



EQUIPMENT INSTALLATION MANUAL

for the

GAC27 BARO CONVERTER SYSTEM

P/N 1043-4000-0X-00X()

and

P/N 1043-4001 -02-020()

RELEASED

DAC International
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Austin, TX 78729

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1. INTRODUCTION:

This manual contains installation data, specifications and Instructions for Continued Airworthiness for the DAC International Model GAC27 Baro Converter System. The system contains one or two LRUs, depending on aircraft configuration. For aircraft without a source of barometric offset, the system consists of a Barometric Converter Computer, part number 1043-4000-01 or -02 and a Display Control Unit, part number 1043-4001-02. For aircraft equipped with altimeters that provide barometric offset in ARINC 407 synchro format, the system requires only the Barometric Converter Computer, part number 1043-4000-02.

2. DESCRIPTION:

GAC27 Baro Converter System accepts input of both pressure altitude from existing aircraft systems and a barometric offset entered by the pilot through the Display Control Unit or other suitable barometric input device. The Converter Computer then produces barometric corrected altitude output in both ARINC 575 synchro and ARINC 429 digital formats. The input of pressure altitude is synchro fine and coarse per ARINC 575 format. The format of the barometric input device is either a DC voltage ratio as specified in paragraph 8.4 of this document or an ARINC 407 synchro as specified in paragraph 8.5. Baro Converter Computer part number 1043-4000-02 supports either DC ratio or synchro input while the 1043-4000-01 version supports only the DC ratio format.

3. PART NUMBERS:

The GAC27 Baro Converter System is available under the following part numbers:

1043-4000-01- <u>001</u> ()	Barometric Converter Computer (DC ratio only)
1043-4000-02- <u>002</u> ()	Barometric Converter Computer (Synchro or DC ratio)
1043-4001-02- <u>020</u> ()	Display Controller Unit

Software part number, where () contains the number zero for initial release, or any letter, A – Z to denote a minor change.

4. REFERENCE DOCUMENTS

RTCA/DO-178B	Software Considerations in Airborne Systems and Equipment Certification
RTCA/DO-160D	Environmental Conditions and Test Procedures for Airborne Equipment
ARINC 575	Mark 3 Subsonic Air Data System (Digital) DADS
ARINC 429	Mark 33 Digital Information Transfer System
ARINC 407	ARINC Synchro Systems Manual

5. REGULATORY COMPLIANCE

5.1. Software

The Model GAC27 software was developed in accordance with RTCA/DO-178B to criticality level C.

5.2. Hardware

The Model GAC27 is produced under DAC International's PMA approved quality system. The units of this system are PMA'd for installation on Boeing 747 series aircraft.

6. SUPPLIED EQUIPMENT

Each Baro Converter System is shipped with the following items:

Part Number	Description	Qty
1043-4000-01-001()	GAC27 Barometric Converter Computer (DC baro only)	1
1043-4000-02-002()	GAC27 Barometric Converter Computer (Synchro or DC baro)	1
1043-4200-01	Installation Kit, GAC27 BCC	1
1043-4001-02-020()	GAC27 Display Control Unit	1
1043-4201-01	Installation Kit, GAC27 DCU	1

Complete installation kits are available under kit part numbers 1043-4200-01 and 1043-4201-01. Individual pieces are available under the part numbers shown. Contact DAC International sales to place orders.

Part Number	Description	Qty
1043-4200-01	Installation Kit, GAC27 BCC	
P10272	Connector, Receptacle, 37 pin D-Sub	1
M39029/63-368	Socket, Crimp Style, female	37
1043-6013-01	Slide Latch Kit	1
P10271	Backshell, 37-Pin D-Sub	1
1043-2510-01	Equipment Installation Manual for the GAC27	1

Part Number	Description	Qty
1043-4201-01	Installation Kit, GAC27 DCU	
M24308/2-2F	Connector, Receptacle, 15 pin D-Sub	1
M39029/63-368	Socket, Crimp Style, female	15
P10053	Slide Latch Kit	1
P10067	Backshell, 15-Pin D-Sub	1
1043-2510-01	Equipment Installation Manual for the GAC27	1

7. DCU SPECIFICATIONS:

7.1. Physical:

The GAC27 DCU attaches to the instrument panel via two mounting holes. See the paragraph titled DCU Outline Drawing for additional details.

Height.....	1.65”
Width.....	3.44”
Depth.....	4.51” (Includes connector)
Weight.....	0.4 lb.

7.2. Electrical:

Input Voltage	28 VDC Nominal (10Vdc – 32Vdc operational)
Input Current.....	0.2 Amp at 28 VDC

7.3. Lighting:

Lighting voltage.....	0-5VAC from aircraft dimming buss.
Lighting Current.....	120 Milliamps max at 5VAC

7.4. Data Input:

Format	RS232 Serial data for 4-digit display
Baud Rate.....	9600 Baud

7.5. Baro Pot Output:

Format	1000 ohm potentiometer, unterminated. Reference provided by Baro Converter Computer
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7.6. Reliability:

MTBF.....	Greater than 10,000 hours.
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8. BCC SPECIFICATIONS:

8.1. Physical:

The GAC27 BCC attaches to the airframe using six (6) #8 screws. See the paragraph titled BCC Outline Drawing for additional details.

Height.....	5.79”
Width (LRU).....	1.09”
Width (base).....	2.09”
Depth.....	9.10”
Weight.....	1.4 lb.

