin 24	No connection
Pin 25	No connection
Pin 26	No connection
Pin 27	No connection
Pin 28	Discrete 4 Input (from LRU)
Pin 29	Ground
Pin 30	Ground
Pin 31	RS232 (MGR) Receive
Pin 32	RS232 (SW) Receive
Pin 33	RS232 (ACM) Receive
Pin 34	Discrete 1 Input (from LRU)
Pin 35	Discrete 2 Input (from LRU)
Pin 36	Discrete 3 Input (from LRU)
Pin 37	Ground
Pin 38	Ground
Pin 39	RS232 (MGR) Transmit
Pin 40	RS232 (SW) Transmit
Pin 41	RS232 (ACM) Transmit
Pin 42	No connection
Pin 43	Ground
Pin 44	Ground
Pin 45	Ground
Pin 46	Ground
Pin 47	RS422 Receive (B)
Pin 48	RS422 Transmit (A)
Pin 49	No connection
Pin 50	Ground
Pin 51	Ground
Pin 52	Ground
Pin 53	RS422 Receive (A)
Pin 54	RS422 Transmit (B)
Pin 55	Ground
Pin 56	ARINC 429 switched output (A)
Pin 57	ARINC 429 switched output (B)

Panel J4 Connector Pinouts:

Connector on MIP: **9-pin, CPC, male** **Mates With:** **TE Connectivity, P/N: 206485-1** **Pin P/N: M39029/63-368** **Backshell:** **TE Connectivity, P/N: 1-206062-6**			
Pin 1	ARINC 429 receive (A) (from PMU)	Pin 5	Ground
Pin 2	ARINC 429 receive (B) (from PMU)	Pin 6	RS422 transmit (B) (to PMU)
Pin 3	RS422 transmit (A) (to PMU)	Pin 7	RS422 receive (B) (from PMU)
Pin 4	RS422 receive (A) (from PMU)	Pin 8	Ground
		Pin 9	28VDC (always present)

Panel J101 Connector Pinouts:

Connector on MIP: **9-pin, CPC, male** **Mates With:** **TE Connectivity, P/N: 206485-1** **Pin P/N: M39029/63-368** **Backshell:** **TE Connectivity, P/N: 1-206062-6**			
Pin 1	28VDC (always present)	Pin 5	Ground
Pin 2	Ground	Pin 6	ARINC 429 receive (A) (from user)
Pin 3	5VDC (always present)	Pin 7	Ground
Pin 4	Ground	Pin 8	ARINC 429 receive (B) (from user)
		Pin 9	Ground

Contact Us:

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

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