COBHAM

INNOVATION THROUGH INSIGHT

2018-2019

SEARCH AND RESCUE

All new SAR antennas join some of the most widely used antennas of this type for helicopter and most other aircraft types.

AIR TO GROUND

Exclusive cellular based ATG antennas lead the market in providing inflight internet in the sky for business and commercial aircraft.

COMDAT MULTIFUNCTION

Unique antennas that provide more than one function inside a single radome saving space, time and money.

GENERAL AVIATION

Comant is the leader in communication and navigation antennas for general aviation, business jets and helicopters.

Thank you for choosing Comant. We hope this catalog will be as helpful as it is comprehensive. Like many companies in the aviation business Comant Industries started very small with just a handful of employees. Comant got its start in a small hangar on the Santa Monica Airport in 1971. From these humble beginnings Comant directed its efforts to the OEM aircraft side of the business, first with Cessna which was quickly followed up by Beechcraft, Mooney and Piper aircraft companies. Still growing, Comant began providing antennas to Robinson Helicopter and later Cirrus Design. In 1987 Comant moved from the Santa Monica hangar to a new facility in Santa Fe Springs, CA. The company successfully moved into the world of GPS antennas by developing and supplying the now famous KA92 GPS antenna for Honeywell (then Bendix-King / Allied-Signal) in 1994, where literally thousands of these models are flying today.

That same year, 1994, Comant was acquired by Cobham, PLC, a global company engaged in the development, delivery and support of leading edge aerospace and defense systems in the air, on land and at sea.

In 2002 Comant developed the highly popular ComDat® line of multi-function antennas that combine GPS, VHF Communications and XM® Satellite Radio. Aircraft owners may now add systems such as a secondary GPS or a new XM system without adding antennas. This provides a way where aircraft owners and aircraft OEMs truly "save time, save space and save money" with ComDat. Today ComDats are standard equipment on virtually every major OEM general aviation aircraft.

ComDat sales and other growth proved to be too much for the Santa Fe Springs location and in 2004 Comant moved to its current locality in Fullerton, CA., where the modern 30,000 square foot facility is designed for lean manufacturing practices and provides room for future growth.

In 2007 Comant developed a comprehensive antenna suite that couples with GoGo's broadband in flight system. Passengers can use their Wi-Fi enabled laptop and handheld mobile devices in flight to connect to the Internet through GoGo's portal. American Airlines was the launch customer for this service with many other major airlines to follow.

Comant Industries is a world leader in the design and manufacture of communication and navigation antennas for general aviation, very light jet, regional aircraft and helicopters.

Cobham, PLC is a global company engaged in the development, delivery and support of leading edge aerospace and defense systems in the air, on land and at sea. The most important thing we build is trust.

About This Catalog

INTRODUCTION

This catalog represents a comprehensive listing of most Comant Products and is a best effort to portray the latest versions of these items. Be advised that a catalog of this size and complexity may never be considered "mistake free" or complete. Please contact Comant Industries by phone or email, or visit our website for additional information. Always use factory supplied drawings to obtain the latest performance and dimensional information of Comant antennas before an installation is attempted.

HOW TO ORDER

The Comant Sales Order Desk operates from 7:30 am to 4:00 pm Pacific Time Monday through Friday. Comant cannot accept retail or credit card purchases. Individual pilots and aircraft owner/operators should contact any major retailer, avionics shop or cataloger in order to purchase Comant antennas. Comant does not offer AOG service, will calls, or drop-ships.

Email comantorders@cobham.com
Telephone 714/870-2420

Comant accepts purchase orders via email from qualified OEM's and established Comant Distributors. FBO's and avionics shops may find a list of current Authorized Comant Distributors on our website at: www.cobham/comant.com. Prices are based on delivery date, not order date.

TERMS AND CONDITIONS OF SALE

All sales are made under Cobham's current Terms and Conditions of Sale which can be found at: www.cobham/comant.com
Prices are based on delivery date, not order date.

PAYMENT TERMS

Qualified customers may obtain payment terms of Net 30 Days from date of invoice. The date of the Invoice shall be the day the product shipped. All other orders and/or customers will require COD or prepayment.

ORDERING

The minimum order for standard Comant products is $500 Net. Certain special order models or model variations will carry their own minimum unit order. Inquire when ordering. Price, delivery and product specifications are subject to change without notice. Cancelled and/or modified orders are subject to modification or cancellation fees. Cancelled orders are subject to handling fees. Test Reports and First Article Inspections (FAIs) are available for an extra fee. The request for Test Reports and/or FAIs must appear on the purchase order as a separate line item.

DELIVERY & SHIPPING

Comant maintains the best delivery in the industry. Most popular items ship within 4-6 weeks at receipt of order in the factory. Standard shipping is UPS ground, FOB Fullerton, CA. Contact Comant's Sales Department for insurance information and international shipment facts. All products are shipped with Certificates of Compliance and all Comant-held TSO/PMA products are also shipped with FAA Forms 8130-3. No drop ships and no will calls.

WARRANTY

Cataloged products carry a standard 3 year warranty from the date of manufacture. Every Comant product contains a serial number that provides date of manufacture information. The warranty is void if the product has been altered, abused and/or improperly installed. Comant Industries, Inc. will determine final warranty status of each claim. Comant does not offer AOG service. Comant is not responsible for aircraft "down time" and does not reimburse labor claims under any circumstance.

WARRANTY CLAIMS & CUSTOMER SERVICE

Products must be returned to Comant for warranty processing. Products cannot be returned to the factory without pre-approval by obtaining an RMA (Return Material Authorization).

Contact:

Email comantcustomerservice@cobham.com
Telephone 714/870-2420

ANTENNA REPAIR

By design Comant products are not repairable. In certain instances they may be re-painted at the factory. Contact Comant Customer service for details. Comant's website: www.cobham/comant contains a great deal of information. Click on FAQ's on Comant's home page which will direct you to a number of useful, antenna related FAQ's.

TECHNICAL ASSISTANCE

Contact Comant's Technical Assistance Desk during standard business hours via phone or fax or at all times via email:

Email comantsalesandsupport@cobham.com
Telephone 714/870-2420

INSTALLTION WARNINGS

Failure to follow Installation Instructions as provided by Comant and/or supplemental information and guidance available from Comant and the FAA when installing antennas many result in poor systems performance, and void Comant's warranty, and/or damage to the aircraft and any one of its systems. Installations must be made by qualified personnel and in conformance with applicable government regulations.

Click Installation Guide at Comant's website for a host of helpful materials including General Installation Guides and the FAA's Advisory Circular 43.13-2B that details the FAA's approved antenna installation techniques. Always contact Comant for a copy of the latest Installation Drawing before the start of installation. These are free of charge.

QUALITY

Comant's quality requirements are per CFR FAA Part 21 approved. ISO 9001:2008 Certified.

NOTICES

Comant Industries, Inc. is doing business as Cobham Antenna Systems. Products in this publication are protected by United States patents. Other patents are pending. Product names, model numbers, product features and shapes are trademarks and registered trademarks of Comant Industries, Inc. Product names, model numbers, product features and shapes are also copyrighted by Comant Industries, Inc. All rights reserved.

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Table of Contents

Comant CI 108

VHF Communication

The most important thing we build is trust

CI 108 VHF Communication

Designed for high-performance aircraft applications . Suitable for either top or bottom mounting. Solid Polyurethane construction for strength, reliability and durability. White polyurethane finish is Skydrol and rain erosion resistant. The CI 108 Series has been re-tested and upgraded to the RTCA DO-160D environmental requirements with DO-186 MOPS.

Optional leading edge protection - CI 108-L.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

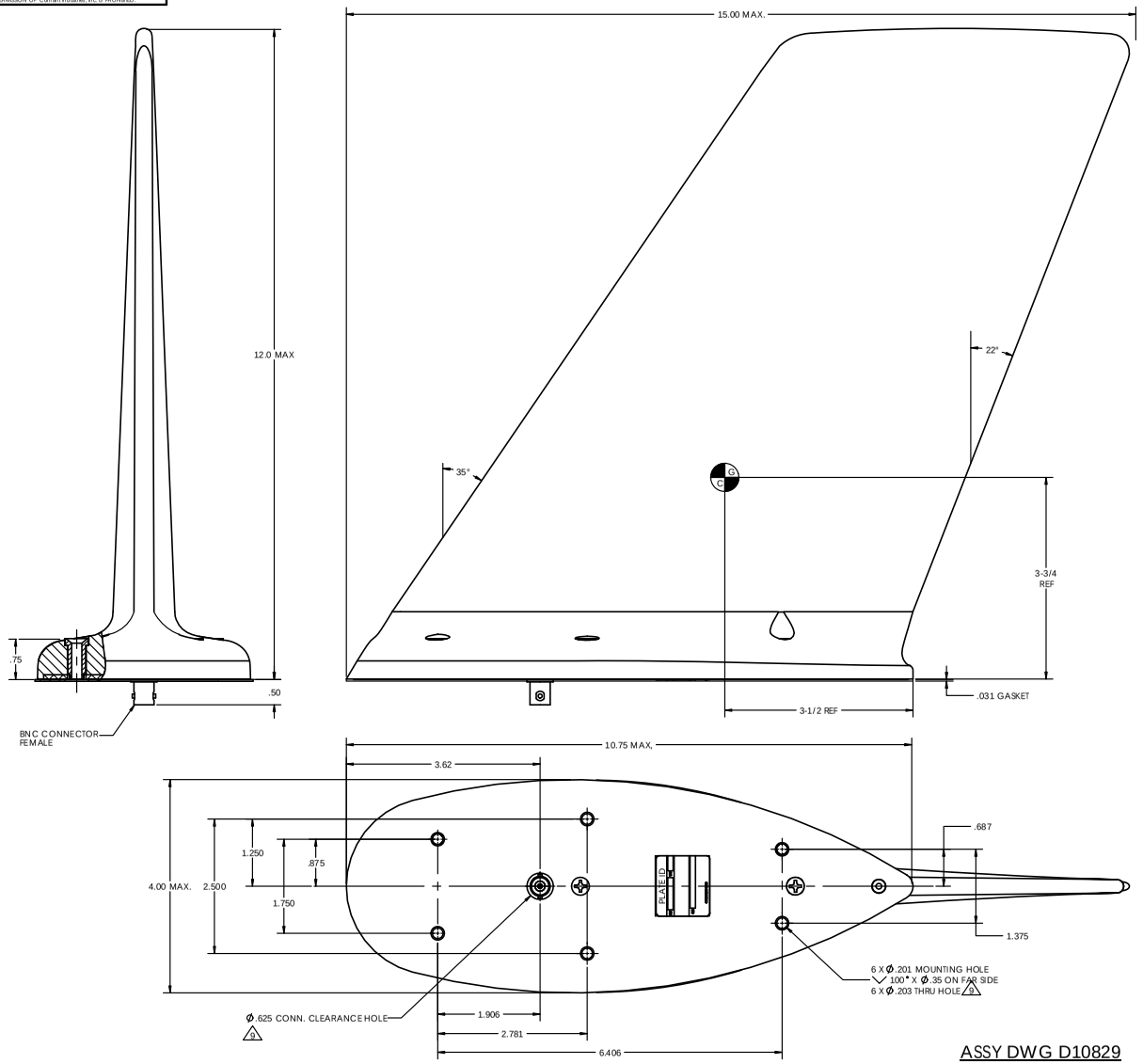
118 - 137 MHz

Specifications

Electrical	
Frequency	118-137MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	2.5 lbs Max.
Height	12.0 inches Max.
Material	High Density Polyurethane
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA MOPS	DO-186
RTCA Environmental	DO-160D
Gasket	
C10810	Cork Neoprene - Standard

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



ASSY DWG D10829

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF EO 87-4	HN	4/01/88	RS 4/21/88
F	REF ECN 88-230	HN	9/27/88	DH 9/28/88
G	REF EO 92-3	HN	7/22/92	DH 7/22/92
H	REF ECN 98-117	HN	12/29/98	DH 01/07/99
J	REF EO 99-01	HN	03/10/99	DH 03/10/99
K	REF ECN 99-91	VJ	7/29/99	DH 7/29/99
L	REF ECN 02-29	HN	01/31/02	DH 01/31/02
M	REDRAWN IN CAD. REF ECN 08-095	MN	11/25/08	DH 12/10/08
N	REF ECN 16-082	MN	08/29/16	DH 08/29/16
P	REF ECN 17-054	MN	05/18/17	DH 05/18/17

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY ..... 118 - 137 MHz
   - 1.2 VSWR ..... 2.5: 1 MAX
   - 1.3 RETURN LOSS ..... -7.36 dB
   - 1.4 POLARIZATION ..... VERTICAL
   - 1.5 RADIATION PATTERN ..... OMNI DIRECTIONAL
   - 1.6 POWER RATING ..... 25 WATTS
   - 1.7 IMPEDANCE ..... 50 OHMS
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING AND SKYDROL RESISTANT.
4. APPROVED PER TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)XWFD XSXXXXX[XX]X[XXXX]XAX
5. THIS DRAWING AND SPECIFICATIONS ARE PROPRIETARY & SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.
6. AERODYNAMIC CHARACTERISTICS: MAXIMUM DRAG OF 1.2 LBS AT 350 KNOTS. ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG AND TURBULENCE EXPERIENCED AT SPEEDS UP TO 0.9 MACH
7. AIR SPEED RATING: 600 KNOTS TAS @ 35,000 FT
8. WEIGHT: 2.5 LBS. MAX.
9. INDICATE HOLE THRU OML OF AIRCRAFT REQUIRED FOR INSTALLATION.
10. THE CI 108- (*) SERIES INCLUDES THE CI 108-L, CI 108-BCH, CI 108-BCH-L, CI 108-1, CI 108-1-L MODELS. SEE INDIVIDUAL OUTLINE DRAWINGS FOR DETAILS.

INSTALLATION DRAWING

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125✓ PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	A. TAM	8/10/84
CHECK	R. SKEEN	8/10/84
ENGR	R. SKEEN	8/10/84
APPD	R.ALEXANDER	8/10/84

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 108	P

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

DWG NO. CI 108 REV. P

Comant CI 108-1 Series

VHF Comm - Extended Band

The most important thing we build is trust

CI 108-1 Series VHF Comm

Designed for world-wide service where VHF communication is available over a wider band. Suitable for either top or bottom mounting. Solid polyurethane construction for strength, reliability and durability. White polyurethane finish is Skydrol and rain erosion resistant.

The CI 108-1 Series has been re-tested and upgraded to the RTCA DO-160D environmental requirements.

Optional leading edge protection - CI 108-1-L.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

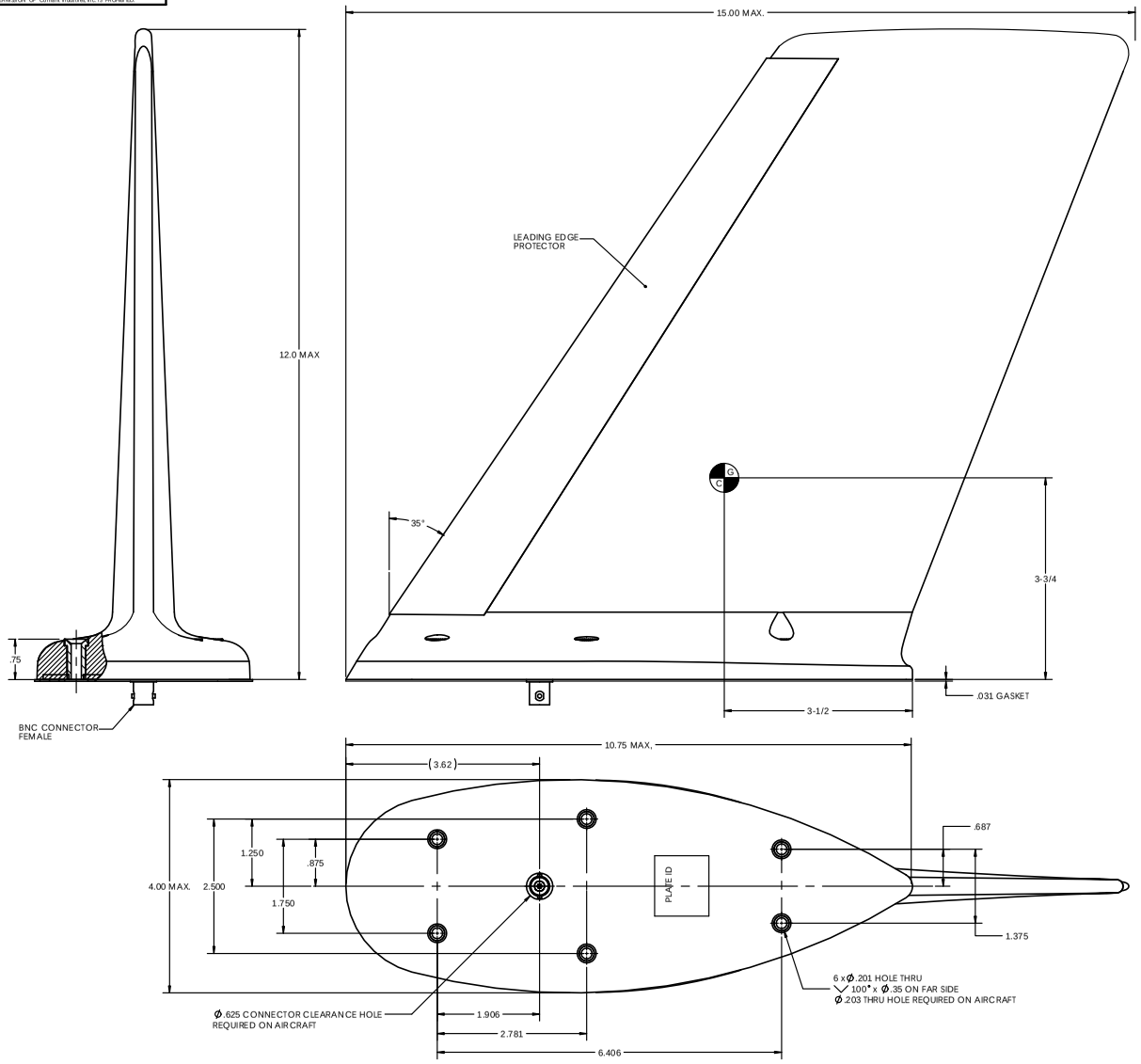
118 - 153 MHz

Specifications

Electrical	
Frequency	118-153 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	2.5 lbs Max.
Height	12.0 inches Max.
Material	High Density Polyurethane
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA MOPS	DO-186
RTCA Environmental	DO-160D
Gasket	
C10810	Cork Neoprene - Standard

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



REVISIONS

LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 98-117	HN	10/29/98	DH 01/07/99
B	REF ECN 01-158	DL	12/13/01	DH 12/13/01
C	REF ECN 02-27	HN	1/31/02	DH 02/01/02
D	REF ECN 08-095	MN	11/25/08	DH 12/01/08
E	REF ECN 14-064	MN	06/14/14	DH 07/08/14
F	REF ECN 16-081	MN	08/29/16	DH 08/29/16
G	REF ECN 17-054	MN	05/18/17	DH 05/18/17

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY ____ 118 - 153 MHz
   - 1.2 VSWR ____ 2.5: 1 MAX
   - 1.3 RETURN LOSS ____ -7.36 dB
   - 1.4 POLARIZATION ____ VERTICAL
   - 1.5 RADIATION PATTERN ____ OMNI DIRECTIONAL
   - 1.6 POWER RATING ____ 25 WATTS
   - 1.7 IMPEDANCE ____ 50 OHMS
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING AND SKYDROL RESISTANT.
4. APPROVED PER TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)XWFD XSXXXX[X]X[XXX]XAX
5. AERODYNAMIC CHARACTERISTICS: MAXIMUM DRAG OF 1.2 LBS AT 350 KNOTS. ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG AND TURBULENCE EXPERIENCED AT SPEEDS UP TO 0.9 MACH
6. AIR SPEED RATING: 600 KNOTS TAS @ 35,000 FT
7. WEIGHT: 2.5 LBS. MAX.

INSTALLATION DRAWING
ASSY DWG D10829-1L

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD
--	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	7/14/93
CHECK	S. CASLOW	10/26/93
ENGR	D.HOLLOWAY	10/26/93
APPD	R.ALEXANDER	10/26/93

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS
EXTENDED FREQUENCY

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 108-1-L	G

SCALE: 1:1 CAD FILE: -- SHEET: 1 OF 1

CI 108-1-L REV. G

Comant CI 1085 Series

Dual Port - Multi-Function VHF/L Band Antenna

The most important thing we build is trust

CI 1085-20-L

Our sleek new VHF/L Band is a whole lot more than meets the eye. This single antenna in one radome holds no less than 5 different TSO's from the FAA.

The CI 1085 uses a popular footprint that contains ATCRBS Mode S Transponder/DME/UAT ADS-B and VHF communications.

No one has done this before. On today's crowded airframes we expect this design will be a welcome relief to installers everywhere.

And reduction of antenna count on aircraft will be welcomed by everyone.

Applications

Fixed wing turbine powered aircraft. Some light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

116-156 MHz VHF Comm
960-1215 MHz DME
978 MHz UAT/ADS-B
1030-1090 MHz ATCRBS Transponder/Mode S

Specifications

VHF Specifications

Frequency MHz	116-156 / 960-1215 / 1030-1090 / 978
VSWR Maximum	3.0:1 2.0:1 1.5:1 1.7:1
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedence	50 Ohms
Power Rating	VHF 40 Watts / L Band 1 KW Peak

Mechanical / Environmental

RTCA	DO-160G
FAA TSO (incomplete systems)	C74d ATCRBS/Transponder C66c DME C112e ATCRBS/Mode S Transponder C154c UAT/ADS-B C169a VHF Comm
Connector	J1 BNC (F) 116-156 MHz J2 TNC (F) 960-1220 /1030-1090 MHz
Finish	Polyurethane white paint
Weight	2.25 LBS. Maximum
Installation Instr.	A108529 Supplied with Antenna

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
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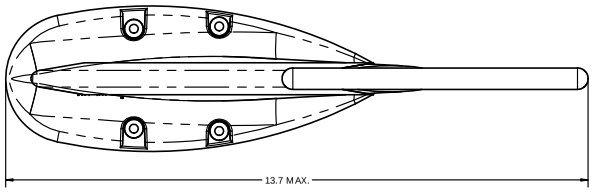
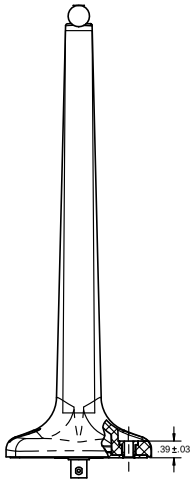
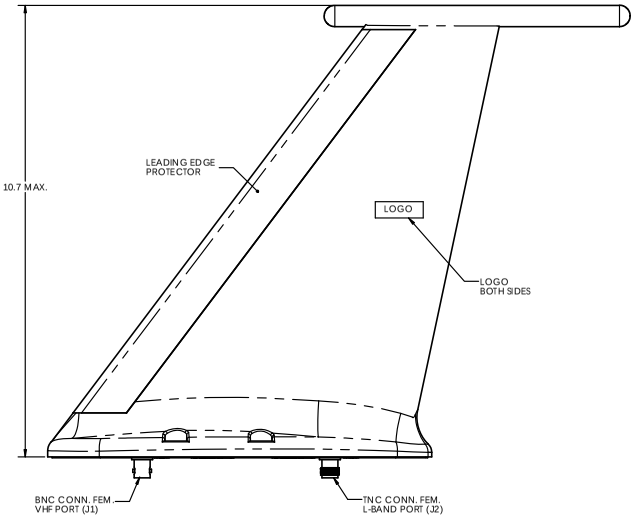
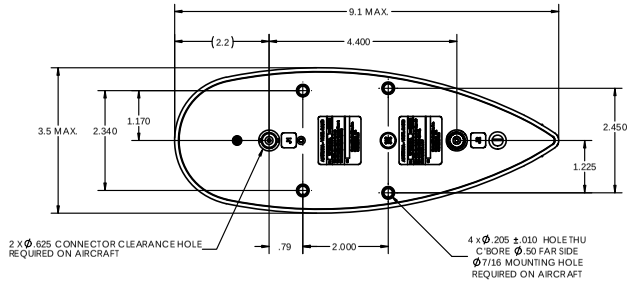
B	REF ECN 14-034	MN	2/05/14	DH 2/05/14









ASSY DWG. D108501

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS

FREQUENCY	116 MHz TO 156 MHz	960 MHz TO 1220 MHz	1030 MHz TO 1090 MHz	978 MHz
VSWR	3.0:1 MAX @	2.0:1 MAX	1.5:1 MAX	1.7:1 MAX
RETURN LOSS	-6.02 dB MAX.	-9.54dB MAX.	-13.98 dB MAX.	-11.73 dB
ISOLATION	30 dB			
POLARIZATION	VERTICAL			
RADIATION PATTERN	ESSENTIALLY OMNI -DIRECTIONAL			
IMPEDANCE	50 OHMS			
RF POWER	VHF: 40 WATTS, L-BAND: 1 KW PEAK			

2. CONNECTORS:
   J1: BNC (F) 116-156 MHz
   J2: TNC (F) 960-1220 MHz, 1030-1090 MHz, 978 MHz
3. WEIGHT: 2.25 LBS. MAX.
4. FINISH: POLYURETHANE WHITE PAINT.
5. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
6. TSO-C66c (INCOMPLETE SYSTEM), 960-1215 MHz
   TSO-C74d (INCOMPLETE SYSTEM), CLASS A, 1030-1090 MHz
   TSO-C112e (INCOMPLETE SYSTEM), 1030-1090 MHz
   TSO-C154c (INCOMPLETE SYSTEM), CLASS A3, 978 MHz
   TSO-C169a (INCOMPLETE SYSTEM), CLASS C, D, E, 3, 4, 5, 6, 118-137 MHz
   RTCA/DO-160G ENV. CAT.: [F2X]ACE[R(C,C1)H(R)]XSFSXSXXX[XXX][XX]X[XXXXXX][XX]AXX
7. A108529 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M. NGUYEN	9/17/13
CHECK	D. HOLLOWAY	9/17/13
ENGR	D. HOLLOWAY	9/17/13
MFG	J. JONES	9/17/13
QC	S. ADAMS	9/17/13

Comant Industries, Inc.