8.2. Electrical:

DC Power

Input Voltage	28 VDC Nominal (10Vdc – 32Vdc operational)
Input Current.....	0.2 Amp at 28 VDC

AC Power (Synchro Drivers)

Input Voltage	26 VAC Nominal
Input Current.....	0.4 Amp RMS Max at 26 VAC

AC Power (Altitude Synchro Reference)

Input Voltage	26 VAC Nominal
Input Current.....	0.1 Amp RMS Max at 26 VAC

AC Power (Baro Synchro Reference)

Input Voltage	26 VAC Nominal
Input Current.....	0.1 Amp RMS Max at 26 VAC



8.3. Pressure Altitude Input:

Altitude Format.....Synchro Fine/Coarse per ARINC 575
Valid DiscreteGreater than 10VDC = valid
Less than 5VDC = invalid

8.4. Baro Pot Input:

Format.....DC Voltage Ratio - Kollsman IDC Altimeter (24929-519
through 532)
31.00 = 0.0038 output voltage ratio
29.92 = 0.3632 output voltage ratio
29.05 = 0.6635 output voltage ratio
28.10 = 0.9966 output voltage ratio
Excitation supplied by Baro Converter Computer
Program Pin setting.....Pin 7 open

8.5. Baro Synchro Input:

BCC version -02 only
Format.....AC Fine CX Synchro (13.889 feet per degree per ARINC 575)
28.10 = -1727 feet offset
29.0 = -863 feet offset
29.5 = -392 feet offset
29.92 = 0 feet offset
30.5 = +531 feet offset
31.0 = +983 feet offset
Index Reference0 Degrees (CX) = 0 feet offset
Phasing.....Counterclockwise rotation of the baro pot (decreasing baro
setting) from null shall produce an in-phase voltage relative to
the "H" excitation phase.
Program Pin setting.....Pin 7 grounded

8.6. Altitude Output (Analog):

Barometric AltitudeSynchro Fine/Coarse per ARINC 575
Valid Discretevalid = +28VDC (Aircraft DC power)
invalid = open
max load = 250mA



8.7. Altitude Output (Digital):

Barometric AltitudeARINC 429, label 204

Pressure Altitude.....ARINC 429, label 203

8.8. Reliability:

MTBF.....Greater than 10,000 hours.



9. OPERATION:

GAC27 Baro Converter System is comprised of a Baro Converter Computer (BCC) and a baro synchro equipped altimeter or Display Control Unit (DCU). The BCC accepts pressure altitude in fine/coarse synchro format and a valid discrete from the on-board air data system. It also accepts input from a pilot controlled baro-set transducer that may be either a potentiometer located in the Display Control unit, or for the -02 version of BCC, a synchro input of baro offset. The BCC reads the position of the baro-set transducer to determine barometric offset altitude. This offset is applied to the pressure altitude value read from the aircraft system to produce a barometric corrected altitude value that is then output by the BCC. In addition, the BCC produces a serial data stream that is sent to the DCU where it is used to drive the four-digit numeric display of barometric offset, in inches of mercury (inHg). The DCU is not used if the baro offset transducer source is an altimeter.

The BCC outputs barometric corrected altitude in synchro fine/coarse analog format and in ARINC 429 low speed on label 204. It also produces a valid discrete where 28Vdc = valid synchro output data. The validity of the ARINC 429 data is contained within the label's sign/status matrix, per ARINC 429. In addition, the BCC transmits pressure altitude, as received, in ARINC 429 format on label 203.

<u>Label</u> <u>(Octal)</u>	<u>Description</u>	<u>Rate</u>
203	Altitude (Pressure)	50mS
204	Altitude (Barometric)	50mS

The BCC operates from 28VDC power, but also requires 26VAC power to operate the synchro output drivers. This voltage may be derived from any available phase.

The BCC also requires one or two 26VAC reference voltages; one for the pressure altitude input and one for the baro offset synchro transducer.

The phase of the pressure altitude reference voltage must be the same as that used by the pressure altitude synchro transmitters. The same phase of reference voltage must also be supplied to equipment using the barometric synchro output of the BCC.

The phase of the baro synchro transducer must be the same as the one used to excite the synchro transmitter in the altimeter.

10. INSTALLATION:

This section contains considerations and recommendations for installation of the GAC27 LRU's. The interconnect wiring harness and physical mounting must be considered to satisfy all applicable regulations. The conditions and tests required for PMA of these articles are minimum performance standards. If these articles are installed in an aircraft other than one appearing on the PMA identification plate, it is the responsibility of that installing agency to determine if additional compliance data is required and to present such data to the administrator of the Federal Aviation Administration or other applicable certifying agency. Refer to the Environmental Qualification Forms found later in this document.

10.1. Aircraft Interconnect Wiring

The typical interconnect diagram and connector pin listings are provided to assist the installation agency in preparation of the interconnect wiring cables. Wiring shown as twisted and/or shielded must be installed as shown in order to maintain compliance with the Environmental categories.

10.2. Mounting

10.2.1. DCU Mounting

The DCU is intended to be mounted as near as practical to the existing pilot side altimeter, providing ready access to the baro-set knob and visibility of the display window. The DCU requires +28VDC power to operate along with connections to the BCC for barometric potentiometer reference voltage and connections to the aircraft 5VAC dimmer bus for intensity adjustment of display and lighted panel.