ANTENNA-VHF/L-BAND

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 1085-20-L	B

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

DWG NO. CI 1085-20-L REV. B

Comant CI 109

VHF Communication

The most important thing we build is trust

CI 109 VHF Communication

Exhibits excellent electrical characteristics and incorporates an aerodynamically shaped mounting base and radiator housing that matches the styling of the communication antennas used on the 1968-72 single engine Cessnas. The CI 109 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118 - 137 MHz

Specifications

Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.6 lbs Max.
Height	18 9/16 inches Max.
Material	Cast housing / Fiberglass whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
B12607-3	Cork Neoprene - Standard

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
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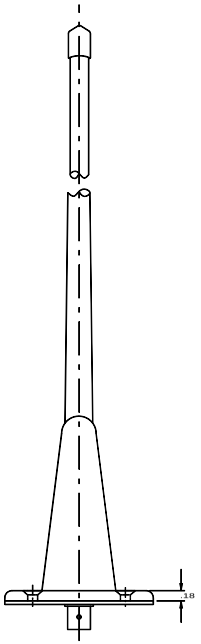
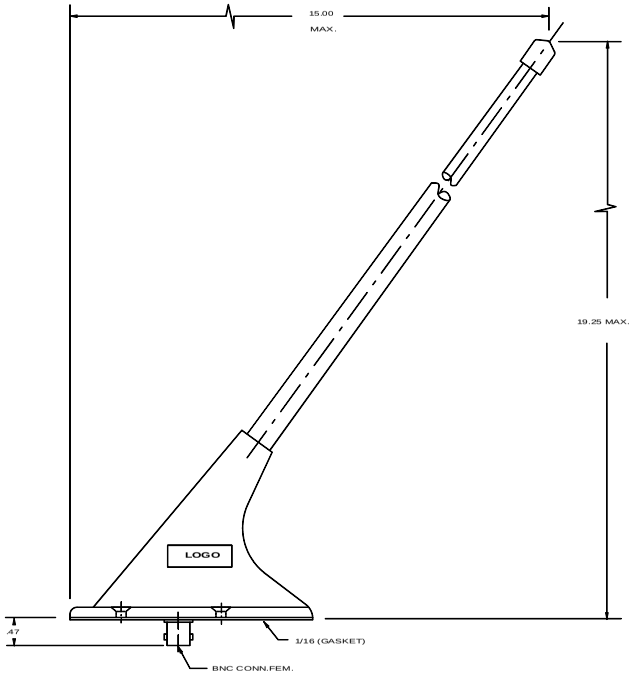
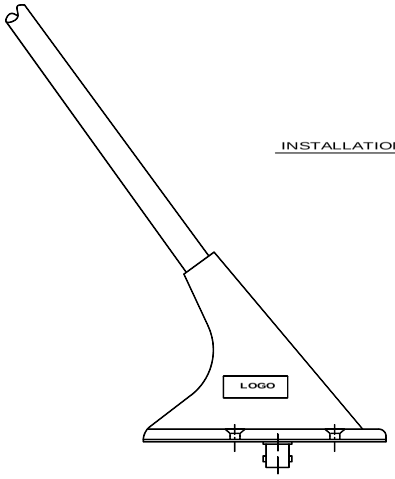
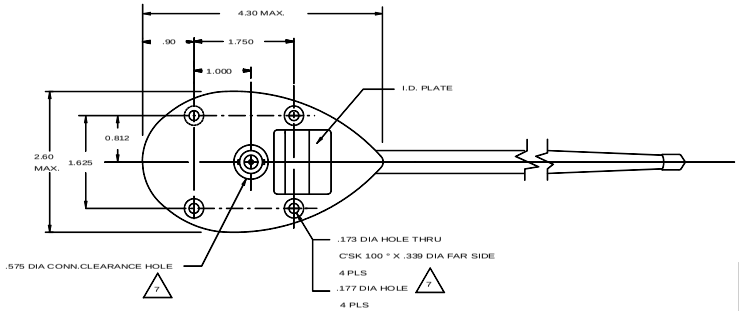
L	REF ECN 08-095	HN	11/11/08	DH 11/11/08







INSTALLATION DRAWING



NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS

FREQUENCY	———	118 - 137 MHz
VSWR	———	2.5:1 MAX.
R/L	———	-7.36 dB
POLARIZATION	———	VERTICAL
RADIATION PATTERN	———	OMNI DIRECTIONAL
POWER RATING	———	50 WATTS
IMPEDANCE	———	50 OHMS

2. FINISH : WHITE GLOSSY POLYURETHANE PAINT NON-YELLOWING
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. WEIGHT : 0.6 LB
5. AIRSPEED RATING : 250 KNOTS TAS
6. TSO C37d, C38d, RTCA DO-160D ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXX[XX]X[XXX]XAX
7. HOLE REQUIRED THRU OML OF AIRCRAFT FOR INSTALLATION.

ASSEMBLY DWG NO. D10901

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC. XX ± .03 XXX ± .010 FRACTIONS ± 1/64 ANGLES ± 1° MACHFINISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .035 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	DATE MAY 15, 1984		TITLE ANTENNA- VHF COMMUNICATIONS
	DFTSM AHMAD	5/15/84	
	CHECK RES	5/15/84	
	ENGR RES	5/15/84	
	APPD R. SICCAMA	5/15/84	D CODE IDENT 51351 DWG. NO. CI 109
			SCALE: 1/1 WT: A SHT 1 OF 1

CI 109 L

Comant CI 119

VHF Communications

The most important thing we build is trust

CI 119 VHF Communications

Designed for large single or twin-engine aircraft. The antenna assembly is enclosed in an aerodynamically shaped, injection molded polyester glass shell with internal components foamed in place for mechanical integrity. Reduced height convenient for mounting to the underside of an aircraft. The CI 119 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186 MOPS.

Applications

This antenna design features an offset connector. Consult your FBO or installation shop for best application information.

Frequencies Covered

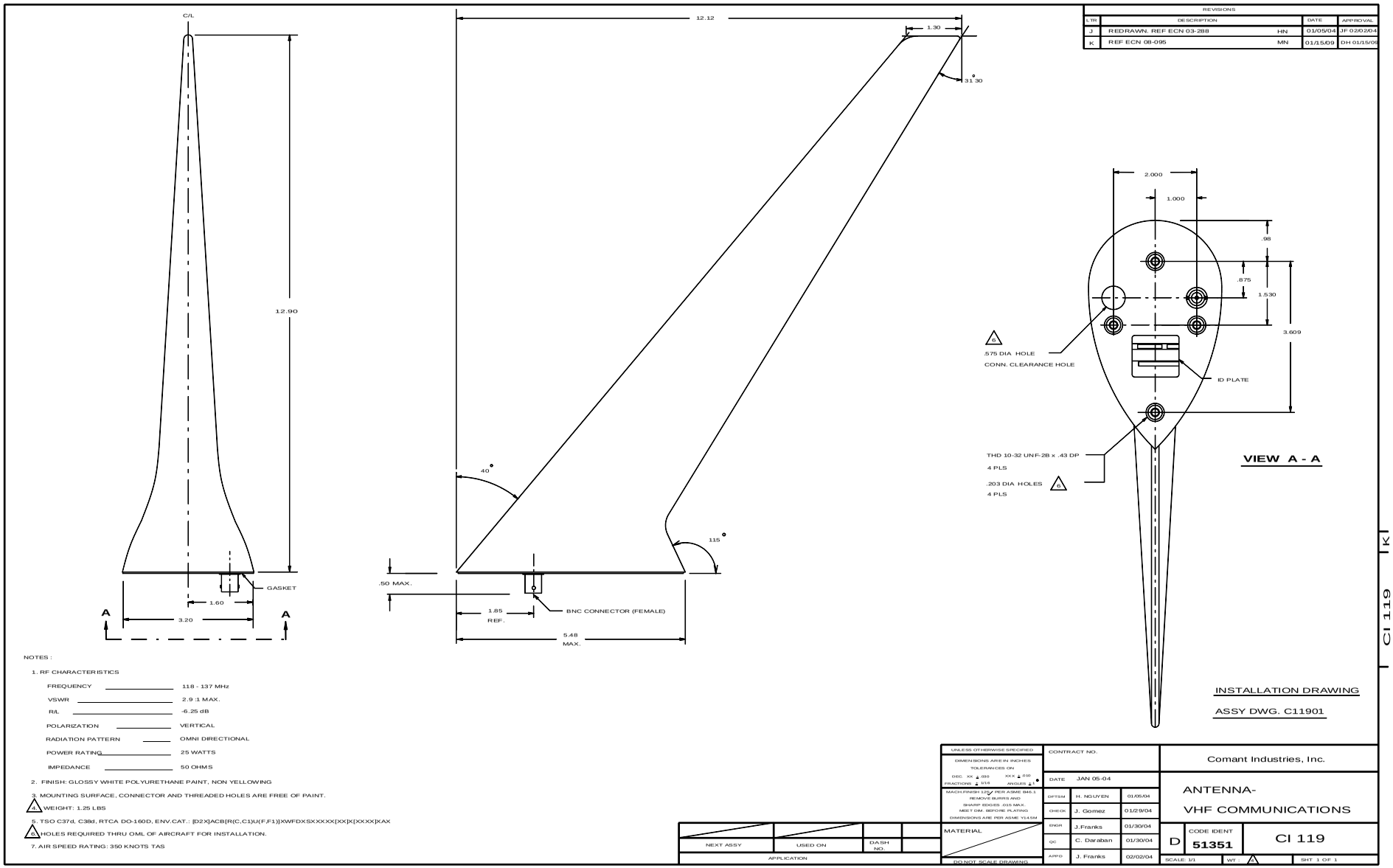
118 - 137 MHz

Specifications

Electrical	
Frequency	118-137
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	1.25 lbs Max.
Height	12.90 inches Max.
Material	Valox 420
Finish	Polyurethane Enamel
Connector	Offset BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	35,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C12704	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
J	REDRAWN, REF ECN 03-288	HN	01/05/04	JF 02/02/04
K	REF ECN 08-095	MN	01/15/09	DH 01/15/09

NOTES :

1. RF CHARACTERISTICS

FREQUENCY	118 - 137 MHz
VSWR	2.9 :1 MAX.
R/L	-6.25 dB
POLARIZATION	VERTICAL
RADIATION PATTERN	OMNI DIRECTIONAL
POWER RATING	25 WATTS
IMPEDANCE	50 OHMS

2. FINISH: GLOSSY WHITE POLYURETHANE PAINT, NON YELLOWING
3. MOUNTING SURFACE, CONNECTOR AND THREADED HOLES ARE FREE OF PAINT.
4. WEIGHT: 1.25 LBS
5. TSO C37d, C38d, RTCA DO-160D, ENV.CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXXX[XX]X[XXXX]XAX
6. HOLES REQUIRED THRU OML OF AIRCRAFT FOR INSTALLATION.
7. AIR SPEED RATING: 350 KNOTS TAS

INSTALLATION DRAWING

ASSY DWG. C11901

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC XX ± .030 XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE JAN 05-04

DFTSM	H. NGUYEN	01/05/04
CHECK	J. Gomez	01/29/04
ENGR	J.Franks	01/30/04
QC	C. Daraban	01/30/04
APPD	J. Franks	02/02/04

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

D	CODE IDENT 51351	CI 119
SCALE: 1/1	WT	SHT 1 OF 1

CI 119 K

Comant CI 121

VHF Communication

The most important thing we build is trust

CI 121 VHF Communication

Our most popular VHF, the CI 121 is similar to our CI 109, only the CI 121 has a smaller diameter whip and is lighter at only 0.5 pounds. Features a tapered glass laminate housing and die-cast Aluminium base. Offers standard mounting and appearance to many Cessna communication antennas.

The CI 121 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

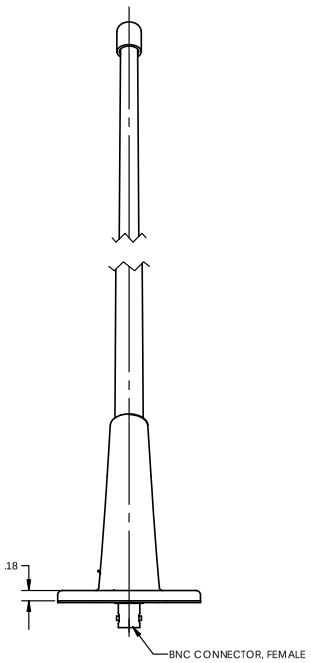
Specifications

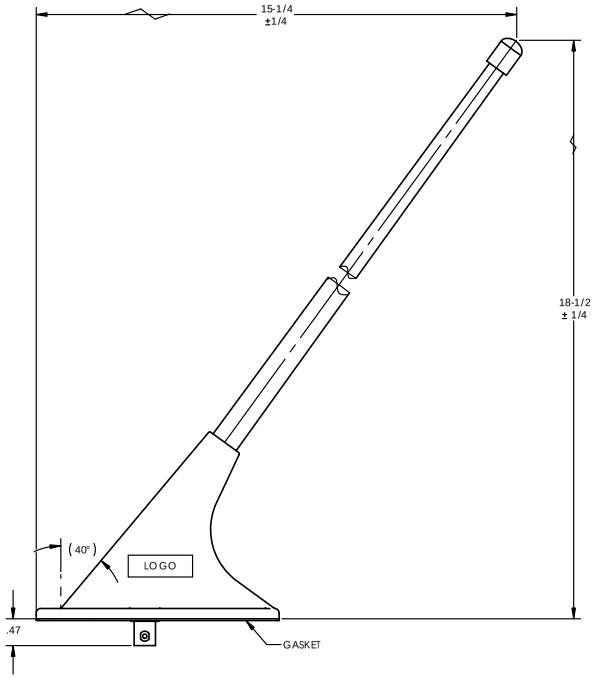
Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.5 lbs Max.
Height	18.50 inches Max.
Material	Cast Housing / Fiberglass whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
B12607-3	Cork Neoprene

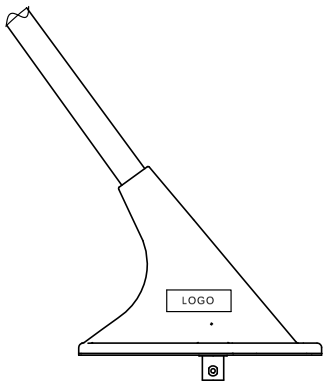
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

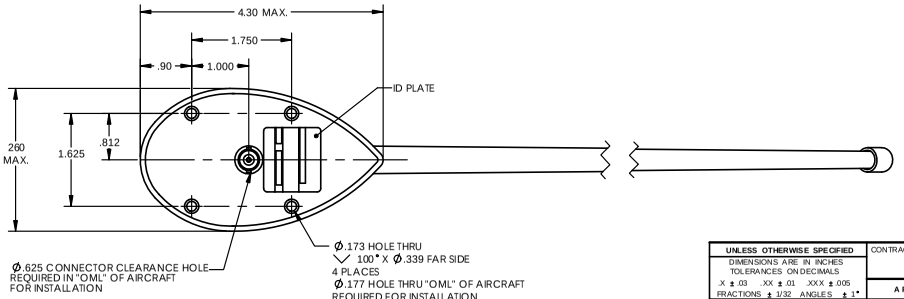
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVED
A	ADDED: MOUNTING SURFACE & INSTALLATION FOOTPRINT INFORMATION ADDED DWG NOTE & 6, 2.60 MAX. WAS 2.50, 4.30 MAX. WAS 4.25 ADDED CODE IDENT		03/07/85	RES 03/07/85
B	REVISED DIMS: IS: 14-2/4 WAS: 15.38 IS: 18-7/8 WAS: 17.46, IS: .25 DIA. WAS: .26 DIA		01/86	RES 01/86
C	REF ECN 88-161	HN	3/8/88	RES 3/24/88
D	REF ECN 97-56	HN	4/16/97	DH 4/16/97
E	REF ECN 99-87	VI	7/21/99	DH 7/21/99
F	REF ECN 00-53	HN	4/07/00	DH 4/10/00
G	REF ECN 00-65	HN	4/26/00	DH 4/26/00
H	REF ECN 02-49	DL	2/18/02	DH 2/19/02
J	REF ECN 06-120	HN	11/16/06	AV 11/17/06
K	REF ECN 06-155	HN	12/11/06	AV 12/12/06
L	REF ECN 08-095	MN	11/11/08	DH 11/11/08









NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 118 - 137 MHz
   - 1.2 VSWR _____ 2.5: 1 MAX
   - 1.3 RETURN LOSS _____ -7.36 dB
   - 1.4 POLARIZATION _____ VERTICAL
   - 1.5 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.6 POWER RATING _____ 50 WATTS
   - 1.7 IMPEDANCE _____ 50 OHMS
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)XWFDXSXXXX[XX]X[XXXX]XAX
5. WEIGHT 0.6 LB. MAX.
6. AIR SPEED RATING: 250 KNOTS TAS

INSTALLATION DRAWING

ASSY. DWG. D12101

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	A.TAM	08/09/84
CHECK	R. SKEEN	08/10/84
ENGR	R. SKEEN	08/10/84
APPD	R. SICCAMA	08/10/84

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 121	L

SCALE: CAD FILE: -- SHEET: 1 OF 1

CI 121 L

Comant CI 122

VHF Communication

The most important thing we build is trust

CI 122 VHF Communication

Designed specifically for mounting to the underside of an aircraft providing excellent radiation coverage for air-to-ground VHF communications. Bent configuration makes it ideally suited for helicopters and low wing aircraft.

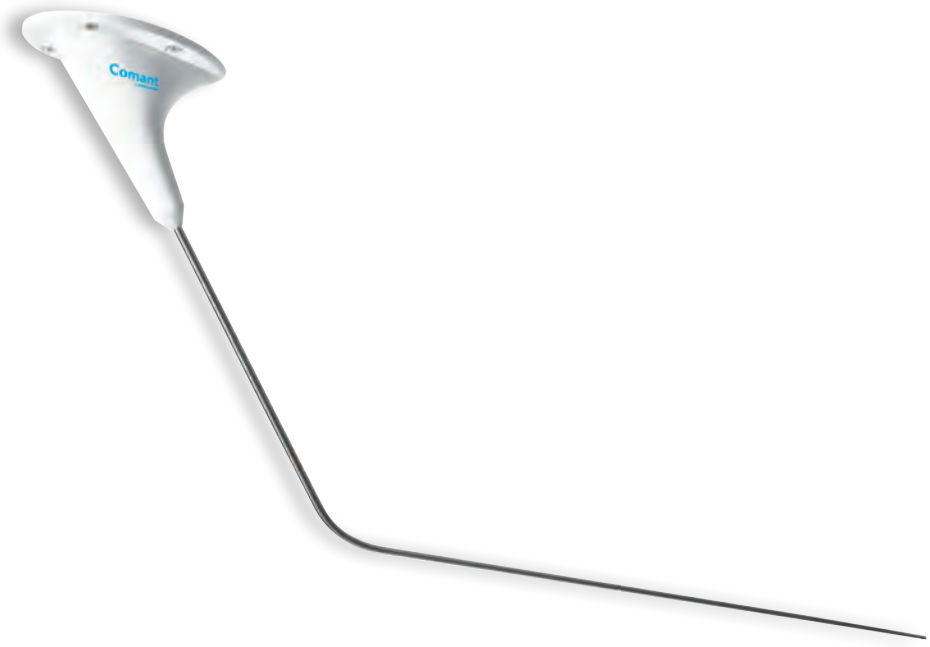
The CI 122 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers 118 to 137 MHz frequency associated with the DO-186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz



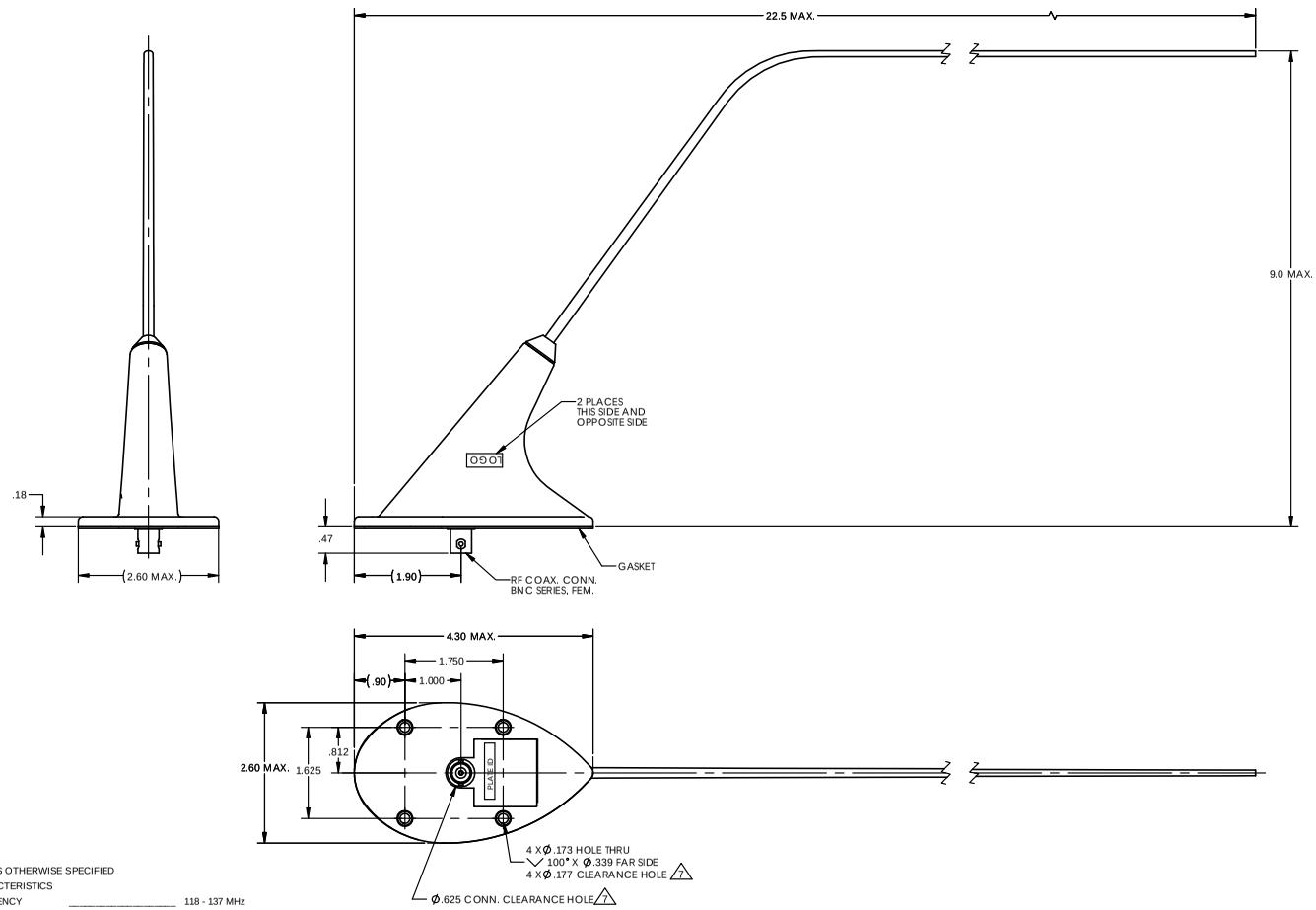
Specifications

Electrical	
Frequency	118-137 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.75 lbs Max.
Height	9.0 inches Max.
Material	Cast Housing / Stainless Steel
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
B12607-3	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVED
L	REF ECN 05-134	HN	06/09/05	JF 06/09/05
M	REF ECN 06-20	HN	03/11/06	DH 03/11/06
N	REF ECN 08-095	MN	11/13/08	DH 11/13/08
P	REF ECN 16-050	MN	06//20/16	DH 06//21/16



NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS

FREQUENCY	_____	118 - 137 MHz
VSWR	_____	3.0: 1 MAX
ANTENNA GAIN	_____	2.5 dB MINIMUM AT BEAM MAXIMUM
RADIATION PATTERN	_____	OMNI DIRECTIONAL
POWER RATING	_____	50 WATTS
IMPEDANCE	_____	50 OHMS NOMINAL

2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: WHITE GLOSSY PAINT NON YELLOWING.
4. WEIGHT 0.75 LB.
5. TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)XWFDXSXXXX[XX]X[XXX]XAX
6. AIR SPEED RATING: 350 KNOTS TAS
7. HOLES IN OML OF AIRCRAFT REQUIRED FOR INSTALLATION.
8. INSTALLATION INSTRUCTIONS A12206 SUPPLIED WITH ANTENNA.

ASSY. DWG. D12201

INSTALLATION INSTRUCTION

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : ..
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	01/20/80
CHECK	L. BROWN	06/20/80
ENGR	GREG ROCK	06/20/80
APPD	H. SUMMERS	06/20/80

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 122	P

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

DWG NO. CI 122 REV. P

Comant CI 138

VHF Communication

The most important thing we build is trust

CI 138 VHF Communication

Identical to the CI 119 with the exception of the mounting hole pattern and RF connector location which are compatible with Beechcraft mounting. RF connector is offset from the centerline of the antenna.

The CI 138 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118-137 MHz frequency associated with DO-186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

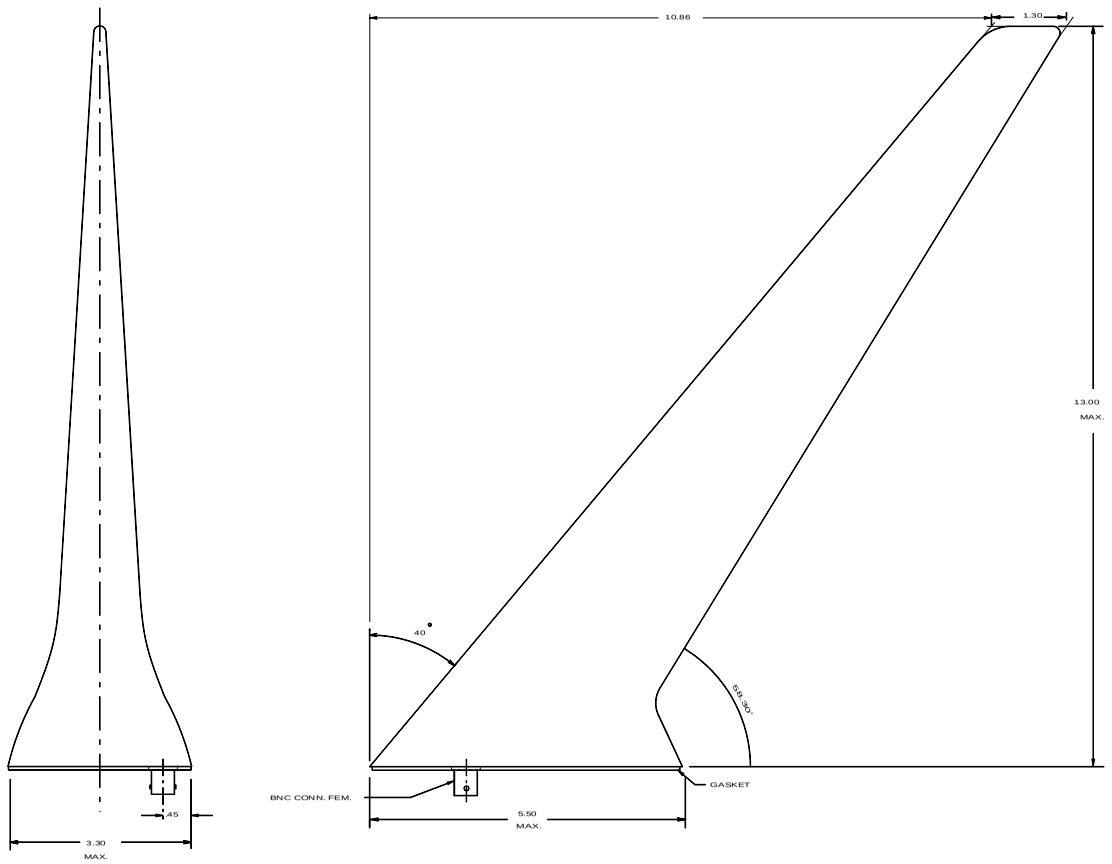
118-137 MHz

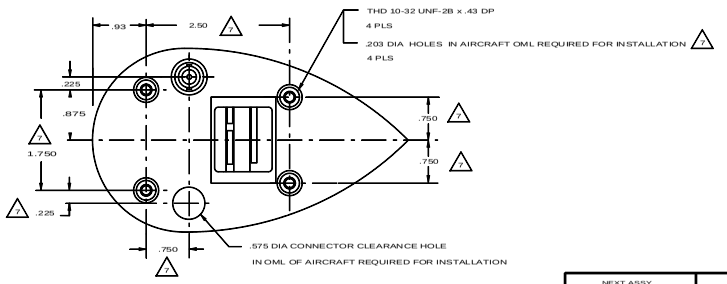
Specifications

Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	1.25 lbs Max.
Height	13.00 inches Max.
Material	Valox 420
Finish	Polyurethane Enamel
Connector	BNC (female) - Offset
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C13804	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com





REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 03-286	H.N.	01/12/04	DH 02/03/04
F	REF ECN 08-095	H.N.	12/09/08	DH 12/09/08

NOTES :

1. RF CHARACTERISTICS

FREQUENCY	118 - 137 MHz
VSWR	2.9 :1 MAX.
R/L	-6.25 dB
POLARIZATION	VERTICAL
RADIATION PATTERN	OMNI DIRECTIONAL
POWER RATING	25 WATTS
IMPEDANCE	50 OHMS

2. FINISH: GLOSSY WHITE POLYURETHANE PAINT, NON- YELLOWING
3. MOUNTING SURFACE, CONNECTOR AND THREADED HOLES ARE FREE OF PAINT.
4. AIR SPEED RATING: 350 KNOTS TAS
5. TSO C37d, C38d, RTCA DO-160D, ENV.CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXX[XX]X[XXXX]XAX

△1 WEIGHT: 1.25 LBS
△2 INDICATED DIMENSIONS PROVIDE INSTALLATION (FOOTPRINT) INFORMATION.

CI 138 F

INSTALLATION DRAWING

ASSY DWG. C13801

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .03 XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 2°
MACH. FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

Comant Industries, Inc.