10.2.2. BCC Mounting

The BCC is intended to mount in the aircraft electronic equipment bay, either to a blanking plate or other suitable structure using six (6) #8 screws, but may mount in either a pressurized or non-pressurized section of the aircraft so long as consideration is given to the appropriate environmental categories. The BCC requires both +28VDC and 26VAC power to operate along with connections to the aircraft's pressure altitude synchro transmitters and a barometric input device that complies with the voltage ratio standards described in this document. BCC barometric altitude outputs are connected to other on-board articles such as TAWS and FMS.

11. REMOVAL AND REPLACEMENT

11.1. BCC Removal

1. Open the circuit breaker powering the GAC27.
2. Remove the connector by disengaging the slide latch then pulling the connector free.
3. Remove six (6) screws securing the unit to the airframe.

11.2. BCC Replacement

1. Open the circuit breaker powering the GAC27.
2. Attach the unit to the airframe with six (6) screws.
3. Seat the connector then engage the slide latch to secure.
4. Close circuit breaker.
5. Perform operational test of the GAC27 as prescribed in the aircraft maintenance manual.

11.3. DCU Removal

1. Open the circuit breaker powering the GAC27.
2. Remove two (2) screws securing the unit to the instrument panel.
3. Remove the connector by disengaging the slide latch then pulling the connector free.

11.4. DCU Replacement

1. Open the circuit breaker powering the GAC27.
2. Seat the connector then engage the slide latch to secure.
3. Attach the unit to the instrument panel with two (2) screws.
4. Close circuit breaker.
5. Perform operational test of the GAC27 as prescribed in the aircraft maintenance manual.

12. EQUIPMENT CHECKOUT

The GAC27 provides conversion of pressure altitude to barometric altitude for use by the TAWS system. The Air Data Computer (ADC) and TAWS must both be operational in order to perform this functional checkout.



-
1. Apply power to the ADC and TAWS.
 2. Perform the functional test of the TAWS system according to existing, approved maintenance data. Operate the baro-set control located on the GAC27 DCU to verify correct operation of the GAC27 system. When baro correction is set to 29.92, the TAWS barometric altitude and pilots pressure altimeter shall read the same, +/-25 feet.



13. CONTINUED AIRWORTHINESS:

This section provides data intended to assist the installer with establishing Instructions for Continued Airworthiness as required by FARs 23.1529, 25.1529, 27.1529 and 29.1529.

1. Maintenance Manual information for the GAC27, which includes system description, removal instructions, installation instructions and functional testing is contained in DAC International Installation Manual, 1043-2510-01 (this document).
2. Line Replaceable Unit (LRU) part numbers and other parts contained in the installation data package should be placed in the aircraft operator's appropriate airplane illustrated Parts Catalog (IPC).
3. Wiring diagram information contained in the installation data package should be placed in the aircraft operator's appropriate airplane Wiring Diagram Manual.
4. Scheduled Maintenance Program tasks are as follows:
 - a. Recommended Periodic Scheduled Servicing: None required
 - b. Recommended Periodic Scheduled Preventive Maintenance Tests..... None Required
 - c. Recommended Periodic Inspections: None Required
 - d. Recommended Periodic Overhaul Period None Required
 - e. Special Inspection Requirements None Required
5. Application of Protective Treatments None Required
6. Special Tools..... None Required
7. Electrical Loads for this appliance are as specified in the DAC International Installation Manual, 1043-2510-01 (this manual).
8. There are no Airworthiness limitations associated with the installation of this appliance.



14. ENVIRONMENTAL:

The GAC27 units meets the environmental test categories detailed on the following two pages in accordance with RTCA/DO-160D, Environmental Conditions and Test Procedures for Airborne Equipment.



NOMENCLATURE: Model GAC27 Baro Converter Computer
 PART NO: 1043-4000-0X-XXXX
 MANUFACTURER: DAC International
 ADDRESS: 6702 McNeil Drive, Austin, TX 78729

Section	Category	Remarks
4.0 Temperature and Altitude	F2	non-press, non temperature controlled, altitude 55,000 ft
5.0 Temperature Variation	B	5 degrees per minute
6.0 Humidity	A	Standard humidity
7.0 Operational Shock and Crash Safety	B	Standard op shock and crash safety
8.0 Vibration	S	Zones 1 and 2, curves L M B and C. Fixed wing – Turbojet, Turbofan, Turboprop and Reciprocating
9.0 Explosion Proofness	X	Not tested
10.0 Waterproofness	X	Not tested
11.0 Fluids Susceptibility	X	Not tested
12.0 Sand and Dust	X	Not tested
13.0 Fungus Resistance	X	Not tested
14.0 Salt Spray	X	Not tested
15.0 Magnetic Effect	A	0.3 meter to 1.0 meter
16.0 Power Input	B	Alternator / Rectifiers
17.0 Voltage Spike	B	56 volts
18.0 AF Conducted Susceptibility – Power Inputs	B	Alternator / Rectifiers
19.0 Induced Signal Susceptibility	A	
20.0 Radio Frequency Susceptibility (Radiated and Conducted)	V	50 volts/meter
21.0 Emission of Radio Frequency Energy	B	
22.0 Lightning Induced Transient Susceptibility	A3E3	
23.0 Lightning Direct Effects	X	Not tested
24.0 Icing	X	Not tested
25.0 ESD	X	Not tested



NOMENCLATURE: Model GAC27 Display Control Unit
 PART NO: 1043-4001-02-XXXX
 MANUFACTURER: DAC International
 ADDRESS: 6702 McNeil Drive, Austin, TX 78729