DATE JAN 12-04

DFTSM	H. NGUYEN	01/12/04
CHECK	J. Gomez	02/02/04
ENGR	J.Franks	02/02/04
QC	C.Daraban	02/03/04
APPD	D.J.Holloway	02/02/04

ANTENNA
VHF COMMUNICATIONS

D | CODE IDENT 51351 | CI 138

SCALE 1/1 | WT: △1 | SHT 1 OF 1

Comant CI 139

VHF Communication

The most important thing we build is trust

CI 139 VHF Communication

Piper compatible mounting version of the CI 119 with respect to the mounting hole pattern and RF connector location.

The CI 139 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

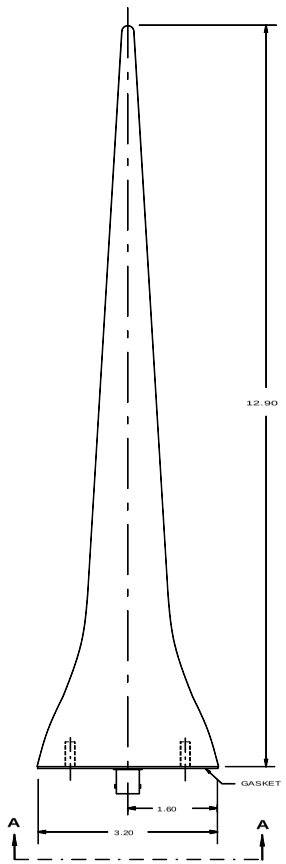
118-137 MHz

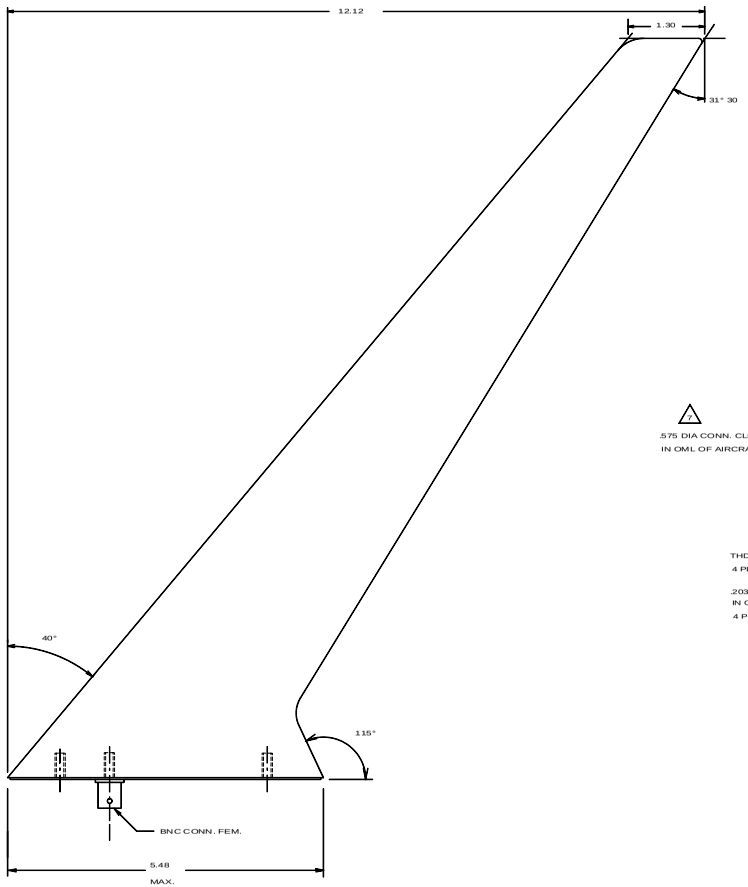
Specifications

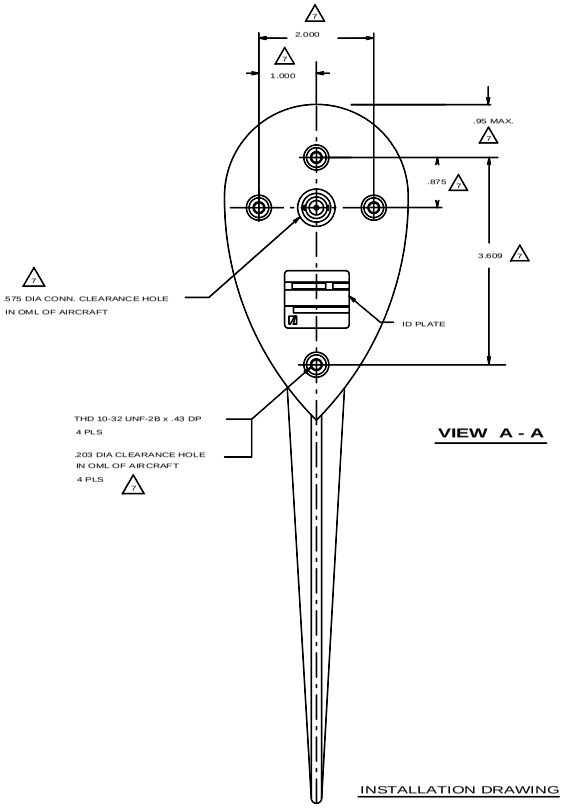
Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	1.25 lbs Max.
Height	12.90 inches Max.
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C13904	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com







VIEW A - A

INSTALLATION DRAWING

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
F	REDRAWN. REF ECN 03-293	HN	01/05/04	DH 01/29/04
G	REF ECN 08-085	MN	09/15/08	DH 09/15/08

NOTES :

1. RF CHARACTERISTICS

FREQUENCY		118 - 137 MHz
VSWR		2.9 :1 MAX.
R/L		-6.25 dB
POLARIZATION		VERTICAL
RADIATION PATTERN		OMNI DIRECTIONAL
POWER RATING		25 WATTS
IMPEDANCE		50 OHMS

2. FINISH: GLOSSY WHITE POLYURETHANE PAINT, NON- YELLOWING
3. MOUNTING SURFACE, CONNECTOR HOLE AND THREADED HOLES ARE FREE OF PAINT
4. WEIGHT: 1.25 LBS
5. TSO C37d, C38d, RTCA DO-160D, ENV.CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXXX[XX]X[XXXX]XAX
6. AIR SPEED RATING: 350 KNOTS TAS
7. INDICATE DIMENSIONS PROVIDED INSTALLATION (FOOTPRINT) INFORMATION.

ASSY DWG. C13901

NEXT ASSY	USED ON	DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .03 XXX ± .010
FRACTIONS ± 1/64 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .005 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE	JAN 05-04	
DFTSM	H. NGUYEN	01/05/04
CHECK	J. Gomez	01/22/04
ENGR	D.J.Holloway	01/23/04
QC	J.Garcia	01/29/04
APPD	D.J.Holloway	01/23/04

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

D	CODE IDENT 51351	CI 139

SCALE: 1/1 WT: 1.25 SHT 1 OF 1

CI 139

Comant CI 175

VHF Communication

The most important thing we build is trust

CI 175 VHF Communication

High strength antenna designed as an improved direct replacement for the standard Cessna 3-hole mounting configuration.

The CI 175 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-160D.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

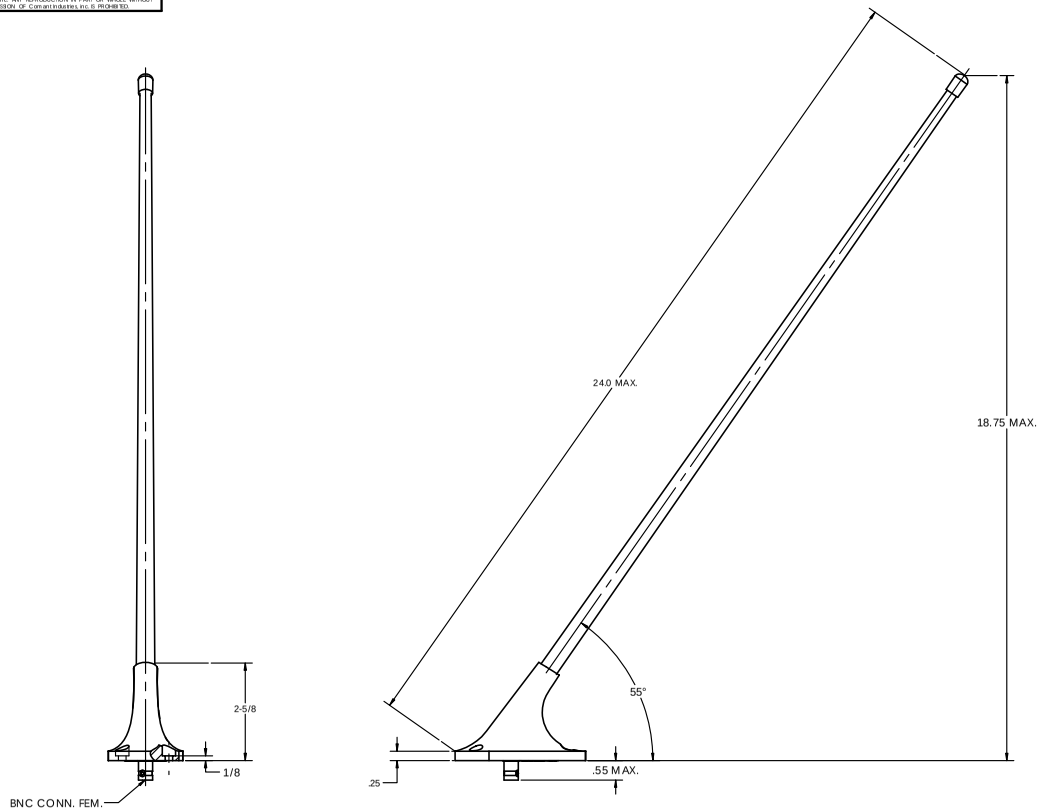
Specifications

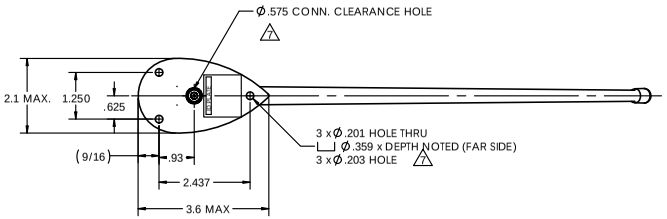
Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.5 lbs Max.
Height	18.75 inches Max.
Material	Cast Housing / Fiberglass Whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL





NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY : 118 - 137 MHz
   - VSWR : 2.5: 1 MAXIMUM
   - POLARIZATION : VERTICAL
   - ANTENNA GAIN : 2.5 dBi MINIMUM @ BEAM MAXIMUM
   - RADIATION PATTERN : OMNI DIRECTIONAL
   - POWER RATING : 50 WATTS
   - IMPEDANCE : 50 OHMS NOMINAL
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE EPOXY PAINT NON YELLOWING.
4. WEIGHT: 0.5 LBS.

5a. TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)XWFDXSXXXXX[XX]X[XXXX]XAX

5b. ANTENNA MEETS THE POWER & VSWR REQUIREMENTS BEFORE AND AFTER THE FOLLOWING VIBRATION TEST-CONSTANT TOTAL EXCURSION OF .030 INCH FROM 10 TO 55 Hz WITH MAXIMUM ACCELERATION OF 5G & CONSTANT ACCELERATION OF 5G FROM 55 TO 500 Hz

6. AIR SPEED RATING: 250 KNOTS TAS

7. HOLES REQUIRED THRU "OML" OF AIRCRAFT FOR INSTALLATION

INSTALLATION DRAWING

ASSY DWG. D17501

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ±1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS B EFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	F. FRADO	1/30/76
CHECK	H. SUMMERS	1/30/76
ENGR	D. JOHNSON	1/30/76
APPD	H. SUMMERS	1/30/76

Comant Industries, Inc.

ANTENNA-
VHF-COMMUNICATIONS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 175	F

SCALE: NONE | CAD FILE: -- | SHEET : 1 OF 1

CI 175 REV. A

Comant CI 196

VHF Communication

The most important thing we build is trust

CI 196 VHF Communication

Identical to the CI 119 with the exception of the mounting screw configuration. Matches the styling and mounting configuration of the late model Mooney 201/231/252 aircraft series starting in 1978.

The CI 196 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-160D MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

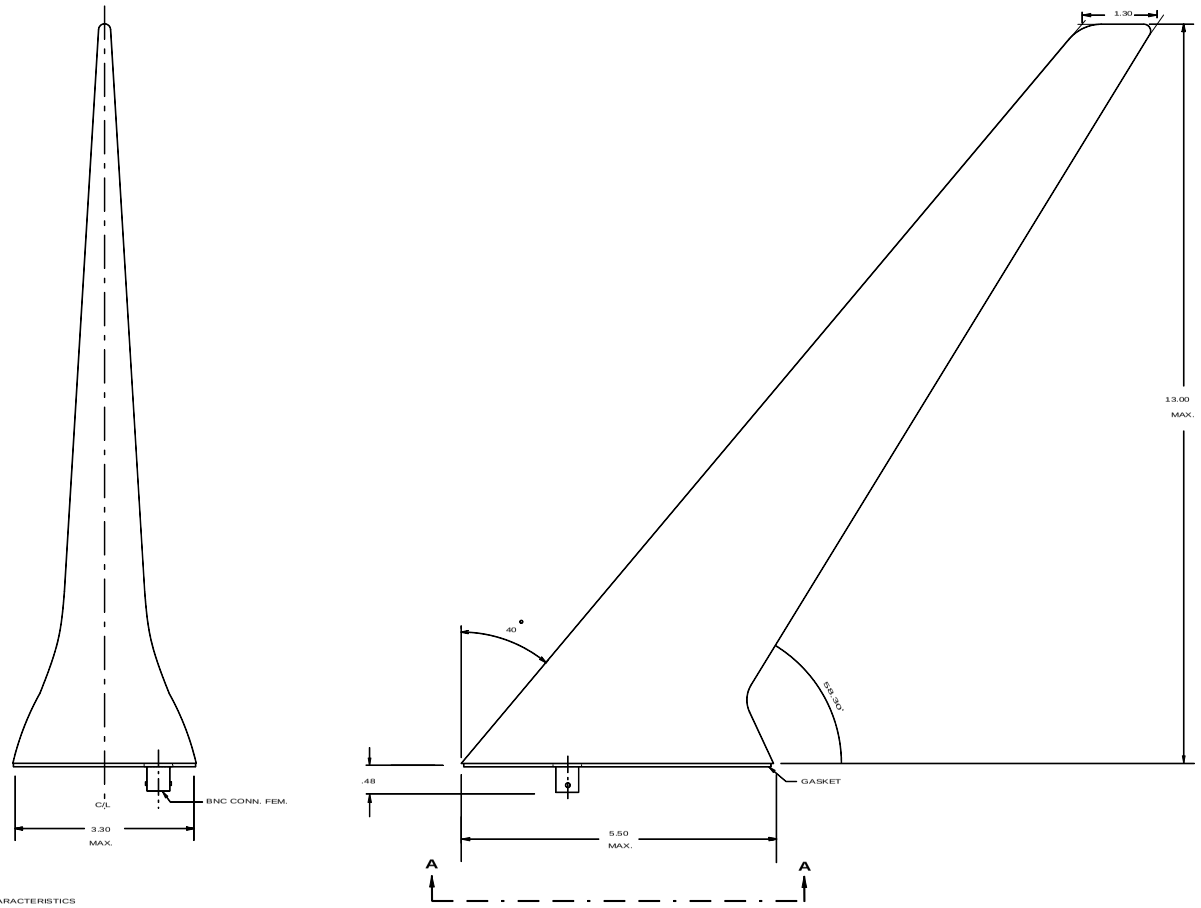
Specifications

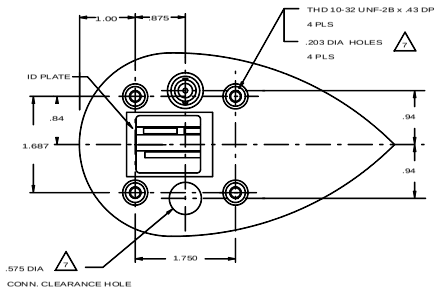
Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight	1.25 lbs Max.
Height	13.00 inches Max.
Material	Valox 420
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	B19604

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
G	REDRAWN. REF ECN 03-287	H.N.	01/06/04	DH 02/06/04
H	REF ECN 08-095	MN	12/08/09	DH 12/09/09





VIEW A - A

NOTES :

1. RF CHARACTERISTICS

FREQUENCY	118 - 137 MHz
VSWR	2.9 :1 MAX.
R/L	-6.25 dB
POLARIZATION	VERTICAL
RADIATION PATTERN	OMNI DIRECTIONAL
POWER RATING	25 WATTS
IMPEDANCE	50 OHMS

2. FINISH: GLOSSY WHITE POLYURETHANE PAINT, NON YELLOWING
3. MOUNTING SURFACE, CONNECTOR AND MGT HOLES ARE FREE OF PAINT.
4. WEIGHT: 1.25 LBS
5. TSO C37d, C38d, RTCA DO-160D, ENV.CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXX[XX]X[XXX]XAX
6. AIR SPEED RATING: 350 KNOTS TAS
7. INDICATE HOLES REQUIRED THRU OML OF AIRCRAFT FOR INSTALLATION.

INSTALLATION DRAWING

ASSY DWG. C19601

NEXT ASSY	USED ON	DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .030 XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.		
DATE	JAN 06-04	
DFTS'M	H.N.guyen	01/06/04
CHECK	J. Gomez	02/03/04
ENGR	D.J.Holloway	02/03/04
QC	J.Garcia	02/06/04
APPD	D.J.Holloway	02/03/04

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS

D | CODE IDENT 51351 | CI 196

SCALE: 1/1 | WT: 2 | SHT 1 OF 1

H
CI 196

Comant CI 211 Series

VHF Communications Antenna

The most important thing we build is trust

CI 211 Series VHF Communication

Optimum antenna for large twins and medium jet aircraft. Only 8.25 inches high, yet provides good performance without the added drag of a taller blade-type communication antenna.

Skydrol and rain erosion resistant. The CI 211 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186 MOPS.

CI 211 Series Includes:

CI 211
CI 211-1
CI 211-1-L
CI 211-16
CI 211-16-L

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

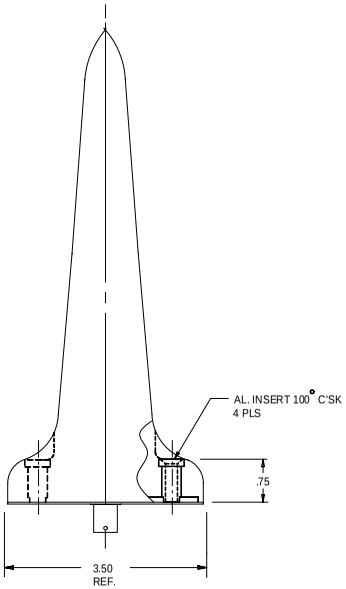
Specifications

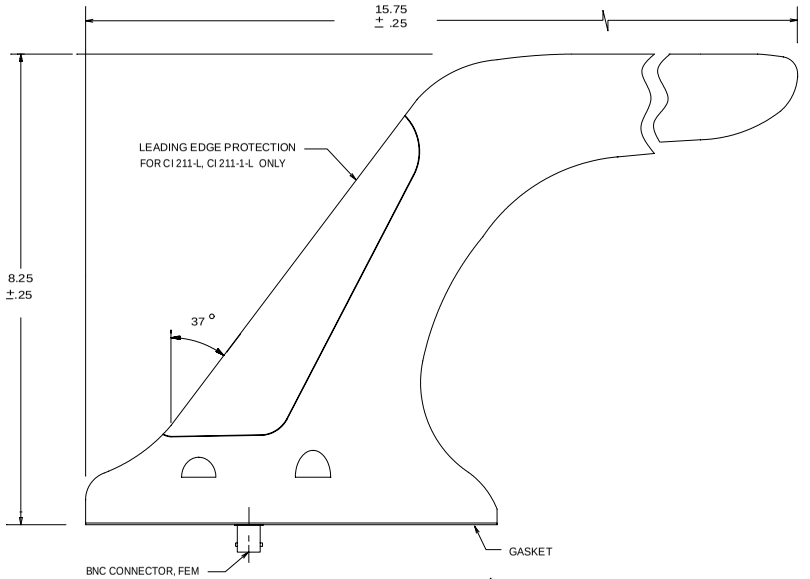
Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	30 Watts C.W.
Mechanical	
Weight	1.6 lbs Max.
Height	8.25 inches Max.
Material	High Density Polyurethane
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C21104	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
K	REDRAW WITH SERIES INFORMATION INCORPORATED	H.N.	10/13/95	DJH 10/15/93
L	REF ECN 95-17	H.N.	2/14/95	DJH 04/14/95
M	REF ECN 97-17	H.N.	02/06/97	DJH 02/07/17
N	REF ECN 00-121	H.N.	08/28/00	DJH 08/28/00
P	REF ECN 02-181	D.L.	06/11/02	DJH 06/12/02
R	REF ECN 03-162	H.N.	07/07/03	DJH 07/10/03
T	REF ECN 03-292	H.N.	01/05/04	DJH 01/07/04

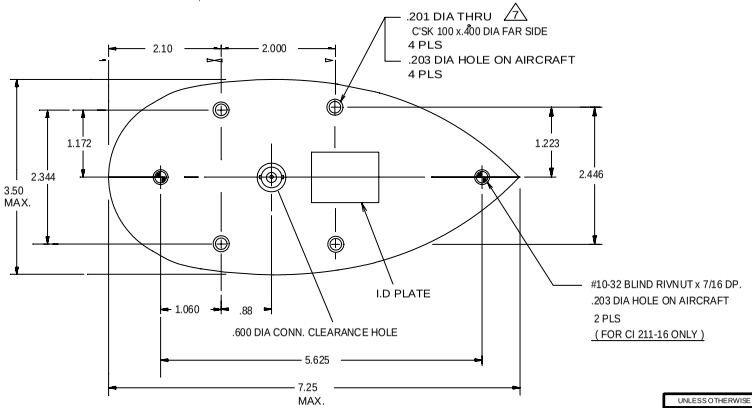




INSTALLATION DRAWING

ANTENNA MODELS

1. RF CHARACTERISTICS	CI 211 CI 211-L	CI 211-1 CI 211-1-L CI 211-16
1.1 FREQUENCY	118-137 MHz	118-137 MHz, 137-154 MHz
1.2 VSWR	2.9:1 MAX (8)	2.9:1 MAX. (8)
R/L	- 6.25 dB MIN.	- 6.25 dB MIN.
1.3 POLARIZATION	VERTICAL	VERTICAL
1.4 RADIATION PATTERN	OMNI-DIRECTIONAL	OMNI-DIRECTIONAL
1.5 IMPEDANCE	50 OHMS	50 OHMS
1.6 POWER RATING	30 WATTS C.W.	30 WATTS C.W.



2. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING SKYDROL RESISTANT.
3. MOUNTING SURFACE AND MOUNTING HOLES ARE FREE OF PAINT
4. WEIGHT: 1.6 LBS
5. TSO C37d, C38d, RTCA DO-160D ENV. CAT.: [F2X]ACB[R(C,C1)U(F,F1)]
   XWFDXSXXXXX[XX]X[XXXX]XAX
6. AIR SPEED RATING: 573 KNOTS OR 0.88 MACH AT 45,000 FT.

(7) RECOMMENDED MOUNTING HARDWARE #10 OVAL HEAD MACHINE SCREWS.
(8) WHEN TESTED ON 10'x 10' ALUMINUM GROUND PLANE

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE	12 OCT 1993	
DFTSM	H.Nguyen	10/12/93
CHECK	D.J.Holloway	10/13/93
ENGR	S.Caslow	10/13/93
APPD	R.N.Alexander	10/13/93

Comant Industries, Inc.

TITLE
ANTENNA-
VHF COMMUNICATION

D	CODE IDENT 51351	DWG. NO. CI 211 SERIES
SCALE: 1/1	WT :	SHT 1 OF 1

CI 211 SERIES TTI

Comant CI 248-5

ComDat® VHF Communication

The most important thing we build is trust

CI 248-5 ComDat VHF Communication

This sleek new design was developed for Cessna 182 and 182T aircraft. Impressive with its low-drag and good looks.

The first totally new look in VHF antennas in decades, the CI 248-5 was tested to some of the most rigorous requirements outlined in RTCA DO-160D. Designed for single engine and helicopter applications.

Truly unique, the CI 248-5 is the only VHF antenna with a built-in harmonic suppression filter, that allows installation in close proximity to GPS antennas without cosite interference.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

Specifications

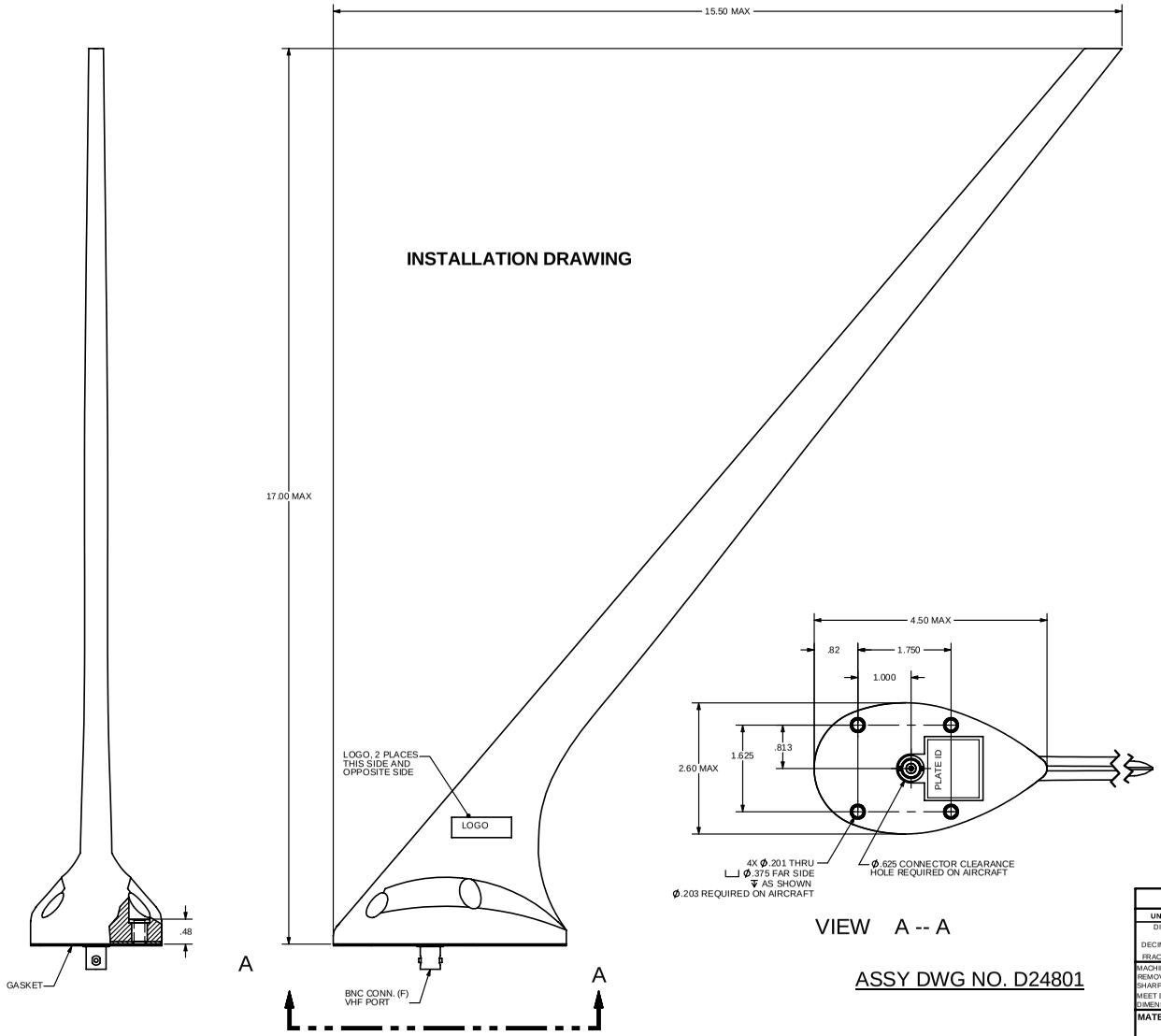
Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Harmonic Rejection	80 dB Typical
Mechanical	
Weight	0.52 lbs Max.
Height	17 inches Max.
Material	Molded Glass Filled Nylon
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
B24809	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	10/30/02	DH 10/30/02
B	REF ECN NO. 06-89	HN	09/21/06	AV 09/21/06
C	REF ECN NO. 08-095	MN	12/09/08	DH 12/16/08

INSTALLATION DRAWING



VIEW A -- A

ASSY DWG NO. D24801

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 118 - 137 MHz
   - VSWR _____ 2.5 : 1 MAX
   - R/L _____ -7.36 dB
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN _____ OMNI DIRECTIONAL
   - RF POWER _____ 25 WATTS
   - IMPEDANCE _____ 50 OHMS
2. WEIGHT: 0.52 LB.
3. TSO C37d, C38d RTCA DO-160D ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)XRFDXSXXXXX[XX]X[XXXX]XAX
4. SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON
5. FINISH: WHITE POLYURETHANE PAINT.
6. AIRSPEED RATING; 300 KNOTS TAS AT 35,000 FT
7. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
8. GASKET P/N: B24809 (INCLUDED)
9. NOTCH FILTER (80 dB) ADDED TO IMPROVE GPS HARMONIC SUPPRESSION.

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	08/05/02
CHECK	M. KASHANPOUR	08/05/02
ENGR	D. HOLLOWAY	08/05/02
APPD	D. HOLLOWAY	08/05/02
QC	P. BOSNEANU	08/05/02

Comant Industries, inc.

ANTENNA-
VHF COMMUNICATIONS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 248-5	C

SCALE: 1 / 1 | CAD FILE: -- | SHEET : 1 OF 1

CI 248-5 REV. C

Comant CI 268-5

ComDat VHF Communication

The most important thing we build is trust

CI 268-5 ComDat® VHF Communication

The CI 268-5 uses the same radome as our multi-function ComDat antennas. After adding a ComDat combination antenna, many owners like to match the look for their other VHF antenna. This is the perfect way to do it!

The CI 268-5 features the same super-tough nickel plated Aluminium base plate with integral Nitrile 'O' ring for pressurized applications.

Truly unique, the CI 268-5 is the only VHF antenna with a built-in harmonic suppression filter, that allows installation in close proximity to GPS antennas without cosite interference.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

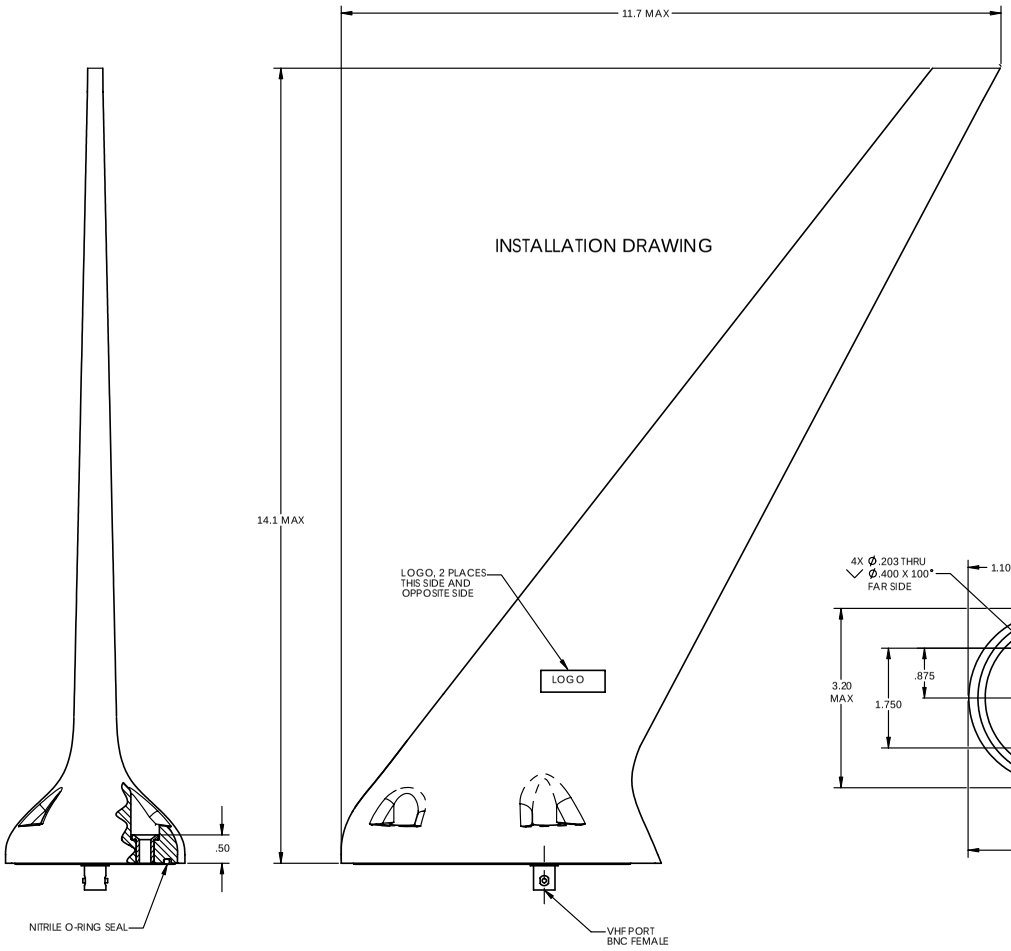
Specifications

Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Harmonic Rejection	80 dB Typical
Mechanical	
Weight	1.25 lbs Max.
Height	14.1 inches Max.
Material	Molded Glass Filled Nylon
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	35,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	02/20/04	DH 02/20/04
B	REF ECN 08-095	MN	12/08/08	DH 12/08/08



ANTENNA NOTES AND SPECIFICATIONS

1.0 VHF - ANTENNA CHARACTERISTICS (T_A= 20° C ±5° C)

1.1 RF CHARACTERISTICS – VHF COMM

FREQUENCY ____ 118 - 137 MHz

VSWR ____ 2.9: 1 MAX.

RL ____ -6.25 dB

POLARIZATION ____ VERTICAL

RADIATION PATTERN ____ OMNIDIRECTIONAL

POWER RATING ____ 50 WATTS

IMPEDANCE ____ 50 OHMS

2.0 ANTENNA WEIGHT ____ 1.25 LB. MAX.

3.0 TSO C37d, C38d

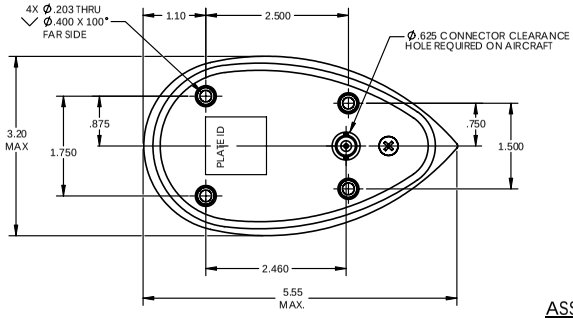
RTCA DO-160D, ENV. CAT.: [F2X]ACB[S(C,L,M)T(C1,Y,,R)]XSFDXSXXXXX[XX]X[XXXX]XCX

4.0 SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON

5.0 FINISH: GLOSSY WHITE POLYURETHANE PAINT

6.0 MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.

7.0 A268073 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.



ASSEMBLY DRAWING NO. D268015

QTY REQD	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANKS	02/20/04
CHECK	J. GOMEZ	02/20/04
ENGR	D. HOLLOWAY	02/20/04
QC	J. GARCIA	02/20/04
APPD	D. HOLLOWAY	02/21/04

Comant Industries, Inc.

VHF ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 268-5	B

SCALE: -- CAD FILE: -- SHEET : 1 OF 1

CI 268-5 REV B

Comant CI 268-60

ComDat VHF Communication

The most important thing we build is trust

CI 268-60 ComDat® VHF Communication

The CI 268-60 uses the same radome as our multi-function ComDat antennas. After adding a ComDat combination antenna, many owners like to match the look for their other VHF antenna. This is the answer. The CI 268-60 features the same super-tough nickel plated Aluminium base plate with integral Nitrile 'O' ring for pressurized applications.

What's more, the CI 268-60 shares the same footprint and offset connector location as our popular CI 238. The unit also provides a built-in harmonic suppression filter allowing installation in close proximity to GPS antennas without cosite interference.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118 - 137 MHz

Specifications

Electrical	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Harmonic Rejection	80 dB Typical
Mechanical	
Weight	1.25 lbs Max.
Height	14.1 inches Max.
Material	Molded Glass Filled Nylon
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	35,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
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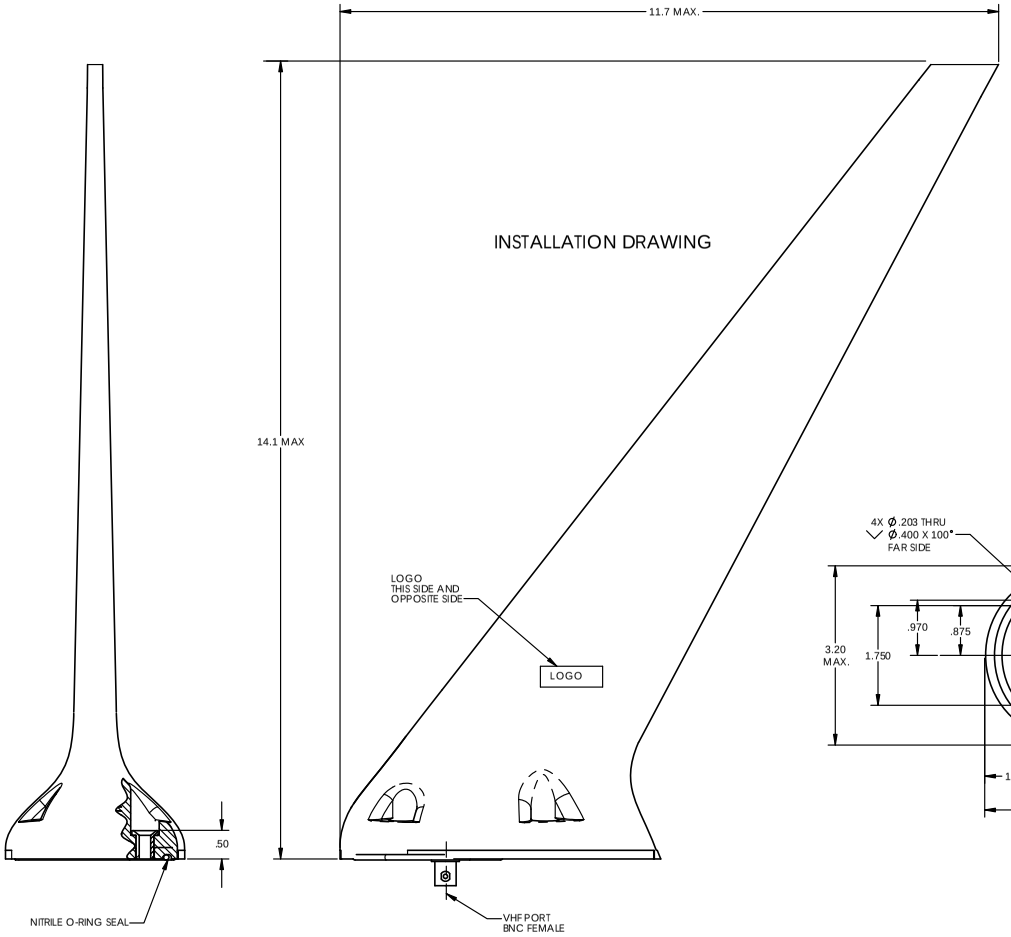
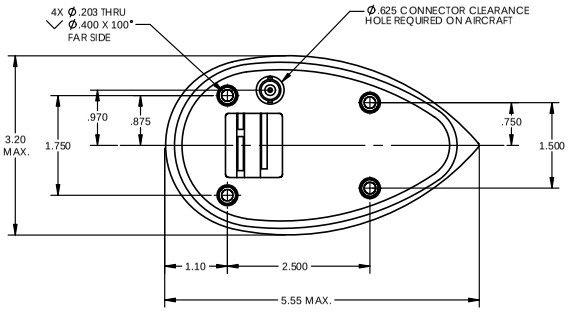
B	REF ECN 08-095	MN	11/17/08	DH 11/19/08





ANTENNA NOTES AND SPECIFICATIONS

1.0 VHF - ANTENNA CHARACTERISTICS (T_A = 20º C ± 5º C)

1.1 RF CHARACTERISTICS – VHF COMM

FREQUENCY ____ 118 - 137 MHz

VSWR ____ 2.9: 1 MAX.

RL ____ -6.25 dB

POLARIZATION ____ VERTICAL

RADIATION PATTERN ____ OMNIDIRECTIONAL

POWER RATING ____ 50 WATTS

IMPEDANCE ____ 50 OHMS

2.0 ANTENNA WEIGHT ____ 1.25 LB. MAX.

3.0 TSO C37d, C38d (INCOMPLETE SYSTEM)

RTCA DO-160D, ENV. CAT.: [F2X]ACB[S(C,L,M)T(C1,Y,R)]XSFDXSXXXXX[XX]X[XXXX]XCX

4.0 SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON

5.0 FINISH: GLOSSY WHITE POLYURETHANE PAINT

6.0 MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.

7.0 A268112 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSEMBLY DRAWING NO. D268111

QTY REQD	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
XX ± .03 XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J FRANKS	10/14/04
CHECK	J GOMEZ	10/18/04
ENGR	D HOLLOWAY	10/18/04
QC	S ADAMS	10/18/04
APPD	D HOLLOWAY	10/18/04

Comant Industries, inc.

VHF ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 268-60	B

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

CI 268-60 REV B

Comant CI 291

VHF Communication

The most important thing we build is trust

CI 291 VHF Communication

Features high strength fiberglass "stick" radiator and die-cast 3-hole mount Aluminium base. Virtually identical in appearance to many Cessna communication antennas.

The CI 291 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO 186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

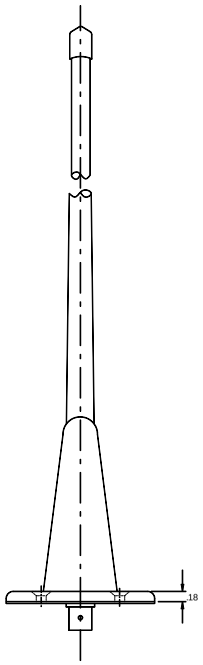
Specifications

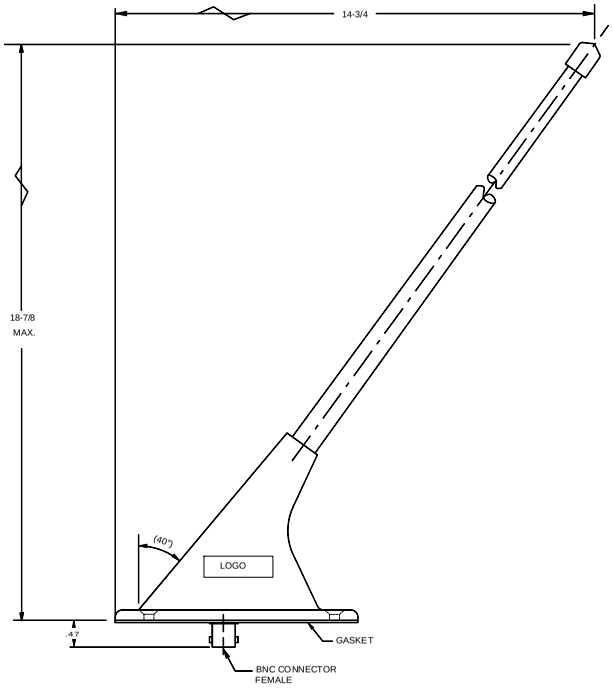
Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.5 lbs Max.
Height	18 7/8 inches Max.
Material	Cast Housing / Fiberglass whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C29205	Cork Neoprene

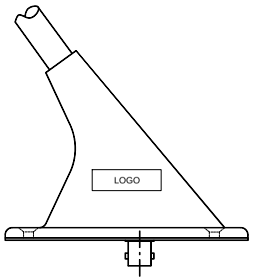
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

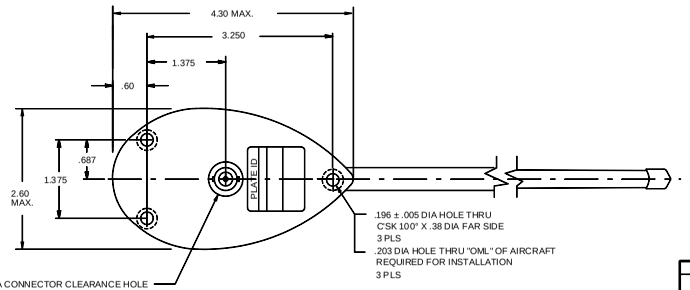
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 03-222	HN	08/15/03	DH 08/22/03
F	REF ECN 06-120	HN	11/17/06	AV 11/17/06
G	REF ECN 07-07	HN	02/07/07	AV 02/07/07
H	REF ECN 08-075	MN	8/20/08	DH 8/20/08
J	REF ECN 08-095	MN	11/19/08	DH 11/19/08









NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 118-137 MHZ
   - 1.2 VSWR _____ 2.5:1 MAX.
     RETURN LOSS _____ -7.36 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.5 POWER RATING _____ 50 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
5. TSO C37d, C38d, RTCA DO-160D, ENV. CAT. : [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXXX[XX]X[XXXX]XAX
5. WEIGHT: 0.5 LB
6. AIRSPEED RATING: 250 KNOTS TAS

ASSY DWG. D29101

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE RNISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIM. B EFORE PLATING DIMENSIONS ARE PER ASME Y 14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		**Comant Industries, Inc.**
	DATE AUG 15-03		TITLE ANTENNA- VHF COMMUNICATIONS
	DRAWN	H. NGUYEN 8/15/03	
	CHECK	J. GOMEZ 8/22/03	
	ENGR	D. HOLLOWAY 8/22/03	
	QC	J. GARCIA 8/22/03	D — CODE IDENT 51351 — DWG. NO. CI 291
	APPD	D. HOLLOWAY 8/22/03	WT : — SHT 1 OF 1

CI 291 J 1

Comant CI 292-1

VHF Communication

The most important thing we build is trust

CI 292-1 VHF Communication

Designed specifically for top mounting on an aircraft. Provides excellent omni-directional pattern coverage for all VHF aircraft communications. It is equivalent to the CI 291 but features a straight tapered stainless steel radiator.

The CI 292-1 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO-186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

Specifications

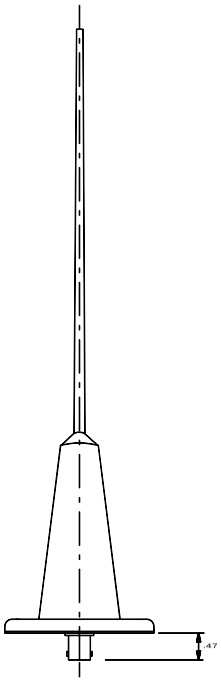
Electrical	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.5 lbs Max.
Height	20.0 inches Max.
Material	Cast Housing / Stainless steel whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C29205	Cork Neoprene

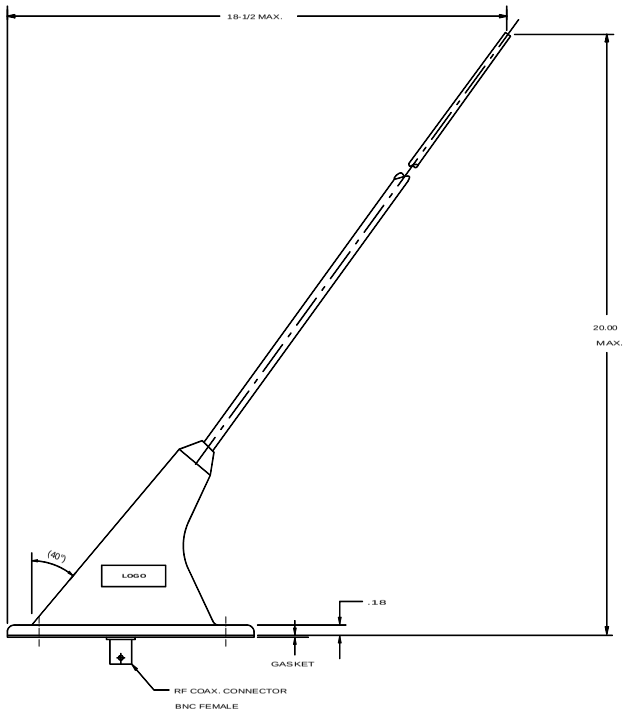
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

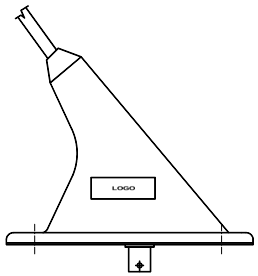
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

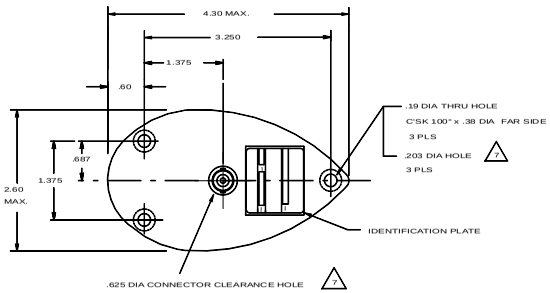
REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN NO. 87-17	HN	7/22/87	DH 7/22/87
B	REF ECN NO. 87-60	HN	10/26/87	DH 10/26/87
C	REF ECN NO. 02-191	HN	06/11/02	DH 06/11/02
D	REF ECN NO. 05-168	HN	08/08/05	DH 08/08/05
E	REF ECN NO. 07-07	HN	02/07/07	AV 02/07/07
F	REF ECN NO. 08-095	HN	11/25/08	DH 12/01/08

INSTALLATION DRAWING









NOTES:

1. RF CHARACTERISTICS:

FREQUENCY	118 TO 137 MHz
VSWR	2.5:1 MAX.
R/L	-7.36 dB
POLARIZATION	VERTICAL
ANTENNA GAIN	2.5 dB MIN AT BEAM MAX.
RADIATION PATTERN	OMNI DIRECTIONAL
POWER RATING	50 WATTS
IMPEDANCE	50 OHMS NOMINAL

2. MOUNTING SURFACE, CONNECTOR, ELEMENT AND MOUNTING HOLES ARE FREE OF PAINT
3. FINISH: WHITE GLOSS PAINT, NON YELLOWING.
4. WEIGHT: 0.5 LB
5. APPROVED TO TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXS XXXXX[XX]X[XXX]XAX
6. AIR SPEED RATING: 250 KNOTS TAS.

1 HOLES IN OML OF AIRCRAFT REQUIRED FOR INSTALLATION.

ASSY DWG D29201-1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC. XX ±.010 XXX ±.005 FRACTIONS ±1/16 ANGLES ±1° MACH FINISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CONTRACT NO.		Comant Industries, Inc.
	DATE JUNE 02-1987		TITLE ANTENNA COMMUNICATIONS VHF
	DFTSM H.Nguyen	06/02/87	
	CHECK R. Skeen	06/02/87	
	ENGR R. Siccama	06/02/87	
MATERIAL	APPD R.N.Alexander	06/02/87	D / CODE IDENT 51351 / DWG. NO. CI 292-1
DO NOT SCALE DRAWING			SCALE: 1/1 / WT: / SHT 1 OF 1

CI 292-1 F

Comant CI 292-2

VHF Communication

The most important thing we build is trust

CI 292-2 VHF Communication

Identical to the CI 292-1 except that it provides a stainless steel bent-whip radiator which makes it ideal for helicopters and bottom mounting underneath fixed wing aircraft.

The CI 292-2 has been re-tested and upgraded to the new RTCA DO-160D environmental requirements and offers the 118 to 137 MHz frequency associated with DO 186 MOPS.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

118-137 MHz

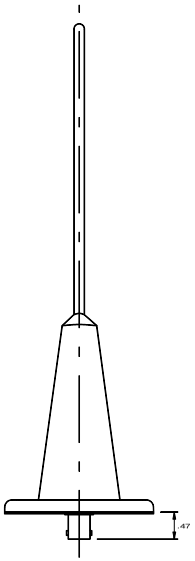
Specifications

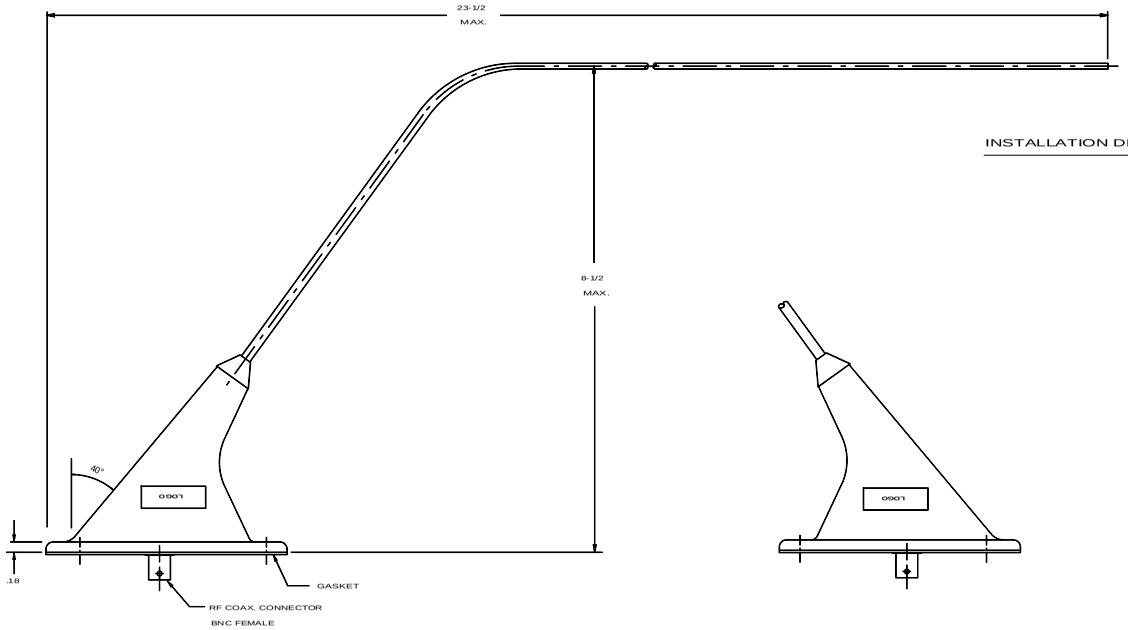
Electrical	
Frequency	118-137 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts
Mechanical	
Weight	0.5 lbs Maximum
Height	8.5 inches / 23.5 inches total length
Material	Cast Housing / Stainless steel whip
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 to +85 Celsius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C37d, C38d
RTCA Environmental	DO-160D
Gasket	
C29205	Cork Neoprene

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

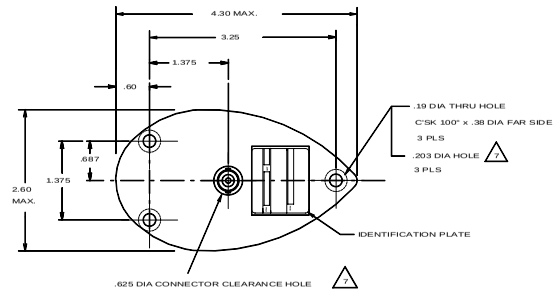
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 87-18	HN	7/22/87	DH 7/22/87
B	REF ECN 87-60	HN	10/26/87	DH 10/26/87
C	REF ECN 98-14	HN	02/26/98	DH 02/26/98
D	REF ECN 02-190	HN	06/11/02	DH 06/11/02
E	REF ECN 05-169	HN	08/08/05	JF 08/08/05
F	REF ECN 07-07	HN	02/07/07	AV 02/07/07
G	REF ECN 08-095	HN	11/25/08	DH 12/01/08





INSTALLATION DRAWING



NOTES:

1. RF CHARACTERISTICS:

FREQUENCY	118 TO 137 MHz
VSWR	3.0:1 MAX.
R/L	-6.02 dB
POLARIZATION	VERTICAL
ANTENNA GAIN	2.5 dB MIN AT BEAM MAX.
RADIATION PATTERN	OMNI DIRECTIONAL
POWER RATING	50 WATTS
IMPEDANCE	50 OHMS NOMINAL

2. MOUNTING SURFACE, CONNECTOR, ELEMENT AND MOUNTING HOLES ARE FREE OF PAINT
3. FINISH: WHITE GLOSS PAINT, NON YELLOWING.
4. WEIGHT: 0.5 LB
5. APPROVED TO TSO C37d, C38d, RTCA DO-160D, ENV. CAT.: [D2X]ACB[R(C,C1)U(F,F1)]XWFDXS XXXXX[XX]X[XXXX]XAX
6. AIR SPEED RATING: 250 KNOTS TAS.
7. HOLES IN OML OF AIRCRAFT REQUIRED FOR INSTALLATION.