Section	Category	Remarks
4.0 Temperature and Altitude	D1	50,000 Ft Temperature controlled
5.0 Temperature Variation	B	5 degrees per minute
6.0 Humidity	A	Standard Humidity
7.0 Operational Shock and Crash Safety	D	Fixed wing – Low frequency
8.0 Vibration	S	Zone 2, curves B and M. Fixed wing – Turbojet, Turbofan, Turboprop and Reciprocating
9.0 Explosion Proofness	X	Not Tested
10.0 Waterproofness	X	Not Tested
11.0 Fluids Susceptibility	X	Not Tested
12.0 Sand and Dust	X	Not Tested
13.0 Fungus Resistance	X	Not Tested
14.0 Salt Spray	X	Not Tested
15.0 Magnetic Effect	A	0.3 meter to 1.0 meter
16.0 Power Input	B	Alternator / Rectifiers
17.0 Voltage Spike	B	56 volts
18.0 AF Conducted Susceptibility – Power Inputs	B	Alternator / Rectifiers
19.0 Induced Signal Susceptibility	A	
20.0 Radio Frequency Susceptibility (Radiated and Conducted)	V	50 volts/meter
21.0 Emission of Radio Frequency Energy	B	
22.0 Lightning Induced Transient Susceptibility	A3E3	
23.0 Lightning Direct Effects	X	Not Tested
24.0 Icing	X	Not Tested
25.0 ESD	X	Not Tested

15. CONNECTOR PIN OUT:

15.1. Baro Converter Computer 1043-4000-01

The -01 version of the GAC27 BCC contains a single 37-pin male connector, J1, per MIL-C-24308, part number M24308/4-262F. The mating connector, P1, is described previously under the section “Equipment Supplied”.

Pin	Signal	Function
1	A+	28 Vdc Primary Power
2	Coarse Alt in X	Input - Coarse Pressure Altitude X
3	Coarse Alt in Z	Input - Coarse Pressure Altitude Z
4	Baro Sig	Input - baro pot signal
5	Valid Out	Baro Alt Valid Output (+28 = valid)
6		Reserved (+12VPP Out)
7	Prog1	Program pin 1
8	Prog2	Program pin 2
9	Prog3	Program pin 3
10		Reserved (Spare valid in)
11	Serial Out	RS232 Output to DCU
12		Reserved (RS232 In)
13		Reserved (/PGM Enable)
14		Reserved (VPP)
15	ADC Valid	Valid input +28=Valid <5VDC = invalid
16	Fine Baro Alt out Z	Output - Fine baro Altitude Z
17	Coarse Baro Alt out X	Output - Coarse baro Altitude X
18	Coarse Baro Alt out Y	Output - Coarse baro Altitude Y
19	26 VAC Power H	Synchro driver power (H)
20	Power Common	28 Vdc Return
21	Coarse Alt in Y	Input - Coarse Pressure Altitude Y
22	Baro Com	Input - baro pot common
23	Baro Ref	Input - baro pot reference (5VDC nominal)
24		Reserved (429 In-A)
25		Reserved (429 In-B)
26	TX-A	ARINC 429 Transmit A
27	TX-B	ARINC 429 Transmit B
28	Fine Alt in X	Input - Fine Pressure Altitude X
29	Fine Alt in Y	Input - Fine Pressure Altitude Y
30	Fine Alt in Z	Input - Fine Pressure Altitude Z
31	Vref H	26VAC synchro reference (H)



Pin	Signal	Function
32	Vref L	26VAC synchro reference (L)
33	Serial Common	RS232 Common
34	Fine Baro Alt out X	Output - Fine baro Altitude X
35	Fine Baro Alt out Y	Output - Fine baro Altitude Y
36	Coarse Baro Alt out Z	Output - Coarse baro Altitude Z
37	26 VAC Power L	Synchro driver power (L)

J1 Pin Description

NOTE: Do not use pins labeled Reserved. These are for factory test and In-Circuit-Programming

15.2. Baro Converter Computer 1043-4000-02

The -02 version of the GAC27 BCC contains a single 37-pin male connector, J1, per MIL-C-24308, part number M24308/4-262F. The mating connector, P1, is described previously under the section “Equipment Supplied”.

Pin	Signal	Function
1	A+	28 Vdc Primary Power
2	Coarse Alt in X	Input - Coarse Pressure Altitude X
3	Coarse Alt in Z	Input - Coarse Pressure Altitude Z
4	Baro Sig	Input - baro pot signal
5	Valid Out	Baro Alt Valid Output (+28 = valid)
6	26 VAC Baro Ref (H)	Baro Synchro Excitation Voltage, 400Hz
7	Prog 1	Program pin 1 (Gnd = Baro Synchro)
8	Baro Synchro in X	Input - Baro Offset Synchro X
9	Baro Synchro in Y	Input - Baro Offset Synchro Y
10	Baro Synchro in Z	Input - Baro Offset Synchro Z
11	Serial Out	RS232 Output to DCU
12		Reserved (RS232 In)
13		Reserved (/PGM Enable)
14	26 VAC Baro Ref (L)	Baro Synchro Excitation Voltage, 400Hz
15	ADC Valid	Valid input +28=Valid <5VDC = invalid
16	Fine Baro Alt out Z	Output - Fine baro Altitude Z
17	Coarse Baro Alt out X	Output - Coarse baro Altitude X
18	Coarse Baro Alt out Y	Output - Coarse baro Altitude Y
19	26 VAC Power H	Synchro driver power (H)
20	Power Common	28 Vdc Return
21	Coarse Alt in Y	Input - Coarse Pressure Altitude Y
22	Baro Com	Input - baro pot common
23	Baro Ref	Input - baro pot reference (5VDC nominal)
24		Reserved (429 In-A)
25		Reserved (429 In-B)
26	TX-A	ARINC 429 Transmit A
27	TX-B	ARINC 429 Transmit B
28	Fine Alt in X	Input - Fine Pressure Altitude X
29	Fine Alt in Y	Input - Fine Pressure Altitude Y
30	Fine Alt in Z	Input - Fine Pressure Altitude Z
31	26 VAC Alt Ref (H)	26VAC altitude synchro reference (H)
32	26 VAC Alt Ref (L)	26VAC altitude synchro reference (L)
33	Serial Common	RS232 Common
34	Fine Baro Alt out X	Output - Fine baro Altitude X