ASSY DWG.D29201-2

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ±.03 XXX ±.010
FRACTIONS ±1/16 ANGLES ±1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET SM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL

DO NOT SCALE DRAWING

CONTRACT NO.

DATE

DFTSM	H.NGUYEN	06/02/87
CHECK	D.SKEEN	06/02/87
ENGR	D.SKEEN	06/02/87
APPD	R.SICCAMA	06/02/87

Comant Industries, Inc.

ANTTENNA-
COMMUNICATIONS,
VHF

D	CODE IDENT 51351	DWG. NO. CI 292-2	
SCALE: NONE	WT:	SHT 1 OF 1	

CI 292-2 | G |

Comant CI 2480-200

ComDat VHF/GPS

The most important thing we build is trust

CI-2480-200 ComDat® VHF/GPS

Comant's ComDat dual function single engine antenna for VHF/GPS. Our patented technology provides 80 dB of VHF harmonic suppression allowing Comant to offer VHF and GPS in one radome without in-line filters.

Designed as a "drop-in" replacement for common single engine teardrop footprint. Designed for popular 26.5 dB gain GPS panel mount systems.

Certified FAA TSO-C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

Not compatible with most hand-held receiver systems.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz

GPS 1575.42 MHz +/- 3MHz / 26.5 dB Gain

Specifications

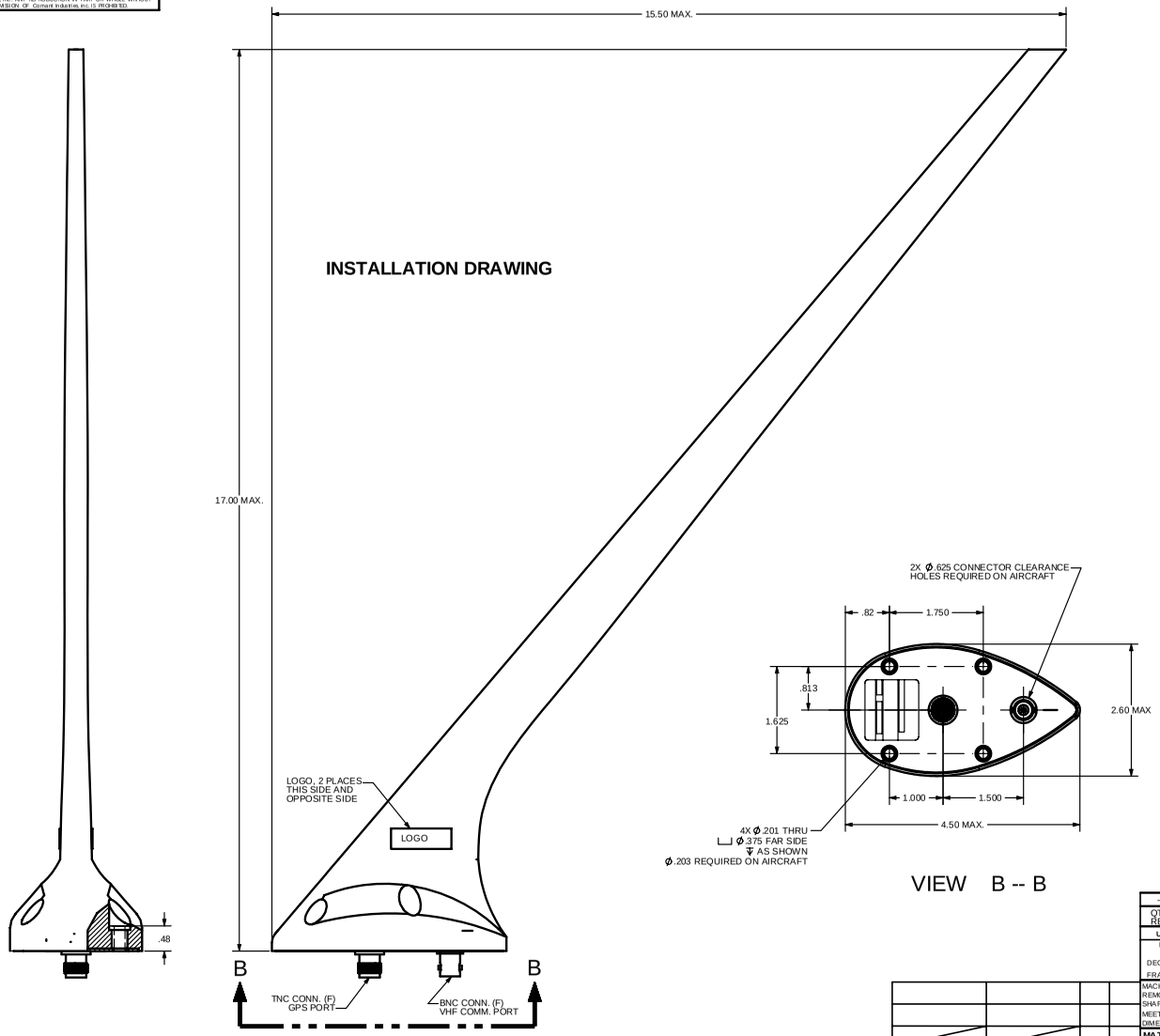
VHF Specifications	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts
GPS Preamplifier Specs	
Frequency	1575.42 +/-3 MHz
VSWR	2.0:1 Max.
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26.5 dB
DC Voltage	+5 Vdc
DC Curr. Min/Max	50 mA Maximum
Noise	3.8 dB Max
Mechanical / Environmental	
Weight	0.6 lb Maximum
RTCA Env. / TSO	DO-160D / C37d, C38d, C144
Connectors	VHF - BNC / GPS - TNC

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF REF ECN 01-144	CEF	11/08/01	DH 11/08/01
B	REF ECN 01-177	CEF	12/05/01	DH 12/04/01
C	REF ECN 02-52	HN	02/14/02	DH 12/04/01
D	REF ECN 02-98	WC	03/25/02	DH 4/11/02
E	REF ECN 02-234	WC	08/07/02	DH 8/08/02
F	REF ECN 02-238	WC	08/19/02	DH 8/19/02
G	REF ECN 02-287	WC	10/30/02	DH 11/13/02
H	REF ECN 03-204	HN	07/28/03	DH 8/27/03
J	REF ECN 08-095	MN	1/21/09	DH 1/21/09

INSTALLATION DRAWING



VIEW B -- B

NOTES:

1. GPS SPECIFICATION

1.1. RF CHARACTERISTICS:

FREQUENCY	1575.42 ± 3MHz.
VSWR	2.0 : 1 MAX.
POLARIZATION	RIGHT HAND CIRCULAR.
RADIATION PATTERN	HEMISPHERICAL.
IMPEDANCE	50 OHMS OUTPUT.
GAIN	5 dB (NOM.) ZENITH.

1.2. AMPLIFIER CHARACTERISTICS:

GAIN (MINIMUM)	26.5 dB.
D.C. VOLTAGE	+ 5 VDC.
D.C. CURRENT	50 mA MAX.
NOISE FIGURE	3.8 dB MAX.

2. VHF SPECIFICATION

2.1. RF CHARACTERISTICS:

FREQUENCY	118 - 137 MHz.
VSWR	2.5 : 1 MAX.
POLARIZATION	VERTICAL.
RADIATION PATTERN	OMNI DIRECTIONAL.
POWER RATING	50 WATTS.
IMPEDANCE	50 OHMS.

3. WEIGHT: 0.6 LB.
4. TSO: C37d, C38d, C144, RTCA DO-160D
   ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX]XAX
5. SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON.
6. FINISH: GLOSSY WHITE POLYURETHANE PAINT.
7. SPEED RATING: 350 KNOTS T.A.S.
8. MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.
9. U.S.PATENT NO. 5,610,620.
10. NOTCH FILTER (80dB) ADDED TO IMPROVE GPS HARMONIC SUPPRESSION.

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	K. TRINH	08/22/01
CHECK	M. KASHANPOUR	08/22/01
ENGR	D. HOLLOWAY	08/22/01
APPD	D. HOLLOWAY	08/22/01
QC	P. BOSNEANU	08/22/01

Comant Industries, Inc.

GPS / VHF COMBINATION ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2480-200	J

SCALE: FULL | CAD FILE: -- | SHEET 1 OF 1

NEXT ASSY	USED ON	NEXT ASSY	FINAL ASSY
APPLICATION		QTY REQD	

CI 2480-200 REV J

Comant CI 2480-201

ComDat VHF/GPS

The most important thing we build is trust

CI 2480-201 ComDat VHF/GPS

Comant's ComDat dual function single engine antenna for VHF/GPS. Our patented technology provides 80 dB of VHF harmonic suppression allowing Comant to offer VHF and GPS in one radome without in-line filters.

Designed as a "drop-in" replacement for common single engine teardrop footprint.

Compatible with Garmin 17 dB GPS panel mount receiver systems.

Not compatible with most portable GPS receiver systems.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz

GPS 1575.42 MHz +/-3MHz / 17.0 +/-3 dB Gain

Specifications

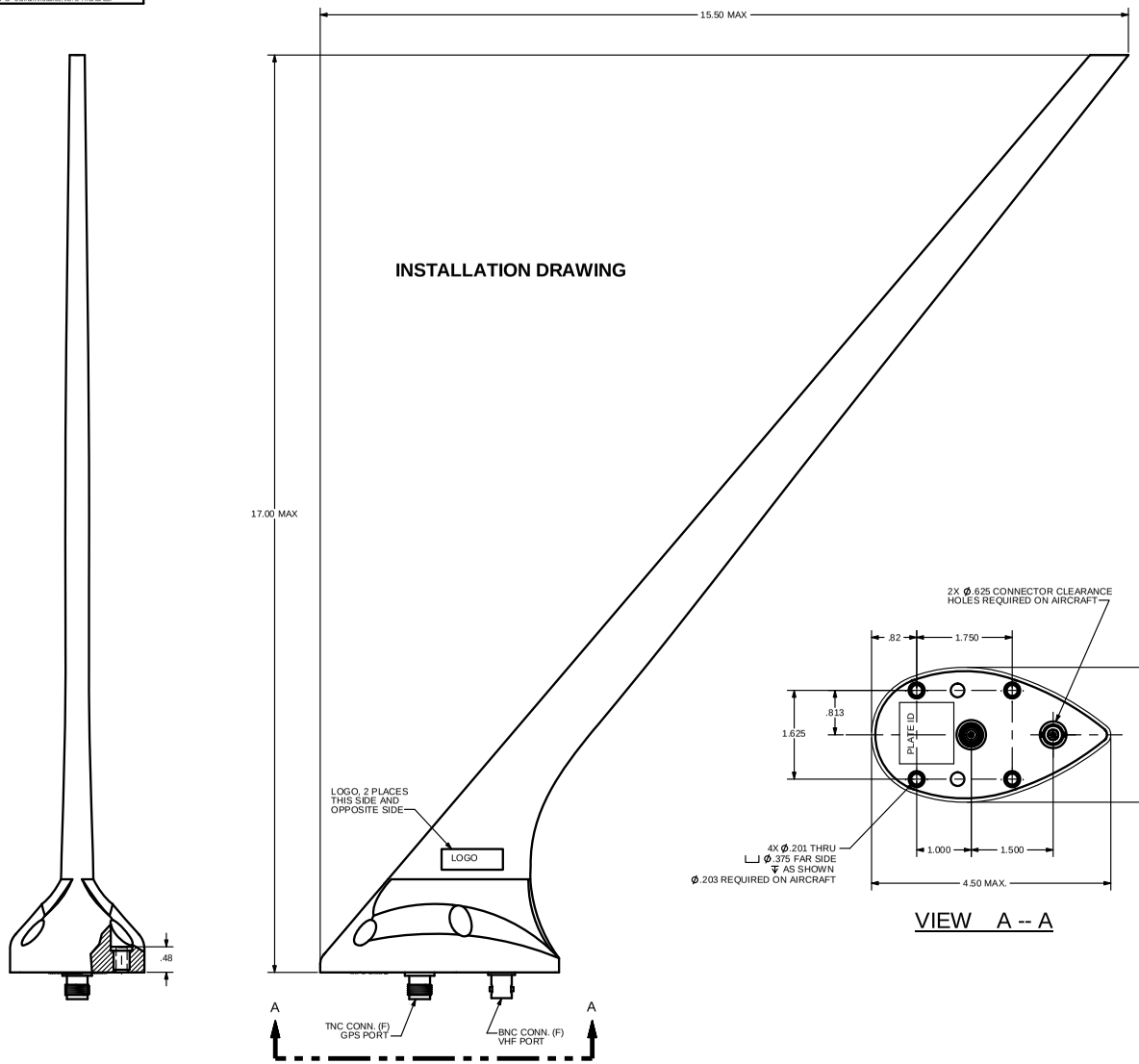
VHF Specifications	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts
GPS Preamplifier Specs	
Frequency	1575.42 +/-3 MHz
VSWR	2.0:1 Max.
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	17.0 +/-3 dB
DC Voltage	+5 +-0.5 Vdc
DC Curr. Min/Max	20 mA Maximum
Noise	3.0 dB Max
Mechanical / Environmental	
Weight	0.6 lb Maximum
RTCA Env. / TSO	DO-160D / C37d, C38d, C129
Connectors	VHF - BNC / GPS - TNC

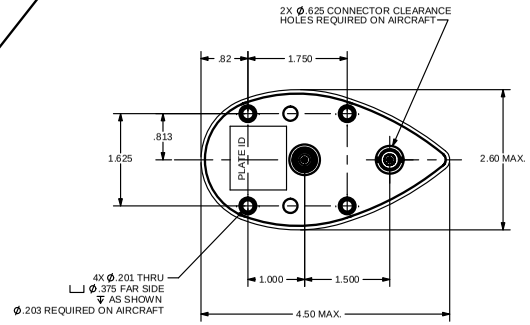
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 02-244	WC	8/21/02	DH 8/21/02
B	REF ECN 02-250	WC	8/30/02	WS 8/30/02
C	REF ECN 02-344	WC	12/10/02	DH 12/10/02
D	REF ECN 04-226	HN	10/01/04	JF 10/01/04
E	REF ECN 08-095	MN	11/19/08	DH 11/19/08
F	REF ECN 15-035	MN	06/09/15	DH 06/09/15

INSTALLATION DRAWING





VIEW A -- A

NOTES:

1. GPS SPECIFICATION

   1.1. RF CHARACTERISTICS:

FREQUENCY	1575.42±3MHz.
VSWR	2.0 : 1 MAX.
POLARIZATION	RIGHT HAND CIRCULAR.
RADIATION PATTERN	HEMISPHERICAL.
IMPEDANCE	50 OHMS OUTPUT.
GAIN	5 dB (NOM.) ZENITH.

   1.2. AMPLIFIER CHARACTERISTICS:

GAIN (NOMINAL)	17±3 dB.
D.C. VOLTAGE	+5.0±0.5V
D.C. CURRENT	20 mA MAX.
NOISE FIGURE	3.0 dB MAX.

2. VHF SPECIFICATION

   2.1. RF CHARACTERISTICS:

FREQUENCY	118 - 137 MHz.
VSWR	2.5 : 1 MAX.
POLARIZATION	VERTICAL.
RADIATION PATTERN	OMNI DIRECTIONAL.
POWER RATING	50 WATTS.
IMPEDANCE	50 OHMS.

3. WEIGHT: 0.6 LB.
4. TSO C37d, C38d, C129, RTCA DO-160D
   ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX]XAX
5. SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON
6. FINISH: GLOSSY WHITE POLYURETHANE PAINT.
7. SPEED RATING: 350 KNOTS T.A.S.
8. MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.
9. U.S. PATENT NO. 5,610,620
10. DELETED.
11. A248084 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG NO. D248020

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	W. CROSBY	4/11/02
CHECK	M. KASHANPOUR	4/11/02
ENGR	D. HOLLOWAY	4/11/02
QC	P. BOSNEANU	4/11/02
APPD	D. HOLLOWAY	4/11/02

Comant Industries, inc.

GPS / VHF COMBINATION ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2480-201	F

SCALE: 1 / 1 CAD FILE: -- SHEET: 1 OF 1

DWG NO. CI 2480-201 REV. F

Comant CI 2480-216

ComDat VHF/XM

The most important thing we build is trust

CI 2480-216 ComDat VHF/XM

Comant's multifunction VHF/XM antenna for single engine aircraft. Matches single engine common teardrop footprint. Perfect to add XM weather data to a stand-alone VHF mounted antenna.

Our patented VHF harmonic suppression also protects co-located stand-alone GPS antennas, allowing for more antennas in less total area.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
XM 2332.5 - 2345.0 MHz
25 +/- 2dB Gain

Specifications

VHF Characteristics	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance	50 Ohms
Power Rating	50 Ohms

XM Weather Data Specification	
Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	25 +/- 2dB
DC Voltage	3.6 -24 vdc
DC Current Min/Max	35mA - 55 mA

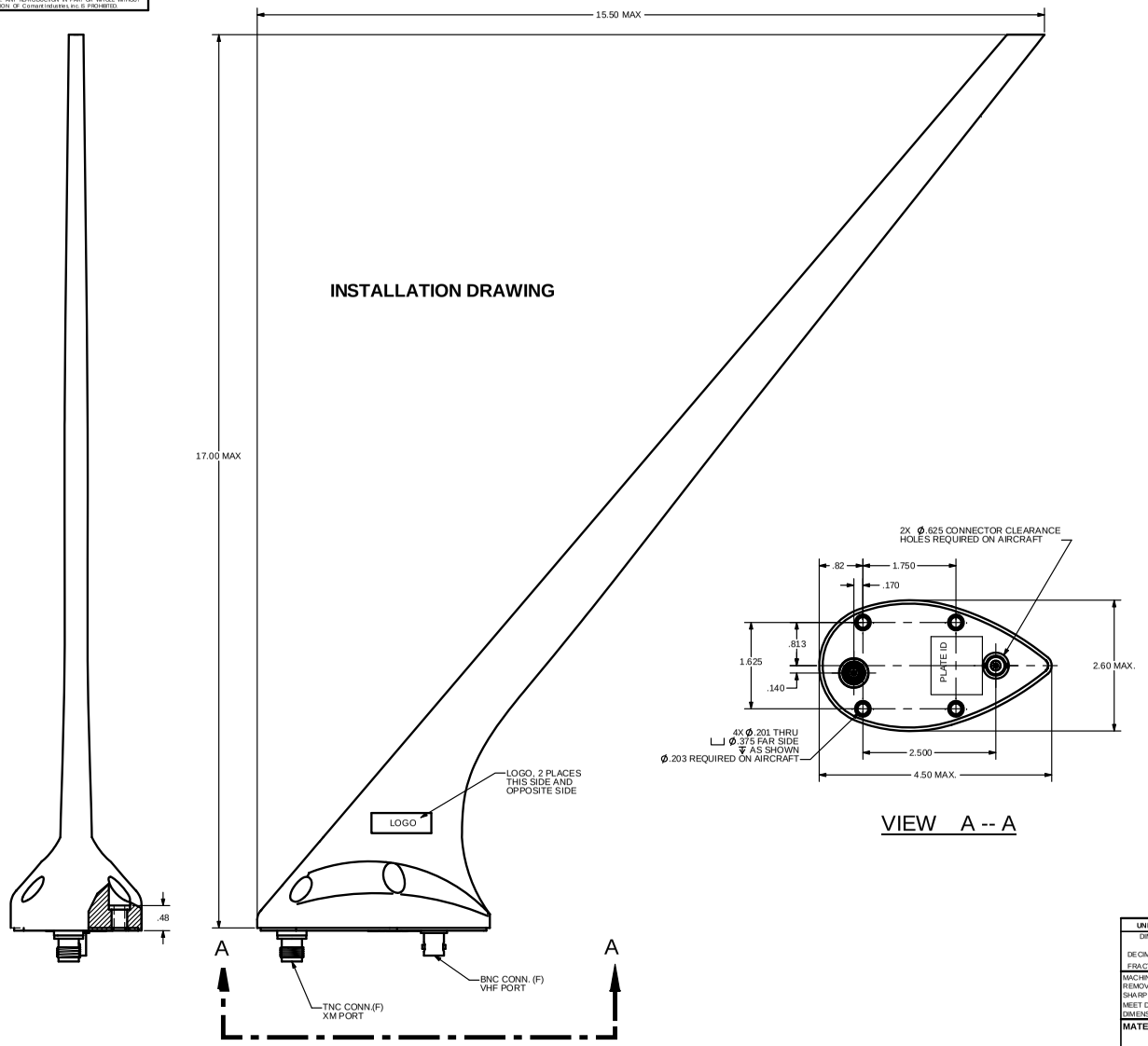
Mechanical / Environmental	
Weight	0.7 lbs
RTCA Env. / TSO	DO-160D TSO C169
Connector	VHF - BNC / XM - TNC

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	04/18/05	DH 04/15/05
B	REF ECN 06-26	HN	03/24/06	DH 03/24/06
C	REF ECN 06-140	AV	1/17/07	DH 1/17/07
D	REF ECN 08-095	MN	12/05/08	DH 12/05/08
E	REF ECN 15-036	MN	06/08/15	DH 06/08/15

INSTALLATION DRAWING



VIEW A -- A

ANTENNA NOTES & SPECIFICATIONS:

1.0 VHF SPECIFICATION

1.1	RF CHARACTERISTICS: VHF COMM	
1.2	FREQUENCY	118 – 137 MHz.
1.3	VSWR	2.5 : 1 MAX.
	R/L	-7.36 dB
1.4	POLARIZATION	VERTICAL
1.5	RADIATION PATTERN	OMNI DIRECTIONAL
1.6	POWER RATING	50 WATTS
1.7	IMPEDANCE	50 OHMS

2.0 XM SPECIFICATION

2.1	ACTIVE & PASSIVE ANTENNA CHARACTERISTICS	
2.2	FREQUENCY	2332.5 TO 2345.0 MHz
2.3	VSWR	1.5 : 1 MAX.
	R/L	-13.98dB
2.4	POLARIZATION	LEFT HAND CIRCULAR
2.5	RADIATION PATTERN	HEMISPHERICAL
2.6	IMPEDANCE	50 OHMS OUTPUT (NOMINAL)
2.7	GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE):	4 dBic +/- 1 dB NOM. ZENITH.
2.8	AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA	
2.9	GAIN	25 +/- 2 dB
2.10	DC VOLTAGE	3.6 TO 24 VDC
2.11	DC CURRENT	35mA TO 55mA
2.12	NOISE FIGURE	2.7 dB (MAX.)
2.13	OUT OF BAND FILTER ATTENUATION: 25dB MIN. @ FC +/- 230 MHz	

3.0 WEIGHT: 0.7 LB MAX.
4.0 TSO: C169 (INCOMPLETE SYSTEM) RTCA DO-160D
ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXX[XX]X[XXXX]XCX
5.0 SHELL CONSTRUCTION MATERIAL: 60% GLASS FILLED NYLON.
6.0 FINISH: GLOSSY WHITE POLYURETHANE PAINT.
7.0 MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.
8.0 U.S. PATENT NO. 5,610,620.
9.0 A248125 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

ASSY DWG. NO. D248124

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J FRANKS	04/14/05
CHECK	R GOMEZ	04/15/05
ENGR	D HOLLOWAY	04/15/05
APPD	S ADAMS	04/15/05
QC	D HOLLOWAY	04/15/05

Comant Industries, inc.

TITLE
XM / VHF
COMDAT ® ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2480-216	E

SCALE: FULL CAD FILE: -- SHEET 1 OF 1

CI 2480 - 216 E

Comant CI 2580-200

ComDat VHF/GPS WAAS

The most important thing we build is trust

CI 2580-200 ComDat® VHF/GPS WAAS

Comant's newest ComDat VHF/GPS antenna designed specifically to meet the GPS WAAS Gamma 3 specifications required by the Garmin G1000 system.

Our patented technology provides 80 dB of VHF harmonic suppression allowing Comant to offer VHF and GPS in one radome without in-line filters.

Tested and passed demanding direct effects lightning environmental testing.
Gamma 3 WAAS allows for primary navigation using GPS for all phases of flight including precision LPV approaches.

Not intended for portable GPS receiver systems.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
GPS 1575.42 MHz +/- 3 MHz
26.5 - 30.1 dB Gain

Specifications

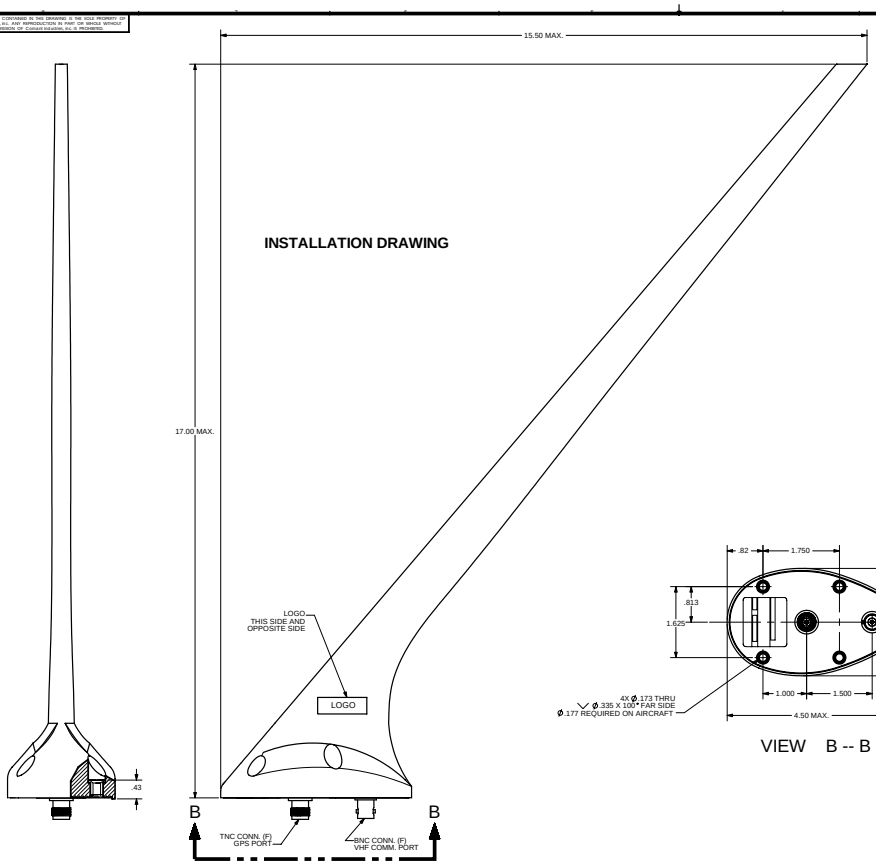
VHF Specifications	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts
GPS Preamplifier Specs	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Max.
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26.5 - 30.1 dB
DC Voltage	4 - 24 Vdc
DC Curr. Min/Max	40mA Typical - 60mA Maximum
Noise	2.5 dB Max
Mechanical / Environmental	
Weight	0.6 lb Maximum
RTCA Env. / TSO	DO-160D / C169(Class C,D,E,3,4,5,6) C144
Connectors	VHF - BNC / GPS - TNC

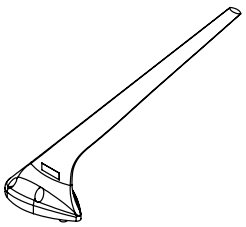
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

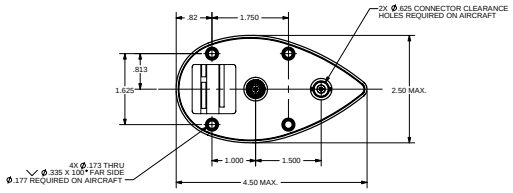
REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	06/16/06	JF 06/16/06
B	REF ECN 06-116	AV	10/04/06	AV 10/04/06
C	REF ECN 07-25	MN	2/12/07	AV 2/12/07
D	REF ECN 08-095	MN	11/11/08	DH 11/11/08

INSTALLATION DRAWING





ISO VIEW
SCALE: 1:2



VIEW B -- B

ASSEMBLY DRAWING No. D258006

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125 PER ANSI B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	APPROVALS	DATE	GPS / VHF LIGHTNING - PROTECTED COMDAT ® ANTENNA	
	DRAWN J. FRANKS	06/16/06		
	CHECK D. HOLLOWAY	06/16/06		
	ENGR D. HOLLOWAY	06/16/06		
MATERIAL :	MFG M. EAVENSON	06/16/06	SIZE D	CODE IDENT 51351
	QC S. ADAMS	06/16/06	DWG. NO. CI 2580-200	REV. D
DO NOT SCALE DRAWING			SCALE: FULL	CAD FILE: -- SHEET 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +85° C)

1.1 FREQUENCY 1575.42 ± 3MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 RADIATION GAIN PATTERN MINIMUM

-2.0 dBic	> 15° ELEVATION
-3.0 dBic	10° ELEVATION
-3.5 dBic	5° ELEVATION
-7.5 dBic	0° ELEVATION
+5.0 dBic (ZENITH)	90° ELEVATION

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO +85° C)

2.1 FREQUENCY 1575.42 ± 3MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 30.1 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz	≤ f <	1365.42 MHz	___	-60 dB
1365.42 MHz	≤ f <	1504.42 MHz	___	LINEARLY INCREASING FROM -60 dB TO -50 dB
1504.42 MHz	≤ f <	1555.42 MHz	___	" " " -50 dB TO -5 dB
1554.42 MHz	≤ f <	1558.42 MHz	___	" " " -5 dB TO -0 dB
1558.42 MHz	≤ f ≤	1591.92 MHz	___	0 dB
1591.92 MHz	≤ f <	1605.42 MHz	___	LINEARLY DECREASING TO -25.35 dB
1605.42 MHz	≤ f <	1625.42 MHz	___	" " FROM -25.35 dB TO -50 dB
1625.42 MHz	≤ f <	1685.42 MHz	___	" " FROM -50 dB TO -60 dB
1685.42 MHz	≤ f ≤	2000.00 MHz	___	-60 dB

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 PASS BAND GAIN VARIATION ± 3 MHz 1.0 dB MAX.
± 2 MHz 1.0 dB MAX.