Pin	Signal	Function
35	Fine Baro Alt out Y	Output - Fine baro Altitude Y
36	Coarse Baro Alt out Z	Output - Coarse baro Altitude Z
37	26 VAC Power L	Synchro driver power (L)

J1 Pin Description

NOTE: Do not use pins labeled Reserved. These are for factory test and In-Circuit-Programming

15.3. Display Control Unit

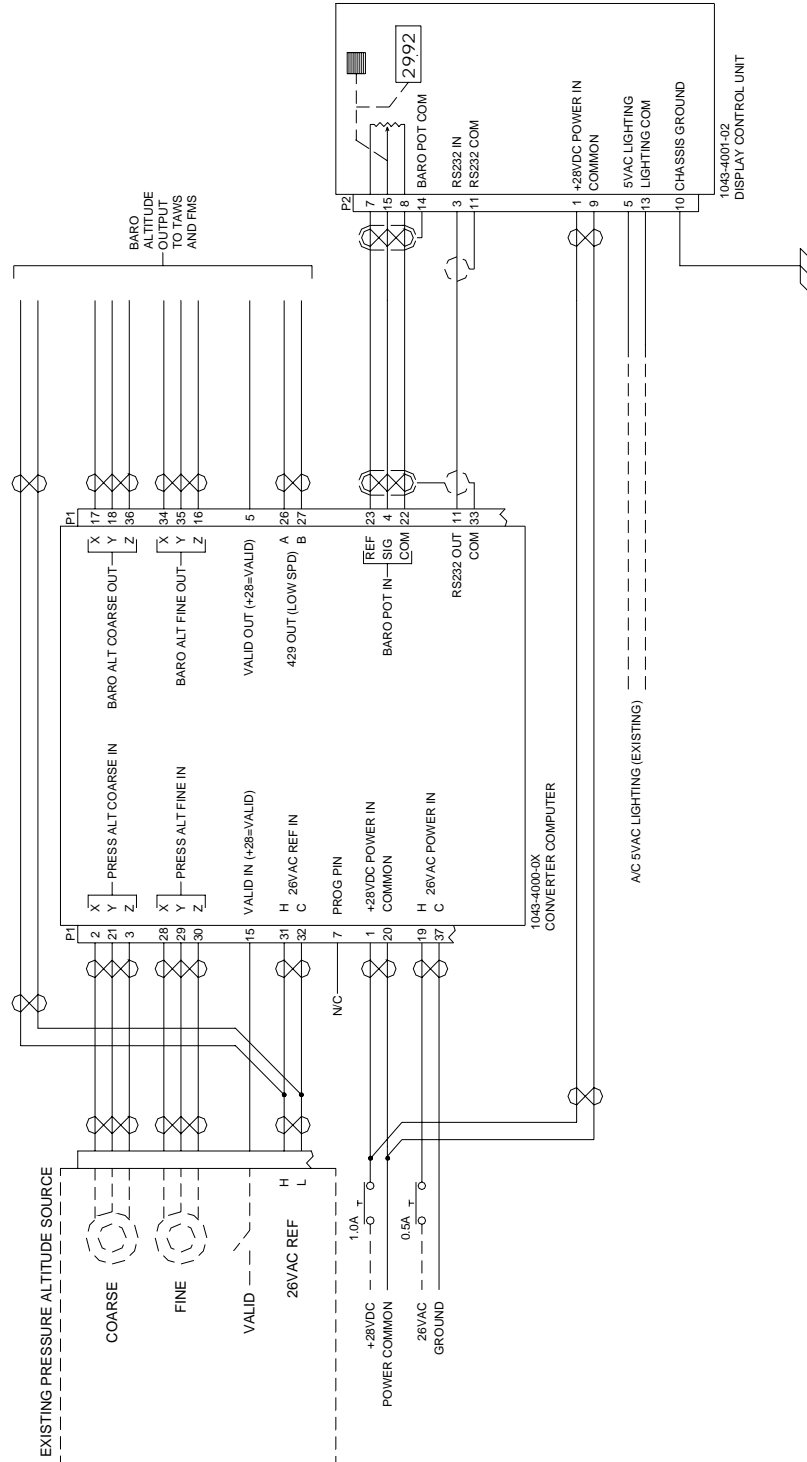
The GAC27 DCU contains a single 15-pin male connector, J2, per MIL-C-24308, part number M24308/4-260F. The mating connector, P2, is described previously under the section “Equipment Supplied”.

Pin	Signal	Function
1	A+	+28VDC power input
2		Reserved (RS232 Tx)
3	Serial In	RS232 input
4		Reserved (VPP)
5	Lighting Input Hi	0-5VAC from dimming buss signal
6	N/C	No connection
7	Baro Reference	High side of baro-set potentiometer
8	Baro Common	Low side of baro-set potentiometer
9	Power Common	DC Power return
10	Chassis Ground	Airframe common
11	Serial Common	ground return for RS232 input
12		Reserved (/PGM Enable)
13	Lighting Input Lo	0-5VAC dimming buss return
14	Baro Pot Shield	Chassis Ground
15	Baro Signal	Wiper of baro-set potentiometer

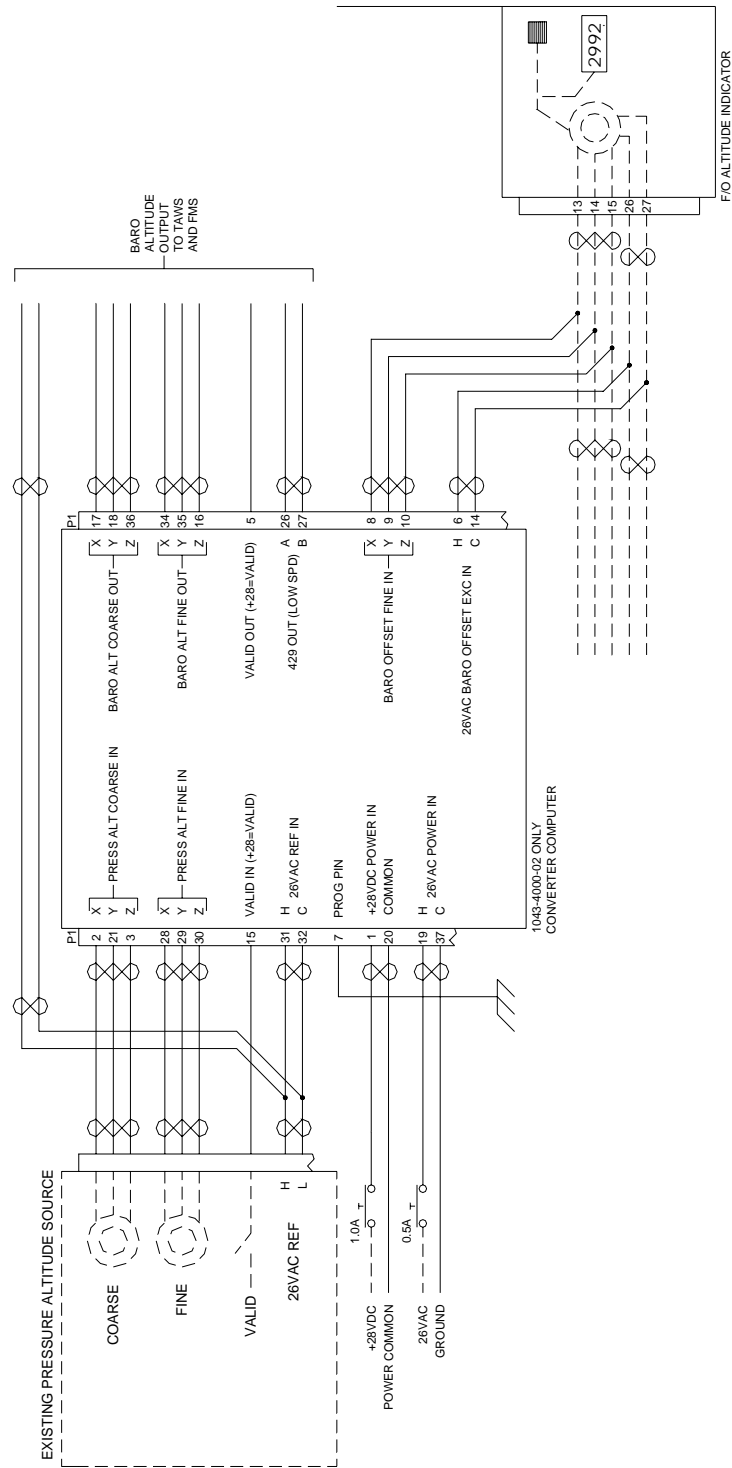
J2 Pin Description

NOTE: Do not use pins labeled Reserved. These are for factory test and In-Circuit-Programming