2.12 DIFFERENTIAL GROUP DELAY (3 dB BAND WIDTH) < 25 ns ____ 10 ns TYPICAL

2.13 1dB COMPRESSION POINT -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +8 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz

2.14 PULSE POWER SATURATION RECOVERY ___ NORMAL OPERATION WITHIN 10 µS FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 mS AT FREQUENCIES AND PRF LISTED BELOW:

1315.00 MHz	22 PPS
1325.00 MHz	100 PPS
1565.42 MHz	100 PPS
1575.42 MHz	100 PPS
1585.42 MHz	100 PPS
1610.00 MHz	100 PPS
1626.50 MHz	100 PPS
2000.00 MHz	56 PPS

2.15 G/T RATIO @ ELEVATION ____ ≥ 31.6 dB/K

3.0 VHF SPECIFICATION

3.1 RF CHARACTERISTICS: VHF COMM

3.2 FREQUENCY 118 – 137 MHz.

3.3 VSWR 2.5 : 1 MAX.
R/L -7.36 dB

3.4 POLARIZATION VERTICAL

3.5 RADIATION PATTERN OMNI DIRECTIONAL

3.6 POWER RATING 50 WATTS

3.7 IMPEDANCE 50 OHMS

4.0 WEIGHT: 0.6 LB MAX.

5.0 TSO: C169 (INCOMPLETE SYSTEM) EQUIPMENT CLASS C,D,E,3,4,5,6, C144
RTCA DO-160D ENV. CAT.: [F2X]ACB[S(L,U)(F,F1)T(C,C1,R)]XRFDXSZXXA(CF)[ZC][WW]H[A3J33][2A]CA

6.0 SHELL CONSTRUCTION MATERIAL: 60% GLASS FILLED NYLON.

7.0 FINISH: GLOSSY WHITE POLYURETHANE PAINT.

8.0 MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.

9.0 U.S. PATENT NO. 5,610,620.

10.0 A258005 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

ANTENNA NOTES AND SPECIFICATIONS

Comant Industries, Inc.			
GPS / VHF LIGHTNING - PROTECTED COMDAT ® ANTENNA			
SIZE D	CODE IDENT 51351	DWG. NO. CI 2580-200	REV. D
SCALE: --	CAD FILE: --	SHEET 2 OF 2	

Comant CI 2590-200

ComDat VHF/GPS C190 WAAS

The most important thing we build is trust

CI 2590-200 ComDat® VHF/GPS WAAS

Comant's newest ComDat VHF/GPS antenna designed specifically to meet the GPS WAAS specifications required by the FAA's C190 TSO.

Our patented technology provides 80 dB of VHF harmonic suppression allowing VHF and GPS in one radome without in-line filters.

Tested and passed to direct effects lightning environmental testing. Gamma 3 WAAS allows for primary navigation using GPS for all phases of flight including precision LPV approaches.

Not intended for hand-held GPS receiver systems.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
GPS 1575.42 MHz / 26.5 dB Gain

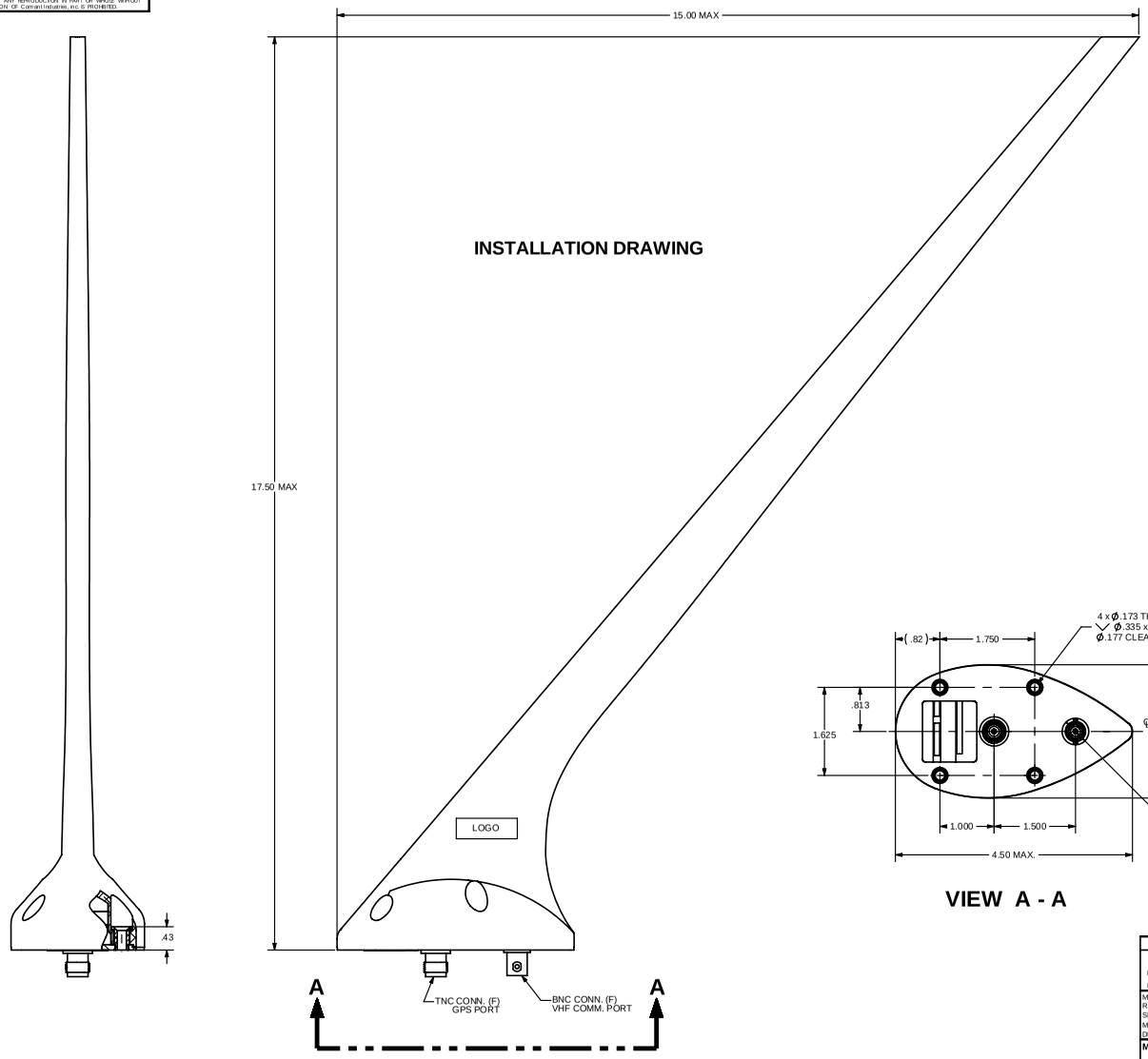
Specifications

VHF Specifications	
Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts
GPS Preamplifier Specs	
Frequency	1575.42 +/- 10.23 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26.5dB Min. / 32.5 dB Max.
DC Voltage	4 - 24 Vdc
DC Current	40 mA Typical - 60mA Max.
Noise Figure	2.5 dB Max
Mechanical / Environmental	
Weight	0.75 lb Maximum
FAA TSO	C169 VHF / C190 GPS
RTCA Environmental	DO-160E
Connectors	VHF - BNC / GPS - TNC

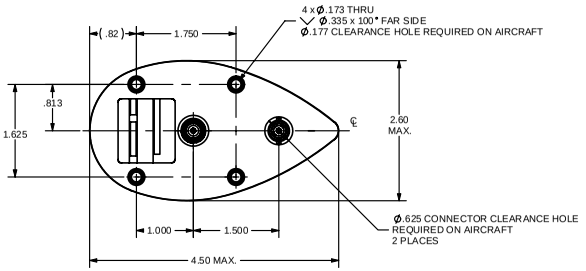
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING MN	12/22/09	DH 01/05/10



INSTALLATION DRAWING



VIEW A - A

ASSEMBLY DRAWING No. D259001

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: DECIMALS .XX ± .03 .XXX ± .010; FRACTIONS ± 1/16 ANGLES ± 1°; MACHINE FINISH 125 PER ANSI-B46.1; REMOVE BURRS AND SHARP EDGES .015 MAX; MEET DIMENSIONS BEFORE PLATING; DIMENSIONS ARE PER ASME Y14.5M	CONTRACT NO.		Comant Industries, inc.
MATERIAL :	APPROVALS	DATE	GPS / VHF LIGHTNING - PROTECTED COMDAT ® ANTENNA
DO NOT SCALE DRAWING	DRAWN M.NGUYEN	12/22/09	
	CHECK D.HOLLOWAY	12/22/09	
	ENGR D.HOLLOWAY	12/22/09	
	MFG J.JONES	12/23/09	SIZE D; CODE IDENT 51351; DWG. NO. CI 2590-200; REV. A
	QC S.ADAMS	1/5/10	SCALE: FULL; CAD FILE: --; SHEET 1 OF 2

CI 2590-200 REV A

Comant CI 2680-200

ComDat VHF/GPS

The most important thing we build is trust

CI 2680-200 ComDat® VHF/GPS

Comant's ComDat dual function high speed antenna for twins and light jets. Featuring VHF and GPS in a single antenna.

Our patented technology provides 80 dB of VHF harmonic suppression allowing Comant to offer VHF and GPS in one radome without in-line filters.

Designed for use with popular GPS panel mount receiver units requiring 26.5 dB gain.

Not compatible with most portable GPS receiver systems.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
GPS 1575.42 +/- 3 MHz
26.5 +/- 3 dB Gain

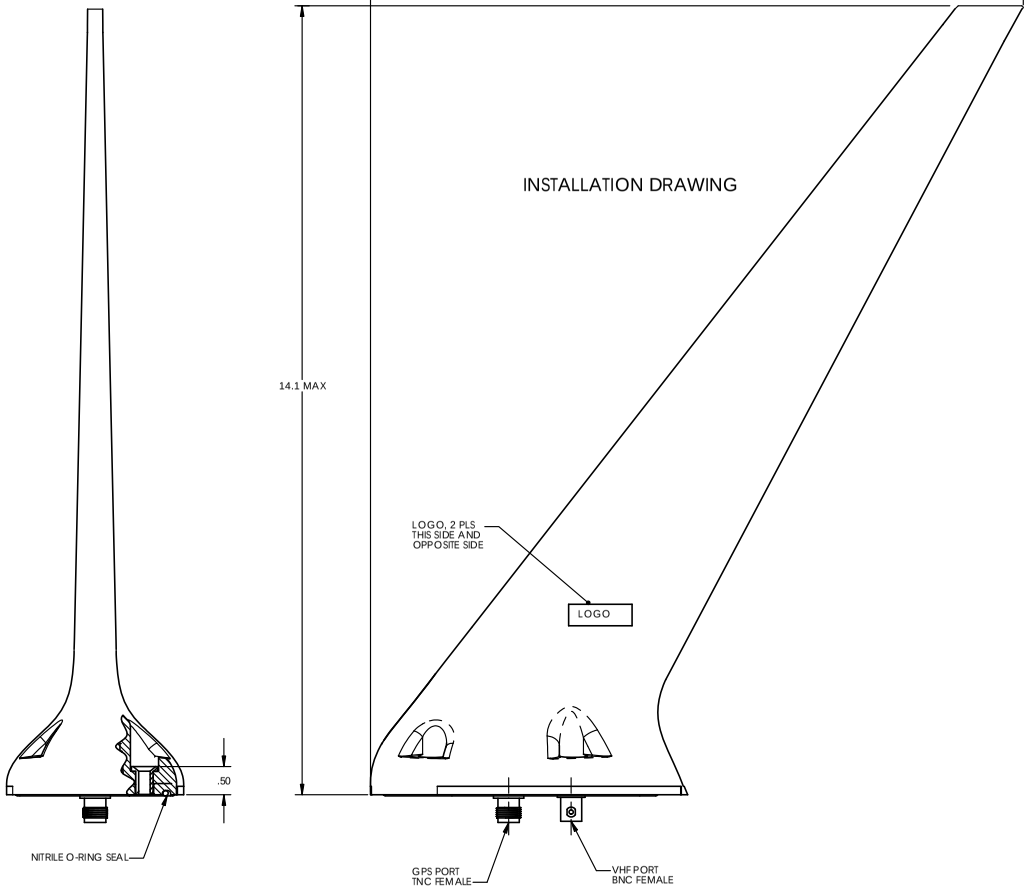
Specifications

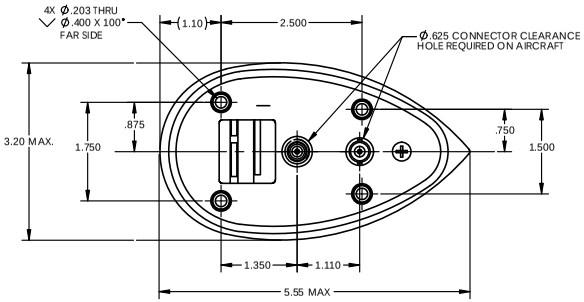
VHF Specifications	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts
GPS Preamplifier Specs	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Max.
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26.5 - 31.5 dB
DC Voltage	4 - 24 Vdc
DC Curr. Min/Max	25mA / 40mA
Noise	3.8 dB Max
Mechanical / Environmental	
Weight	1.25 lbs Maximum
RTCA Env. / TSO	DO-160D / C37d, C38d, C144
Connectors	VHF - BNC / GPS - TNC

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	02/20/04	DH 02/20/04
B	REF ECN 06-80	MN	09/07/06	RG 09/07/06
C	REF ECN 09-015	MN	03/26/09	DH 03/26/09





ASSEMBLY DRAWING NO. D268023

QTY REQD	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANK	02/20/04
CHECK	J.GOMEZ	02/20/04
ENGR	D. HOLLOWAY	02/20/04
QC	J. GARCIA	02/20/04
APP'D	D. HOLLOWAY	02/20/04

Comant Industries, Inc.

GPS/VHF ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2680-200	C

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 2

CI 2680-200 C

Comant CI 2680-216

ComDat VHF/XM

The most important thing we build is trust

CI 2680-216 ComDat® VHF/XM

Comant's multifunction VHF/XM high speed blade antenna for twins and light jet aircraft. Exact match of common teardrop footprint. Perfect to add XM weather data to a stand-alone VHF mounted antenna.

Patented 80dB VHF harmonic suppression protects co-located stand-alone GPS antennas, allowing for more antennas in less total area.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
XM 2332.5 - 2345.0
25 +/- 2 dB Gain

Specifications

VHF Characteristics	
Frequency	118-137 MHz
VSWR	2.9:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance	50 Ohms
Power Rating	50 Ohms

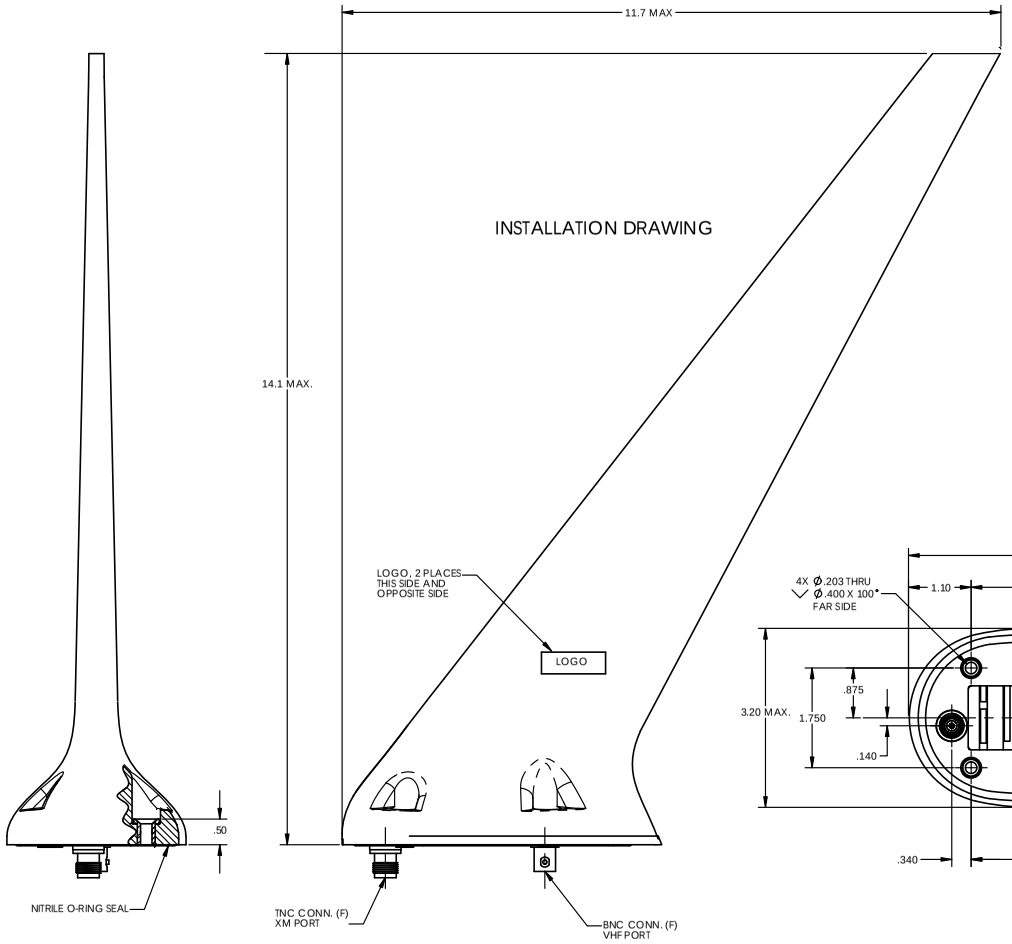
XM Weather Data Specification	
Frequency	2332.5-2345.0 MHz
VSWR	2.0:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	25 +/- 2 dB
DC Voltage	4.75-24 Volts
DC Current Min/Max	45mA Typical / 55 mA Max.

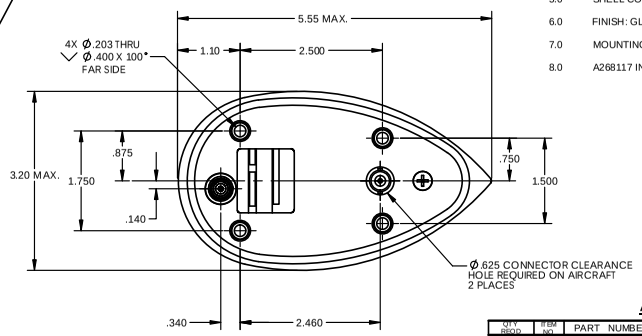
Mechanical / Environmental	
Weight	1.25 lbs
RTCA Env. / TSO	DO-160D, TSO C169
Connector	VHF - BNC / XM - TNC

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	TS	05/26/05	DH 05/26/05
B	REF ECN 06-15	MN	03/03/06	DH 03/03/06
C	REF ECN 06-43	MN	05/08/06	DH 05/08/06
D	REF ECN 06-142	AV	1/17/07	DH 1/17/07
E	REF ECN 08-095	MN	1/14/09	DH 1/16/09





ANTENNA NOTES AND SPECIFICATIONS

1.0 XM SPECIFICATION

1.1	ACTIVE & PASSIVE ANTENNA CHARACTERISTICS	
1.2	FREQUENCY	2332.5 TO 2345.0 MHz
1.3	VSWR	1.5 : 1 MAX.
	RL	-13.98dB
1.4	POLARIZATION	LEFT HAND CIRCULAR
1.5	RADIATION PATTERN	HEMISPHERICAL
1.6	IMPEDANCE	50 OHMS OUTPUT (NOMINAL)
1.7	GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE):	4 dBic +/- 1 dB NOM. ZENITH.
1.8	AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA	
1.9	GAIN	25 ± 2 dB
1.10	DC VOLTAGE	3.6 TO 24 VDC
1.11	DC CURRENT	35mA TO 55mA
1.12	NOISE FIGURE	2.7 dB (MAX.)
1.13	OUT OF BAND FILTER ATTENUATION: 25dB MIN. @ FC ± 230 MHz	

2.0 VHF - ANTENNA CHARACTERISTICS (T_A= 20° C ± 5° C)

2.1 RF CHARACTERISTICS – VHF COMM

FREQUENCY	118 - 137 MHz
VSWR	2.9 : 1 MAX.
RL	-6.25 dB
POLARIZATION	VERTICAL
RADIATION PATTERN	OMNIDIRECTIONAL
POWER RATING	50 WATTS
IMPEDANCE	50 OHMS

3.0 ANTENNA WEIGHT 1.25 LB. MAX.

4.0 TSO C169 (INCOMPLETE SYSTEM) - XM FUNCTION NOT CERTIFIED BY TSO

RTCA DO-160D, ENV. CAT.: [F2X]ACB[S(C,L,M)T(C1,Y,R)]XSFDXSXXXXX[XX]X[XXXX]XCX

5.0 SHELL CONSTRUCTION MATERIAL: 60% GLASS-FILLED NYLON

6.0 FINISH: GLOSSY WHITE POLYURETHANE PAINT

7.0 MOUNTING SURFACE, CONNECTORS AND MOUNTING HOLES ARE FREE OF PAINT.

8.0 A268117 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSEMBLY DRAWING NO. D268116

QTY REQ'D	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J FRANKS	05/25/05
CHECK	R GOMEZ	05/25/05
ENGR	D HOLLOWAY	05/25/05
QC	S ADAMS	05/26/05
APPD	D HOLLOWAY	05/26/05

Comant Industries, Inc.

XM /VHF ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2680-216	E

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

DRAWING CI 2680-216 REV E

Comant CI 2728-410

Lightning Protected ComDat VHF/WAAS GPS/XM

The most important thing we build is trust

CI 2728-410 ComDat® VHF/WAAS GPS/XM

Comant's ComDat triple function VHF/GPS/XM Weather antenna for twin and light jet aircraft is WAAS capable. Comant's patented technology provides 80 dB of VHF harmonic suppression allowing VHF and GPS to function in one radome without in-line filters.

Specifically designed to meet the GPS WAAS Gamma 3 requirements for Garmin "W" systems. Enables primary navigation using GPS WAAS, including terminal navigation and approach to landing. XM Weather antenna is designed for low-gain systems such as the Garmin GDL-69/69A or Heads Up systems with shorter coaxial runs.

Not compatible with most hand-held GPS receiver systems.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 118-137 MHz
GPS 1575.42 +/-3 MHz / 26.5 - 30.1 dB Gain
XM 2332.5 - 2345.0 / 30 - 34 dB Gain

Specifications

VHF Specifications

Frequency	118-137 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
Power Rating	50 Watts

Amplifier Specifications

	GPS	XM/ Weather
Frequency	1575.42 +/-3 MHz	2332.5-2345.0 MHz
VSWR	1.5:1 Max.	1.5:1 Max.
Polarization	RHCP	LHCP
Radiation Pattern	Hemispherical	Hemispherical
Impedance	50 Ohms	50 Ohms
Gain	26.5-31.5 dB	25+/-2 dB
DC Voltage	4 - 24 Vdc	4 - 24 Vdc
DC Curr. Typ/Max	40mA / 60mA	25mA / 55mA
Noise	3.8 dB Max	2.7 dB Max

Mechanical / Environmental

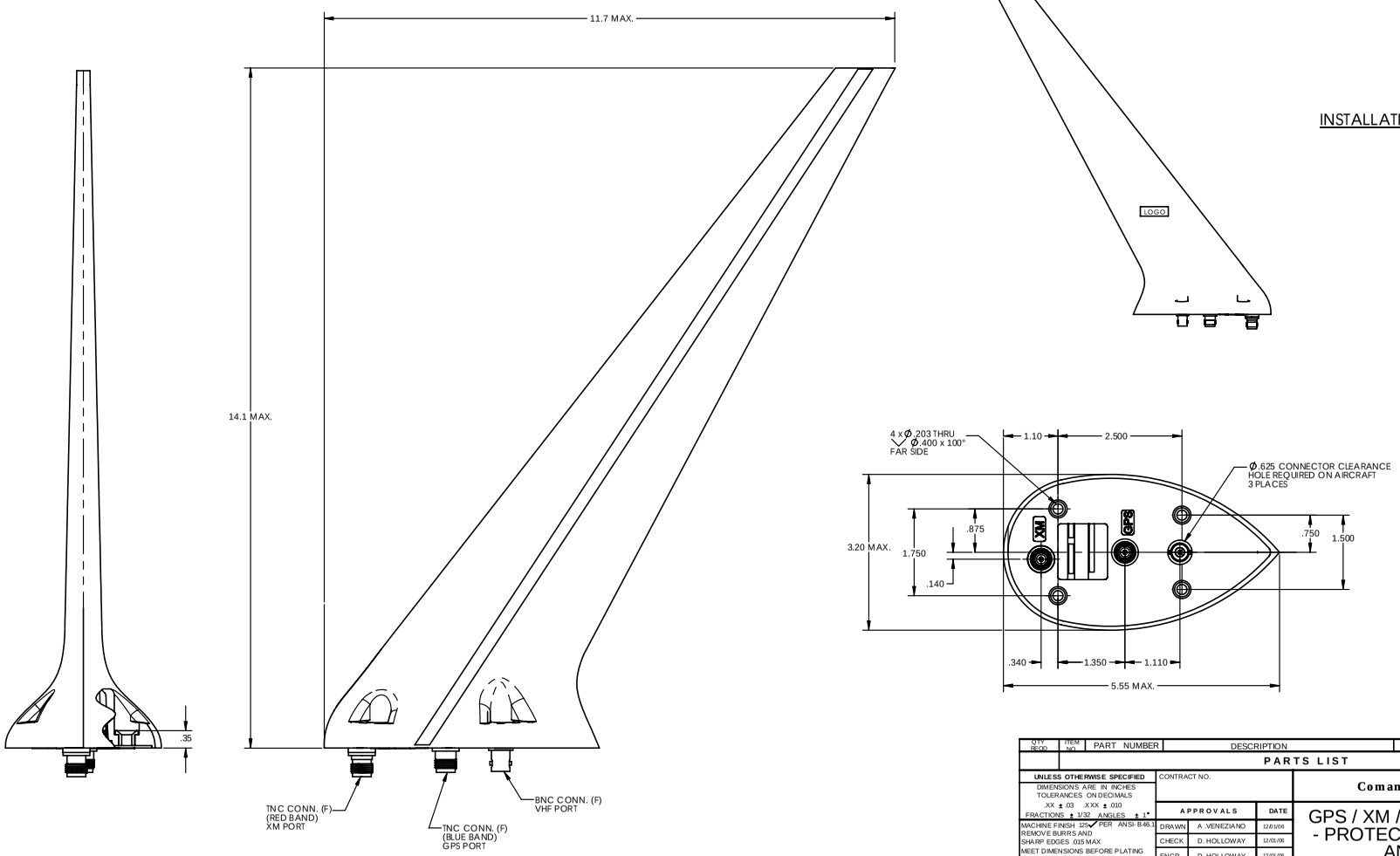
Weight	1.25 lb Maximum
RTCA Env. / TSO	DO-160D/ C169, C144
Connectors	VHF - BNC / GPS - TNC / XM - SMA

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	AV	12/01/06	AV 12/05/06
B	REF ECN 08-095	MN	01/12/09	DH 01/15/09

INSTALLATION DRAWING



ASSEMBLY DRAWING NO. D272801

QTY REQD	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	A. VENEZIANO	12/01/06
CHECK	D. HOLLOWAY	12/01/06
ENGR	D. HOLLOWAY	12/01/06
MFG	L. VELASQUEZ	12/05/06
QC	S. ADAMS	12/05/06

Comant Industries, Inc.