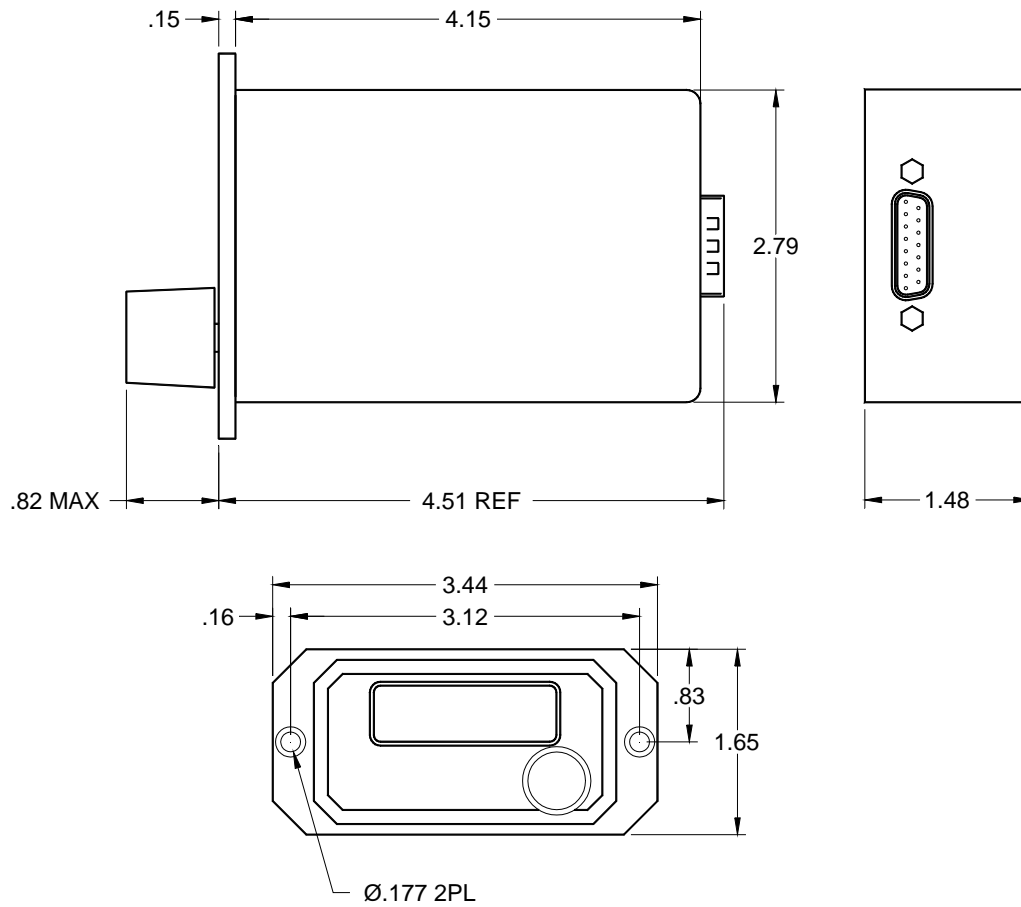
16. TYPICAL INTERCONNECT - WITH DCU



17. TYPICAL INTERCONNECT - WITH SYNCHRO

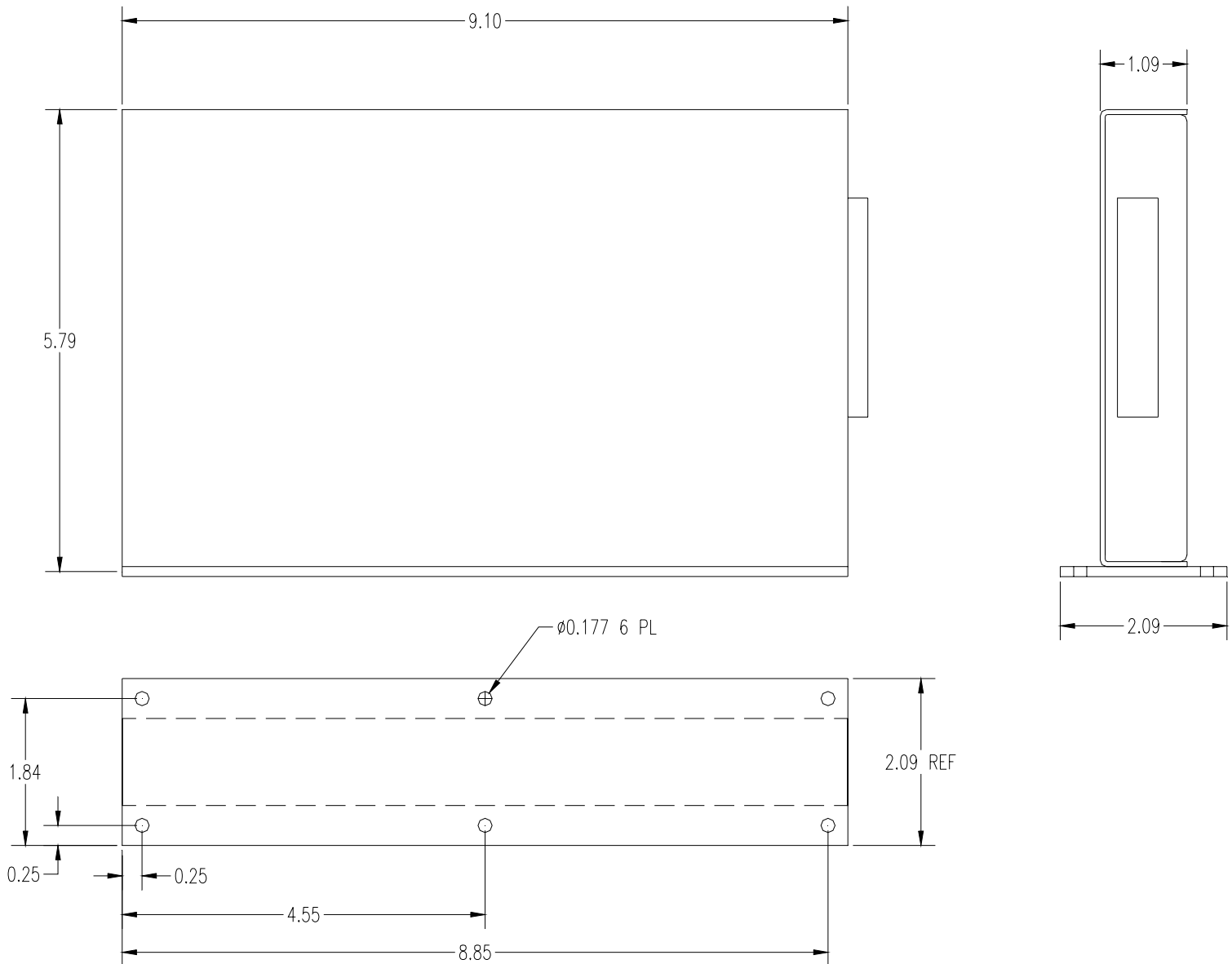


18. OUTLINE DRAWING - DCU



Note: Dimensions are in inches.