GPS / XM / VHF LIGHTNING - PROTECTED COMDAT® ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 2728-410	B

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 2

DWG NO CI 2728-410 REV B

Comant CI 177

FM 2 Meter

The most important thing we build is trust

CI 177 FM 2 Meter

Designed for use over the public service FM Frequency band. Features the popular 4 hole mounting with the radiating element enclosed in a high strength tapered glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

148-174 MHz

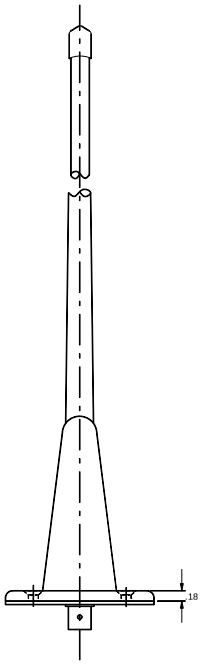
Specifications

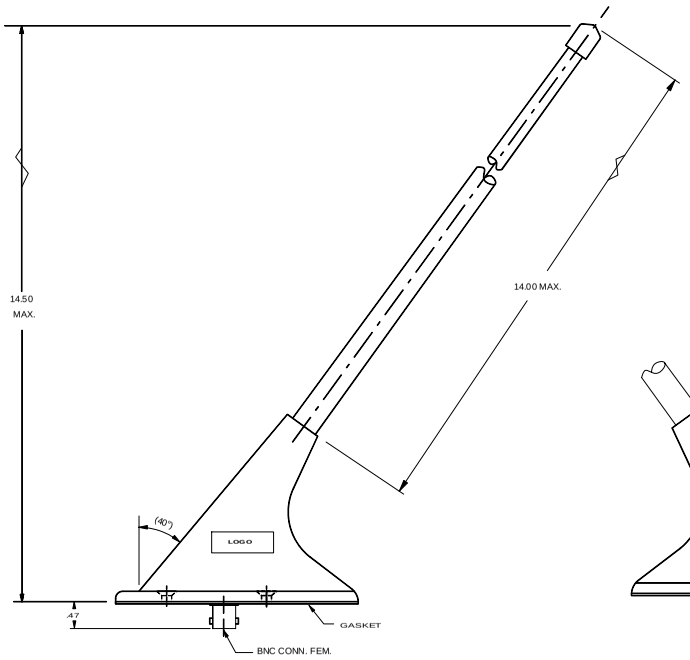
Electrical	
Frequency	148-174 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	14.5 inches
Material	Die Cast housing / Fiberglass whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +55 C
Altitude	30,000 ft
Federal Specifications	
FAA TSO	C37b, C38b
RTCA Environmental	DO-138
Gasket	B12607

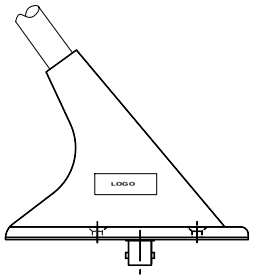
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

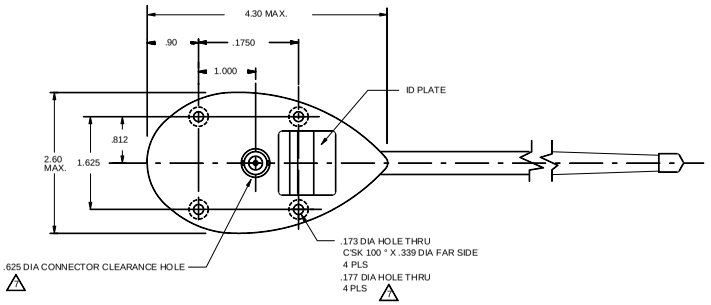
REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
J	REDRAWN WITH CHANGE. REF ECN 03-91	MN	05/16/03	DH 05/20/03
K	REF ECN 06-120	MN	11/17/06	AV 11/17/06
L	REF ECN 08-095	MN	11/21/08	DH 11/24/08







INSTALLATION DRAWING



NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 148-174 MHZ
   - 1.2 VSWR _____ 2.5:1 MAX.
     RETURN LOSS _____ -7.36 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.5 POWER RATING _____ 50 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. ⚠1 WEIGHT: 0.5 LB
5. TSO C37b, C38b, DO-138, ENV. CAT. : BAJXXXXXXXXX
6. AIRSPEED RATING: 450 KNOTS TAS @ 25,000 FT
7. ⚠1 HOLES THRU OML OF AIRCRAFT FOR INSTALLATION.

ASSY DWG. D17701

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DEC .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACH FINISH 125 √ PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .005 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	DATE MAY 16-03		TITLE ANTENNA- VHF COMMUNICATIONS
	DFTSM H. NGUYEN	5/16/03	
	CHECK J. GOMEZ	5/20/03	
	ENGR D. HOLLOWAY	5/20/03	CODE IDENT 51351 / DWG. NO. CI 177
	QC P. BOSNEANU	5/20/03	
	APPD D. HOLLOWAY	5/20/03	SCALE NONE / WT ⚠1 / SHT 1 OF 1

CI 177 L 1

Comant CI 177-1

FM Extended Band

The most important thing we build is trust

CI 177-1 FM Extended Band

Extended band version of the CI 177. Improved bandwidth provides greater flexibility by optimizing features of some of the newer transceivers.

Features the popular 4 hole mounting with the radiating element enclosed in a high strength tapered glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

138-174 MHz

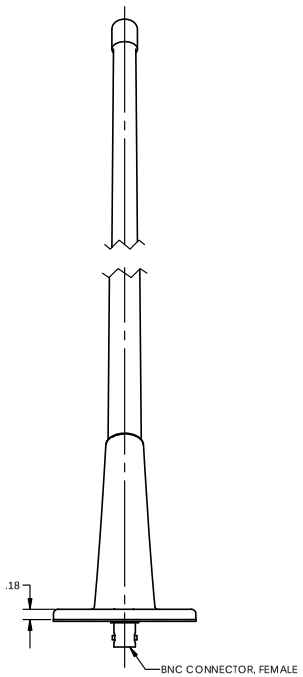
Specifications

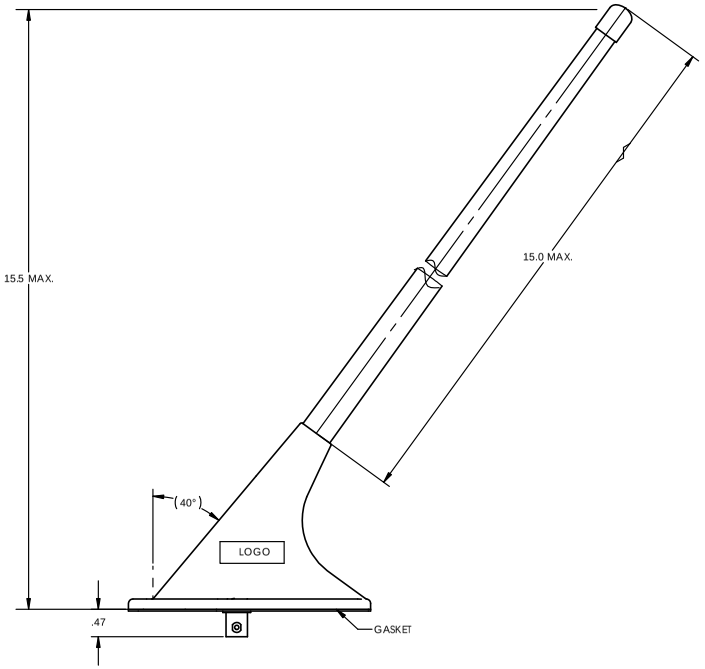
Electrical	
Frequency	138-174 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Resistance DC	Short Circuit
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	15.3 inches
Material	Die Cast housing / Fiberglass whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +55 C
Altitude	30,000 ft
Federal Specifications	
FAA TSO	C37b, C38b
RTCA Environmental	DO-138
Gasket	B12607-3

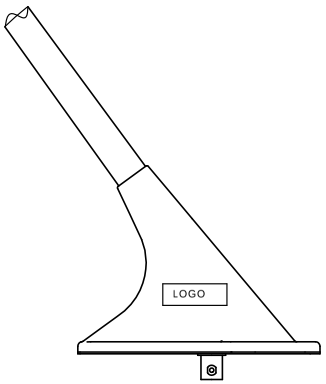
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

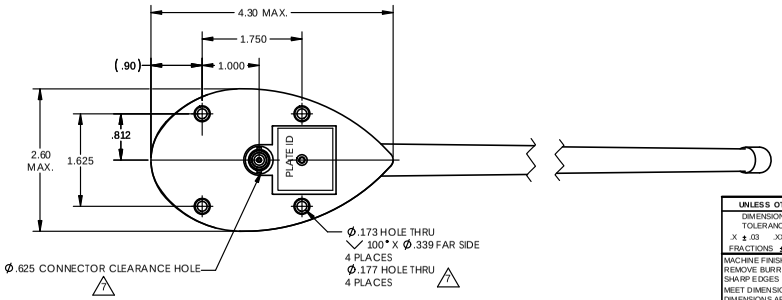
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN WITH CHANGE PER ECN 03-91	HN	05/14/03	DH 05/21/03
F	REF ECN 06-120	HN	11/20/06	AV 11/21/06
G	REF ECN 06-154	HN	12/11/06	AV 12/12/06
H	REF ECN 08-095	MN	11/11/08	DH 11/11/08









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY ..... 138 - 174 MHz
   - 1.2 VSWR ..... 3.0 : 1 MAX.
   - RETURN LOSS ..... -6.02 dB
   - 1.3 POLARIZATION ..... VERTICAL
   - 1.4 RADIATION PATTERN ..... OMNI DIRECTIONAL
   - 1.5 POWER RATING ..... 50 WATTS
   - 1.6 IMPEDANCE ..... 50 OHMS NOMINAL
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. WEIGHT 0.7 LB. MAX.
5. TSO C37b, C38b, RTCA DO-138, ENV. CAT.: BAJXXXXXXXX
6. AIR SPEED RATING 450 KNOTS TAS @ 25,000 FT.
7. HOLES THRU OML OF AIRCRAFT FOR INSTALLATION.
8. THIS DRAWING AND SPECIFICATIONS ARE PROPRIETERY AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS THE BASIS FOR MANUFACTURE OR SALE OF APPRATUS OR DEVICES WITHOUT PERMISSION.

ASSY. DWG. C17711

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± 005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H.NGUYEN	05/14/03
CHECK	J.GOMEZ	05/21/03
ENGR	D.HOLLOWAY	05/21/03
QC	P.BOSNEANU	05/21/03
APPD	D.HOLLOWAY	05/21/03

Comant Industries, Inc.

ANTENNA-
VHF COMMUNICATIONS
BROAD BAND-FM

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 177-1	H

SCALE: -- CAD FILE: -- SHEET : 1 OF 1

CI 177-1 REV. H

Comant CI 177-3

FM 2 Meter

The most important thing we build is trust

CI 177-3 FM 2 Meter

Designed for use over the public service FM Frequency band. Features the popular 3-hole mounting with the radiating element enclosed in a high strength tapered glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

148-174 MHz

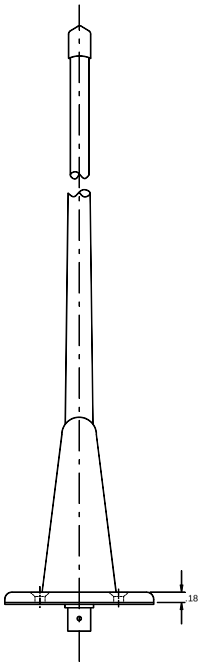
Specifications

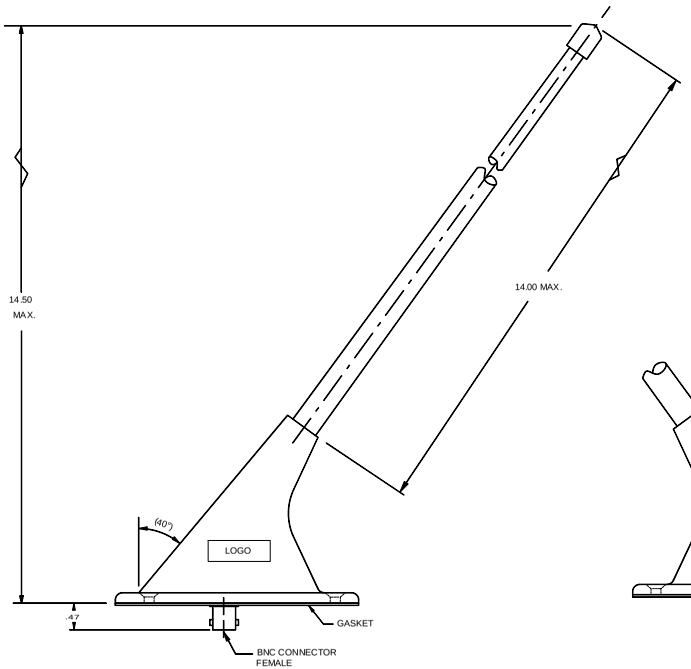
Electrical	
Frequency	148-174 MHz
VSWR	2.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	14.5 inches
Material	Die Cast housing / Fiberglass whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +55 C
Altitude	30,000 ft
Federal Specifications	
FAA TSO	C37b, C38b
RTCA Environmental	DO-138
Gasket	C29205

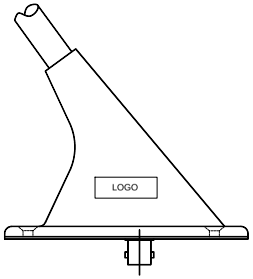
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

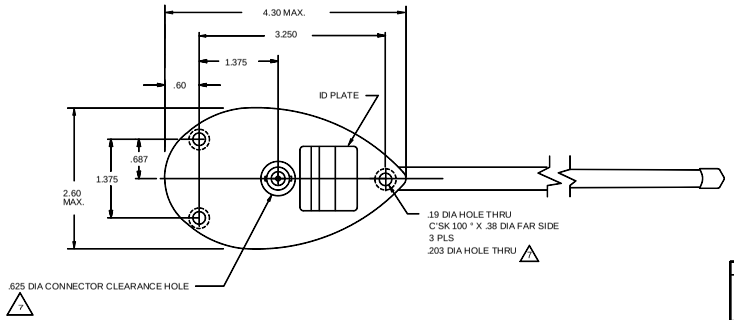
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REDRAWN WITH CHANGE. REF ECN 03-91	HN	05/16/03	DH 05/21/03
B	REF ECN 06-120	HN	11/17/06	AV 11/17/06
C	REF ECN 07-06	HN	02/07/07	AV 02/07/07
D	REF ECN 08-095	HN	11/12/08	DH 11/24/08









NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 148-174 MHZ
   - 1.2 VSWR _____ 2.5:1 MAX.
     RETURN LOSS _____ -7.36 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.5 POWER RATING _____ 50 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. ⚠1 WEIGHT: 0.5 LB
5. TSO C37b, C38b, DO-138, ENV. CAT. : BAJXXXXXXXXX
6. AIRSPEED RATING: 450 KNOTS TAS @ 25,000 FT
7. ⚠2 HOLES THRU OML OF AIRCRAFT FOR INSTALLATION.

ASSY DWG. D17701-3

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON: DEC .XX ± .03, .XXX ± .010; FRACTIONS ± 1/16, ANGLES ± 1°; MACHINE FINISH 125 PER ASME B46.1; REMOVE BURRS AND SHARP EDGES .015 MAX.; MEET DIM. BEFORE PLATING; DIMENSIONS ARE PER ASME Y14.5M; MATERIAL; DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	DATE	MAY 16-03	TITLE: ANTENNA- VHF COMMUNICATIONS FM
	DRAWN	H. NGUYEN 5/16/03	
	CHECK	J. GOMEZ 5/20/03	
	ENGR	D. HOLLOWAY 5/21/03	
	QC	P. BOSNEANU 5/21/03	D / CODE IDENT 51351 / DWG. NO. CI 177-3
	APPD	D. HOLLOWAY 5/21/03	SCALE: / WT: - ⚠ / SHT 1 OF 1

CI 177-3 D

Comant CI 177-13

FM Extended Band

The most important thing we build is trust

CI 177-13 FM Extended Band

Extended band version of the CI 177 with 3-hole mounting. Improved bandwidth provides greater flexibility by optimizing features of some of the newer transceivers.

Features the popular 3-hole mounting with the radiating element enclosed in a high strength tapered glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

138-174 MHz

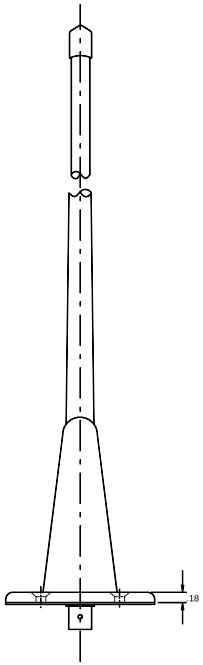
Specifications

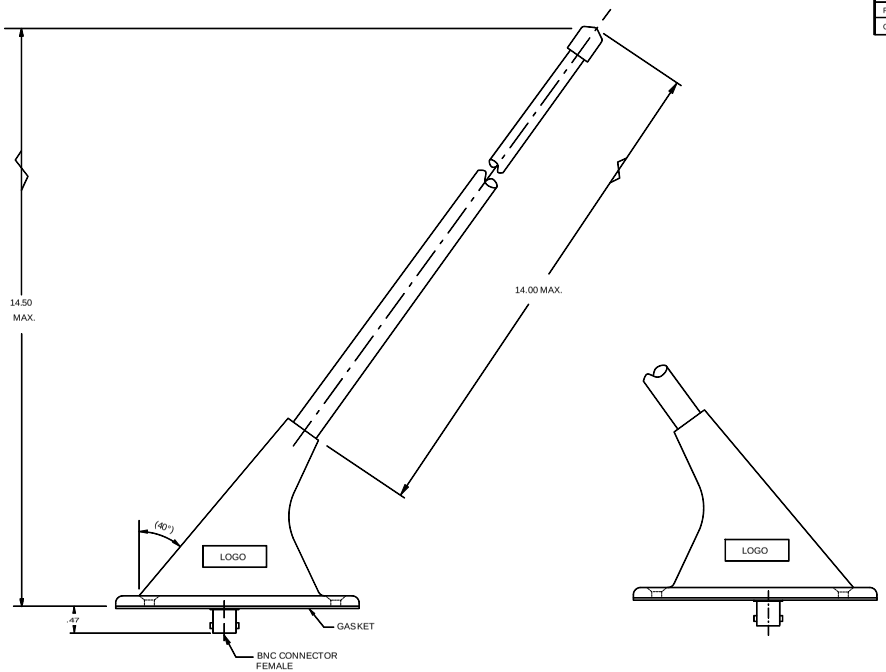
Electrical	
Frequency	138-174 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Resistance DC	Short Circuit
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	14.5 inches
Material	Die Cast housing / Fiberglass whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +55 C
Altitude	30,000 ft
Federal Specifications	
FAA TSO	C37b, C38b
RTCA Environmental	DO-138
Gasket	C29205

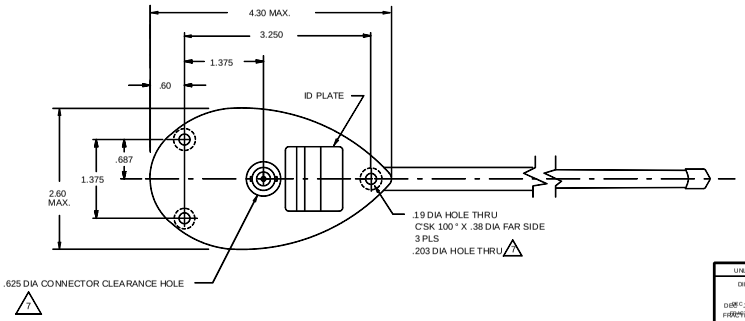
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
D	REDRAWN WITH CHANGE. REF ECN 03-91	HN	05/14/03	DH 05/21/03
E	REF ECN 06-120	HN	11/17/06	AV 11/17/06
F	REF ECN 07-06	HN	02/07/07	AV 02/07/07
G	REF ECN 08-095	MN	11/21/08	DH 11/21/08







NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 138-174 MHZ
   - 1.2 VSWR _____ 3.0:1 MAX.
     RETURN LOSS _____ -6.02 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.5 POWER RATING _____ 50 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. WEIGHT: 0.5 LB
5. TSO C37b, C38b, RTCA DO-138, ENV. CAT. : BAJXXXXXXXXX
6. AIRSPEED RATING: 450 KNOTS TAS @ 25,000 FT
7. HOLES THRU OML OF AIRCRAFT FOR INSTALLATION.

ASSY DWG. C17731

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON FRACTIONS ± 1/16; .xx ± .01; .xxx ± .005; ANGLES ± 1°; MACHINE FINISH 125 PER ASME B46.1; REMOVE BURRS AND SHARP EDGES .015 MAX.; MEET DIM. BEFORE PLATING; DIMENSIONS ARE PER ASME Y14.5M; MATERIAL; DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	DATE	MAY 14-03	TITLE: ANTENNA- VHF COMMUNICATIONS FM
	DRAWN	H. NGUYEN 5/14/03	
	CHECK	J. GOMEZ 5/21/03	
	ENGR	D. HOLLOWAY 5/21/03	
	APPD	P. BOSNEANU 5/21/03	
		D. HOLLOWAY 5/21/03	D / CODE IDENT 51351 / DWG. NO. CI 177-13
			SCALE: / WT: / SHT 1 OF 1

CI 177-13 | G |

Comant CI 292-3

FM Extended Band

The most important thing we build is trust

CI 292-3 FM Extended Band

Designed to provide 3.0:1 VSWR or better over a bandwidth of 138-174 MHz and over 136-174 MHz. Features a high-strength die-cast 3-hole Aluminium base. Radiating element is a bent whip tapered stainless steel rod suitable for bottom mounting.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

136-174 MHz

138-174 MHz

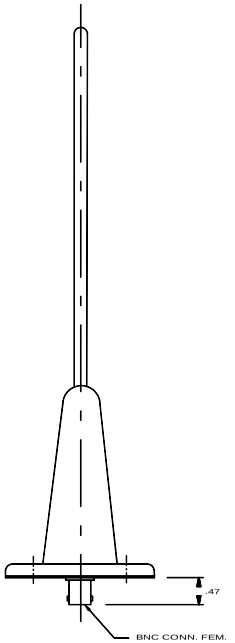
Specifications

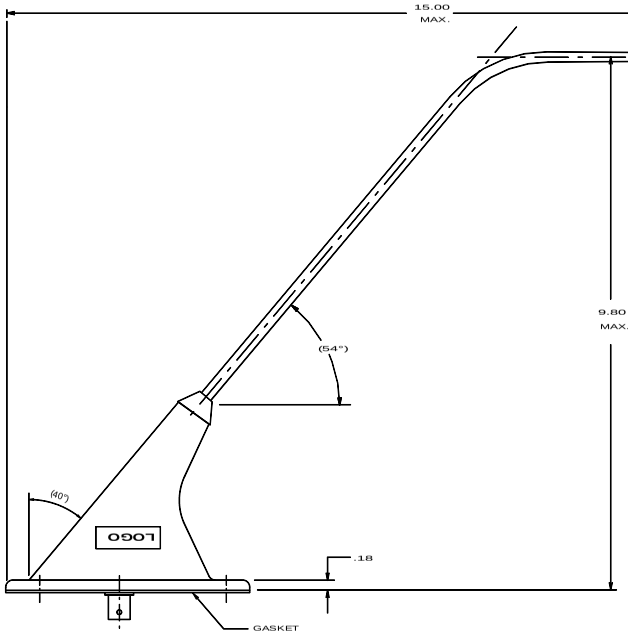
Electrical	
Frequency	136-174 & 138-174 MHz
VSWR	3.0:1 Maximum
Antenna Gain	2.5dB Minimum at Beam Max.
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance	50 Ohms
Power	50 Watts
Mechanical	
Weight	0.60 lbs Maximum
Height	9.5 inches
Material	Die Cast housing / Stainless whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +70 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C37c (Class 1), C38c
RTCA Environmental	DO-160B
Gasket	B29205

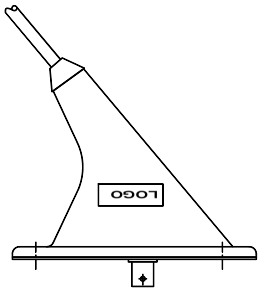
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

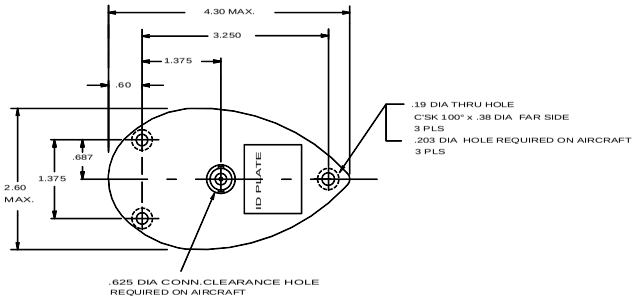
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
G	REDRAWN FOR CLARITY	HN	10/25/93	SC 10/25/93
H	REF ECN 96-39	HN	06/24/96	BK 06/24/96
J	REF ECN 05-72	HN	03/24/05	JF 03/24/05
K	REF ECN 06-150	HN	01/22/07	AV 01/25/07
L	REF ECN 08-096	HN	11/11/08	DH 11/11/08
M	REF ECN 09-082	MN	09/14/09	DH 09/14/09









NOTES

1. RF CHARACTERISTICS:

1.1 FREQUENCY	138 TO 174 MHz	136 TO 174 MHz
1.2 VSWR	3.0:1 MAX.	3.0:1 MAX.
R/L	-6.02 dB MIN.	
1.3 POLARIZATION	VERTICAL	
1.4 ANTENNA GAIN	2.5 dB MIN. AT BEAM MAX.	
1.5 RADIATION PATTERN	OMNI DIRECTIONAL	
1.6 POWER RATING	50 WATTS	
1.7 IMPEDANCE	50 OHMS NOMINAL	

2. MOUNTING SURFACE , CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: WHITE GLOSS PAINT, NON YELLOWING.
4. WEIGHT: 0.6 LB. MAX.
5. APPROVED TO TSO C37c, CLASS 1 & C38c, DO-160B, ENV. CAT. : BAJXXXXXXXXX
6. AIR SPEED RATING: 250 KNOTS TAS.