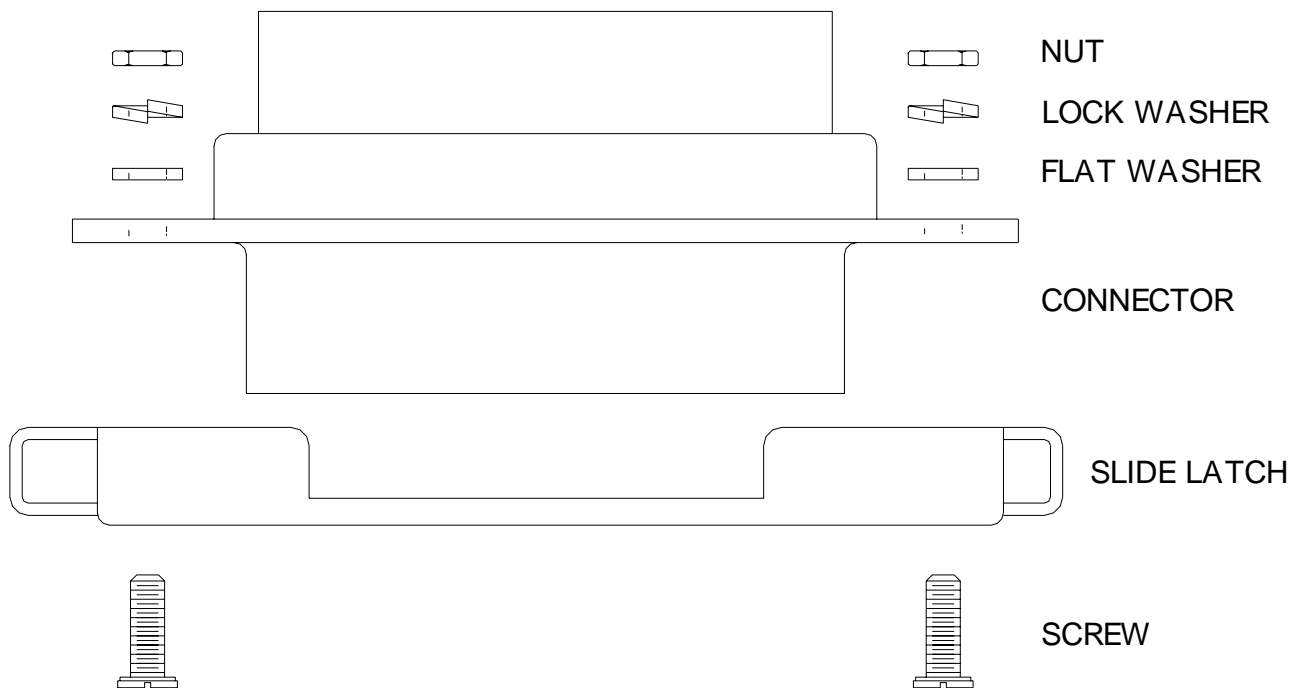
19. OUTLINE DRAWING - BCC



Note: Dimensions are in inches.

20. SLIDE LATCH ASSEMBLY

Assemble the slide latch mechanism, part numbers P10053 and P10257, onto the corresponding mating connector as pictured using the hardware supplied with the slide latch.





21. ARINC 429 OUTPUT SIGNAL DEFINITIONS

21.1. Pressure Altitude Output (203)

Pressure altitude shall be transmitted as ARINC 429 BNR label 203. The transmit format shall be as follows:

3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0				
2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	
P	SSM	S	Altitude (2's compliment if negative)																		0	SDI	203 (octal)									

P = odd parity

SSM = sign status matrix

00: fail/warning

01: no computed data

10: test (not used)

11: normal

S = sign bit, 0=positive

SDI = Source/Destination Identifier set to 00

Range: +/- 131072

Resolution: 1.0 foot

Transmission rate: 50ms

21.2. Baro-corrected Altitude Output (204)

Pressure altitude shall be transmitted as ARINC 429 BNR label 204. The transmit format shall be as follows:

3	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0		
2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	
P	SSM	S	Altitude (2's compliment if negative)																		0	SDI	204 (octal)									

P = odd parity

SSM = sign status matrix

00: fail/warning

01: no computed data

10: test (not used)

11: normal

S = sign bit, 0=positive

SDI = Source/Destination Identifier set to 00

Range: +/- 131072

Resolution: 1.0 foot

Transmission rate: 50ms



22. ARINC 575 FINE / COARSE SIGNAL DEFINITIONS

The ARINC 575 Fine / Coarse format is used by the Baro Converter Computer (BCC) as input of the aircraft pressure altitude and output of barometric altitude. Validity of pressure input data is determined by a valid discrete input. Validity of barometric altitude output is determined by a valid discrete output produced by the BCC.

Index Reference: Fine and Coarse Synchros at 0.0 feet

Scale Factor: Fine Synchro at 360° per 5000 feet.
Coarse Synchro at 27:1 ratio to fine (360° per 135000 feet).

Rotation Reference: Increasing for increasing altitude

Min. Update Rate: 16 times per second (62.5ms)