ASSY DWG. C29221-3

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .03 XXX ± .010
FRACTIONS ±1/64 ANGLES ±1°
MACH.FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MBET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.
DATE OCT 15-93

DFTSM	H.Nguyen	10/25/93
CHECK	S.Caslow	10/25/93
ENGR	D.J.Holloway	10/25/93
APPD	R.N.Alexander	10/25/93

Comant Industries, Inc.

ANTENNA-
COMM/VHF/FM BROAD BAND

D | CODE IDENT 51351 | DWG. NO. CI 292-3

SCALE: NONE | WT: | SHT 1 OF 1

CI 292-3 | M

Comant CI 292-4

FM Extended Band

The most important thing we build is trust

CI 292-4 FM Extended Band

Wider band covers popular VHF and FM frequencies. Designed to provide 2.5:1 VSWR or better over a bandwidth of 138-174 MHz. Features a high-strength die-cast 3-hole Aluminium base. Radiating element is a straight tapered stainless steel rod suitable for bottom mounting. Overall height only 14.5 inches with BNC connector as standard. The CI 292-4 has been re-tested and upgraded to the new RTCA DO-160D environmental.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

136-174 MHz
138-174 MHz

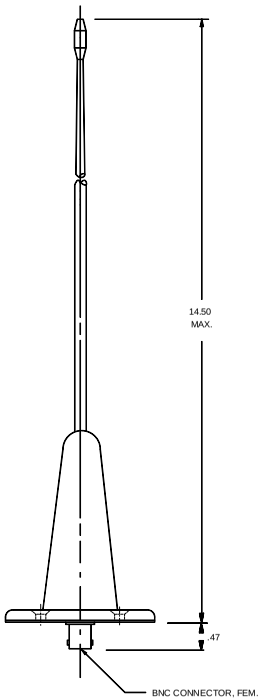
Specifications

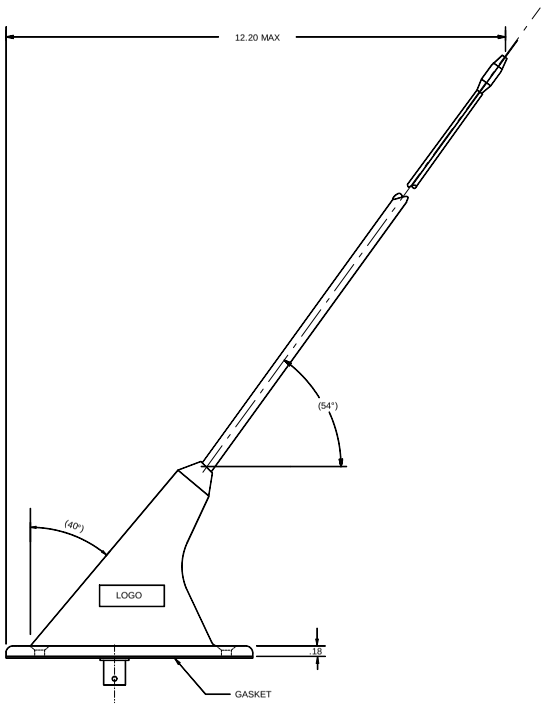
Electrical	
Frequency	136-174 MHz and 138-174 MHz
VSWR	2.5:1 @ 138-174 MHz 3.0:1 @ 136-174 MHz
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance	50 Ohms
Power	50 Watts
Mechanical	
Weight	0.60 lbs
Height	14.5 inches
Material	Die Cast housing / Stainless whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-55 C to +70 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C37c (Class 1), C38c
RTCA Environmental	DO-160B
Gasket	C29205

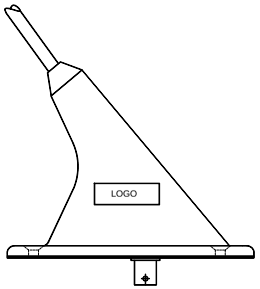
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

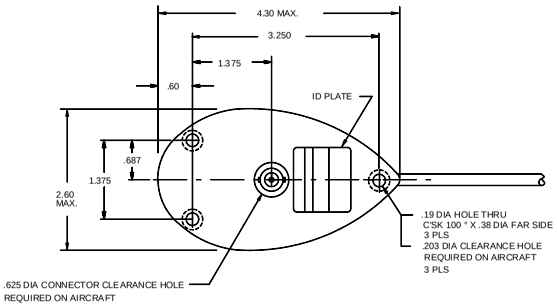
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
F	REDRAWN FOR CLARITY	HN	10/25/93	SC 10/25/93
G	REF ECN 06-120	HN	11/17/06	AV 11/18/06
H	REF ECN 06-151	HN	01/23/07	AV 01/23/07
J	REF ECN 08-096	HN	12/08/08	DH 12/09/08









NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 138-174 MHZ AND 136 TO 174 MHz
   - 1.2 VSWR _____ 2.5:1 MAX. AND 3.0:1 MAX
     RETURN LOSS _____ -7.36 dB AND 6.02 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 ANTENNA GAIN _____ 2.5 dB MIN. @ BEAM MAX.
   - 1.5 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.6 POWER RATING _____ 50 WATTS
   - 1.7 IMPEDANCE _____ 50 OHMS NOMINAL
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
4. WEIGHT: 0.6 LB MAX.
5. APPROVED TO TSO C37c, CLASS 1 & C38c, DO-160B, ENV. CAT. : BAJXXXXXXXXX
6. AIRSPEED RATING: 250 KNOTS TAS

ASSY DWG. C29221-4

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .005 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		**Comant Industries, Inc.**
	DATE OCT 25-1993		TITLE ANTENNA COMM/VHF/FM BROAD BAND
	DRAWN H. NGUYEN	10/25/93	
	CHECK S. CASLOW	10/25/93	
	ENGR D. HOLLOWAY	10/25/93	
	APP'D R. N. ALEXANDER	10/25/93	D CODE IDENT 51351 DWG. NO. CI 292-4
			SCALE: 1/1 WT: SHT 1 OF 1

CI 292-4 J

Comant CI 222

AM/FM Receive

The most important thing we build is trust

CI 222 AM/FM Receive

AM/FM receive antenna offers a unique low profile design using standard 4-hole mounting used on many VHF type antennas. Bent whip configuration is ideally suited for underbelly and helicopter installations.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

88-108 MHz & 540-1600 KHz

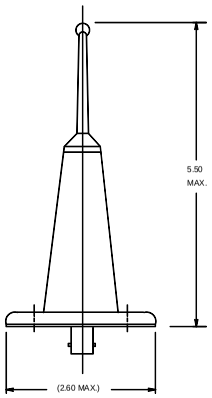
Specifications

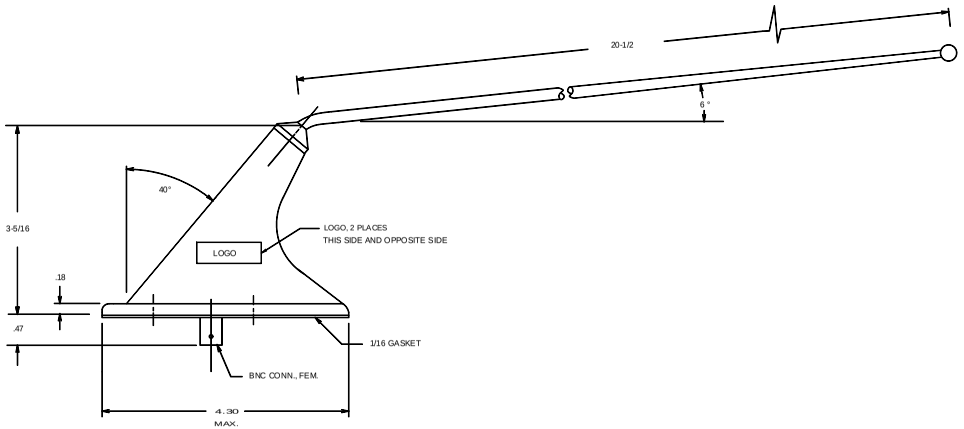
Electrical	
Frequency	88 to 108 MHz & 540-1600 KHz
VSWR	3.5:1 Maximum @ 98 MHz Mid-band 30:1 Maximum @ 88 & 108 Edges
Polarization	Slant / Linear
Radiation Pattern	Omnidirectional - receive only
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	5.5 inches Max Height (20.5 inch whip)
Material	Cast zinc housing / Stainless whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Gasket	B12607-3

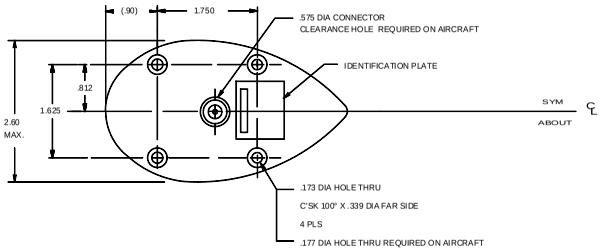
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	VSWR IS 5.0:1 WAS TBD. DELETE ANTENNA GAIN. ADD RECEIVE ONLY TO RADIATION PATTERN. CHG 2.50 REF TO 2.60 MAX. ADDED NOTE 5		4/5/85	RES 4/15/85
B	REF ECN 87-27	HN	8/11/87	DH 8/11/87
C	REF E0 87-4	HN	4/1/88	RES 4/1/88
D	REF ECN 98-44	HN	4/1/98	DH 4/1/98
E	REF ECN 99-128	VI	1/4/00	DH 1/4/00
F	REF ECN 08-095	MN	11/20/08	DH 11/2/08







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERICTICS:

   FREQUENCY _____ 88 TO 108 MHz FM AND 540 TO 1600 KHz AM

   VSWR (RETURN LOSS dB) _____ 3.5:1 MAX (5.1dB MIN) AT MID BAND RESONANT FREQUENCY, 98 MHz.
   30:1 MAX (0.6dB MIN) AT 88 AND 108 MHz BAND EDGES.
   NOTE: 1) WHEN TESTED ON A 10'X10' GROUND PLANE
   NOTE: 2) NOT TESTED AT AM FREQUENCIES

   POLARIZATION _____ SLANT/LINEAR

   RADIATION PATTERN _____ OMNI-DIRECTIONAL (RECEIVE ONLY)

2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: WHITE GLOSSY POLYURETHANE PAINT, NON YELLOWING, SKYDROL RESISTANT.
4. WEIGHT: 0.5 LB
5. AIRSPEED RATING: 450 KNOTS TAS AT 20,000 FT

ASSY DWG C22201

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 1.25 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		**Comant Industries, Inc.**
	DATE 22 APRIL 1980		TITLE ANTENNA - AM - FM
	DRAWN DAVEY	4/22/80	
	CHECK F. BOIRANDS	10/12/82	
	ENGR F. BOIRANDS	10/12/82	
	APPD L. BROWN	10/12/82	D CODE IDENT 51351 DWG. NO. CI 222
			SCALE: NONE WT: SHT 1 OF 1

CI 222 F

Comant CI 222-1

FM Receive

The most important thing we build is trust

CI 222-1 FM Receive

Efficient FM radio bent whip antenna is higher performance and moderately higher profile version of the CI 222. Features a 4-hole mounting, suitable for either top or bottom airframe installations or fixed wing/rotorcraft. DC grounded.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

88-108 MHz

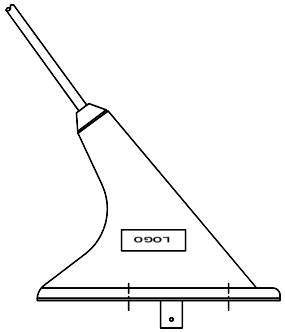
Specifications

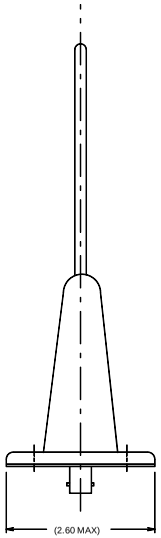
Electrical	
Frequency	88 to 108 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms Nominal
Power RF	50 Watts
Mechanical	
Weight	0.50 lbs
Height	8.5 inches Max Height (20.0 inch whip)
Material	Cast zinc housing / Stainless whip
Finish	White Polyurethane Enamel
Connector	BNC (female)
Gasket	B12607-3

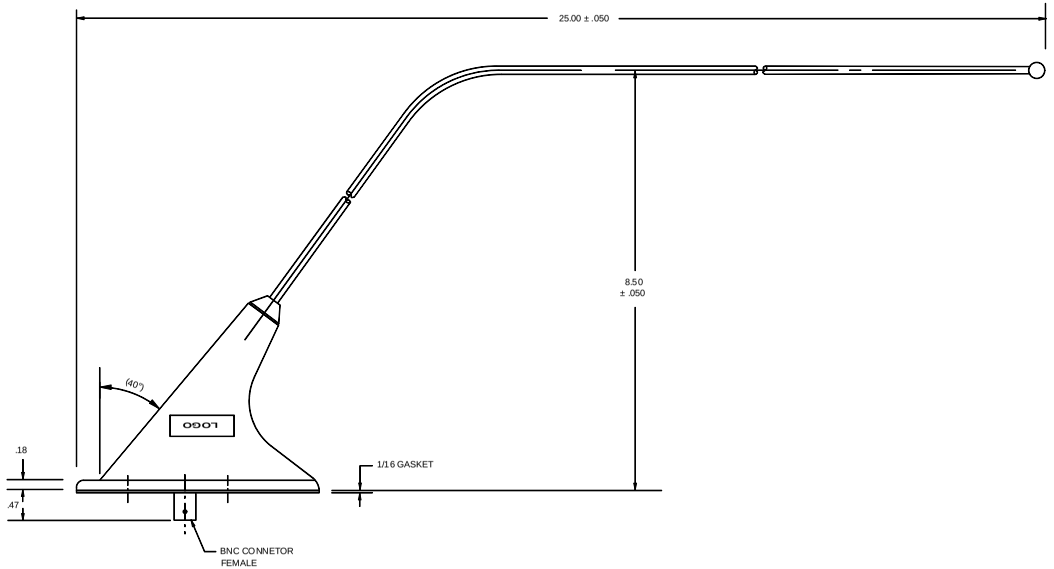
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

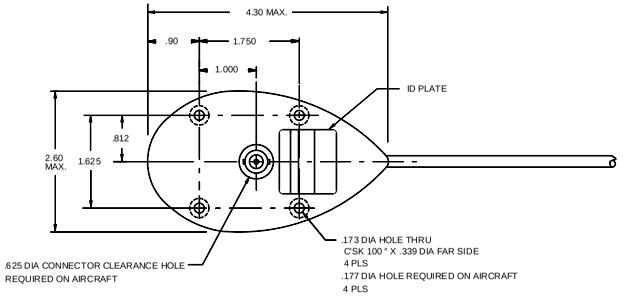
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	PER EO 92-3	HN	7/22/92	DH 07/22/92
B	REF ECN 96-13	HN	03/01/96	SC 03/04/96
C	REF ECN 06-125	HN	11/07/06	AV 11/14/06
D	REF ECN 08-095	MN	12/10/08	DH 12/16/08
E	REF ECN 11-005	MN	01/20/11	DH 01/20/11









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 88 TO 108 MHZ
   - 1.2 VSWR _____ 3.0:1 MAX.
     RETURN LOSS _____ -6.02 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.5 POWER RATING _____ 50 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
4. WEIGHT: 0.5 LB
5. AIRSPEED RATING: 450 KNOTS TAS @ 20,000 FT

ASSY DWG. C22211

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE	JAN 18-1990	
DRAWN	H. NGUYEN	01/18/90
CHECK	S. CASLOW	01/24/90
ENGR	S. CASLOW	01/24/90
APPD	R. SNYDER	01/25/90

Comant Industries, Inc.

TITLE
ANTENNA - FM

CODE IDENT	DWG. NO.
51351	CI 222-1

D

SCALE: WT: SHT 1 OF 1

CI 222-1 E

Comant CI 106

Radiophone

The most important thing we build is trust

CI 106 Radiophone

Stub antenna designed to withstand the environment associated with the underside of an aircraft. Antenna radiator is mechanically captivated and sealed against leakage. All exposed metal surfaces are nickel-plated for corrosion resistance and long service.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

450-470 MHz

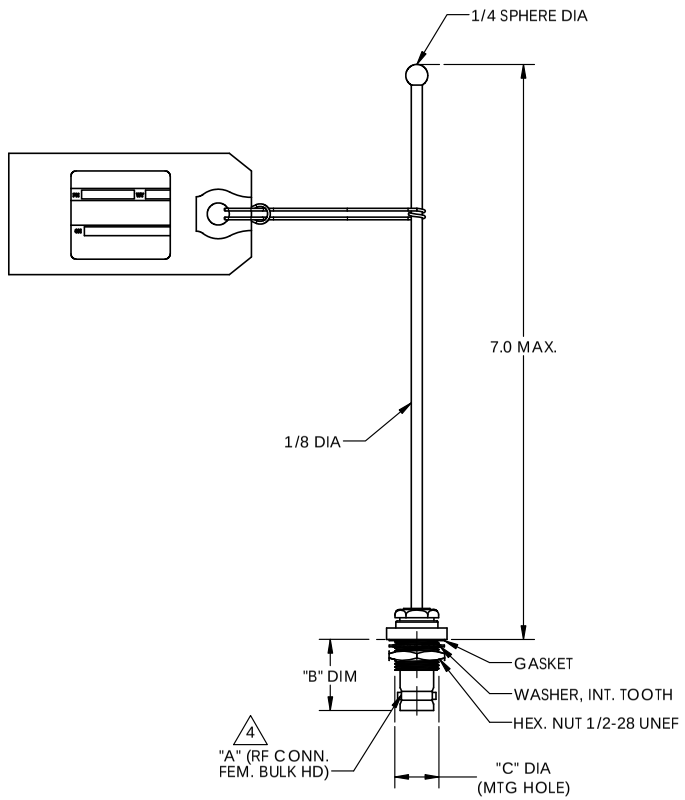
Specifications

Electrical	
Frequency	450-470 MHz
VSWR	1.7:1
Polarization	Vertical
Radiation Pattern	Typical of 1/4 Wave
Impedance	50 Ohms
RF Power	50 Watts Average
Mechanical	
Weight	0.18 lbs
Height	7.0 Max
Finish	Nickel plated brass
Material	Tin-Nickel Alloy
Connector	BNC (female)

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
G	REDRAWN. REF ECN NO. 03-102	HN	05/02/03	DH 05/08/03
H	REF ECN 15-010	MN	04/14/15	DH 04/21/15



DASH NO.	"A" CONN. TYPE	"B" DIM.	"C" DIA	ASSY DWG
BSC	BNC	.85 MAX.	.500	C10601
-5	N	.95 MAX.	.625	C27101-4

DWG NO CI 106-* REV. H

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY : 450 TO 470 MHz
   - VSWR : 1.7 :1 MAX.
   - POLARIZATION : VERTICAL
   - RADIATION PATTERN : TYPICAL OF A 1/4 WAVE STUB
   - POWER RATING : 50 WATTS AVERAGE
2. FINISH : TIN-NICKEL ALLOY
3. WEIGHT: .18 LBS
4. BNC CONNECTOR PICTORIALLY SHOWN
5. SPEED RATING : 250 KNOTS TAS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .010 .XXX ± .005
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 ✓ PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	05/02/03
CHECK	J. GOMEZ	05/08/03
ENGR	D. HOLLOWAY	05/08/03
QC	P. BOSNEANU	05/08/03
APPD	D. HOLLOWAY	05/08/03

Comant Industries, Inc.

ANTENNA
RADIO TELEPHONE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 106-*	H

SCALE: 1:1 | CAD FILE: – | SHEET : 1 OF 1

Comant CI 177-20

Radiophone

The most important thing we build is trust

CI 177-20 Radiophone

A rugged monopole antenna particularly well-suited to the harsh environments experienced on the underside of an aircraft. Features standard 4-hole mounting, diecast metal base and radiator encased in glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

450-470 MHz

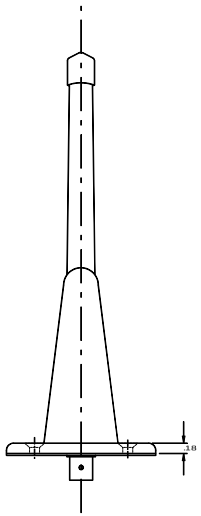
Specifications

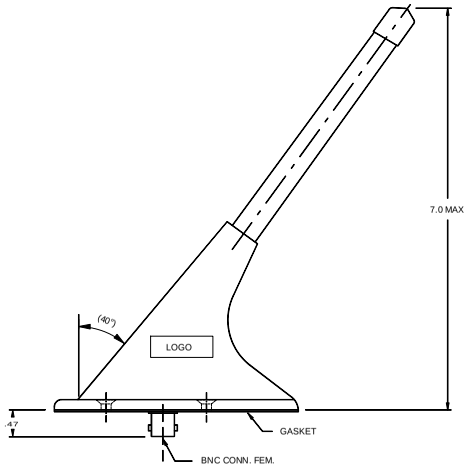
Electrical	
Frequency	450-470 MHz
VSWR	2.0:1
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedance	50 Ohms
RF Power	30 Watts
Mechanical	
Weight	0.7 lbs Maximum
Height	7.0 inches Maximum
Material	Diecast Metal Base
Finish	Glossy White Polyurethane Paint
Connector	BNC (female)
Environmental	
Temperature	-55 to 55 C
Altitude	30,000 ft.
Environmental RTCA	DO-160D
Gasket	B12607

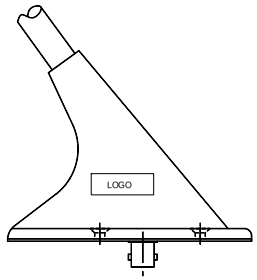
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

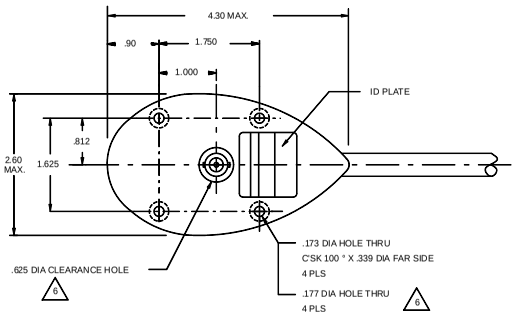
REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN WITH CHANGE. REF ECN 03-119	HN	5/16/03	DH 5/21/03
F	REF ECN 06-120	HN	11/20/06	AV 11/21/06
G	REF ECN 08-095	HN	11/18/08	DH 11/24/08







INSTALLATION DRAWING



NOTES: UNLESS OTHERWISW SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY _____ 450 TO 470 MHZ
   - 1.2 VSWR _____ 2.0:1 MAX.
     RETURN LOSS _____ -9.54 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 GAIN (PEAK BEAM) _____ 5.0 dBic
   - 1.5 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.6 POWER RATING _____ 30 WATTS
   - 1.7 IMPEDANCE _____ 50 OHMS NOMINAL
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: GLOSSY WHITE POLYURETHANE PAINT NON YELLOWING.
4. WEIGHT: 0.7 LB
5. RTCA DO-160D, ENV. CAT. : [D2X]ACB[R(C,C1)U(F,F1)]XWFDXSXXXXX[XX]X[XXXX]XAX
6. HOLES THRU OML OF AIRCRAFT FOR INSTALLATION.
7. AIRSPEED RATING: 450 KNOTS TAS @ 25,000 FT

ASSY DWG. D17701-2

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC XX ± .03 XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		
	DATE	MAY 06-03	
	DRAWN	H. NGUYEN	5/16/03
	CHECK	J. GOMEZ	5/21/03
	ENGR	D. HOLLOWAY	5/21/03
	QC	P. BOSNEANU	5/21/03
	APPD	D. HOLLOWAY	5/21/03

Comant Industries, Inc.

TITLE: ANTENNA-UHF SKYPHONE UHF/FM

CODE IDENT	DWG. NO.
51351	CI 177-20

SIZE: D | SCALE: 1/1 | WT: | SHT 1 OF 1

CI 177-20 G

Comant CI 200

Radiophone/UHF

The most important thing we build is trust

CI 200 Radiophone/UHF

Rugged monopole antenna particularly well-suited to the harsh environments experienced on the underside of an aircraft. Features a very compact 3-hole mounted die-cast Aluminium base with the radiator encased in a glass laminate housing.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

450-470 MHz

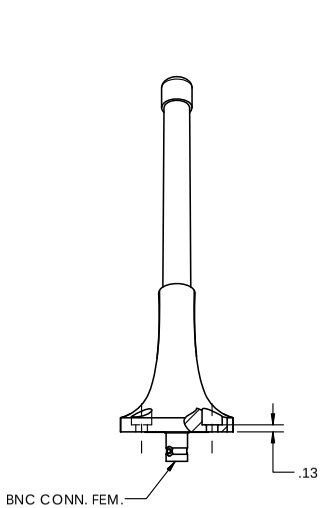
Specifications

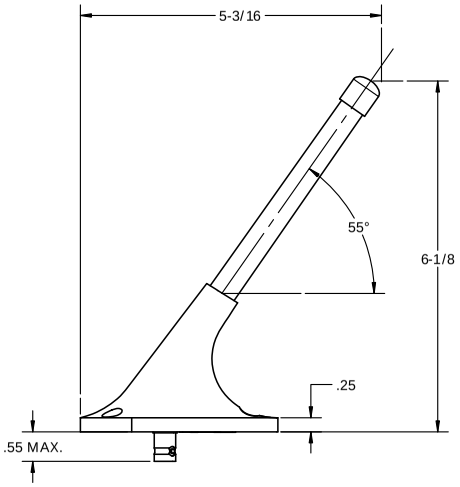
Electrical	
Frequency	450-470 MHz
VSWR	1.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni-Directional
Impedance	50 Ohms
RF Power	30 Watts
Mechanical	
Weight	0.5 lbs
Height	6 1/8 inches
Material	Aluminium Alloy / Fiberglass Whip
Finish	Polyurethane Enamel
Connector	BNC (female)

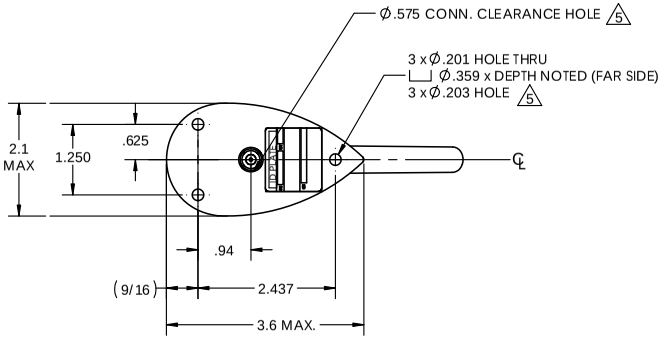
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY : 450 TO 470 MHz
   - VSWR : 1.5: 1 MAX
   - POLARIZATION : VERTICAL
   - ANTENNA GAIN : 5.0 dB
   - RADIATION PATTERN : OMNI DIRECTIONAL
   - POWER RATING : 30 WATTS
   - IMPEDANCE : 50 OHMS NOMINAL
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. FINISH: WHITE GLOSSY PAINT, NON YELLOWING.
4. WEIGHT 0.5 LBS

5 HOLES REQUIRED THRU "OML" OF AIRCRAFT FOR INSTALLATION

6. AIR SPEED RATING: 450 KNOTS TAS @ 25,000 FT

ASSY DWG. C20001

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE	ANTENNA- UHF-SKYPHONE			
MACHINE FINISH 125 ✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN	DAVEY	5/07/78				
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK	L. BROWNS	8/23/78				
MATERIAL :	ENGR	GREG PARK	8/23/78				
	APPD	H. SUMMERS	8/23/78	DWG SIZE C	CODE IDENT 51351	DWG. NO. CI 200	REV. E
DO NOT SCALE DRAWING				SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	

REV. E
DWG NO CI 200

CI 271

UHF Radiotelephone

The most important thing we build is trust

CI 271 Radiotelephone

Stub antenna designed to withstand the harsh environments associated with the underside of an aircraft. Antenna radiator is mechanically captivated and is sealed against leakage. All exposed metal surfaces are nickel-plated for corrosion resistance and long service. The CI 271 mounts through a single 0.60" hole. BNC connector is standard.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

400-430 MHz

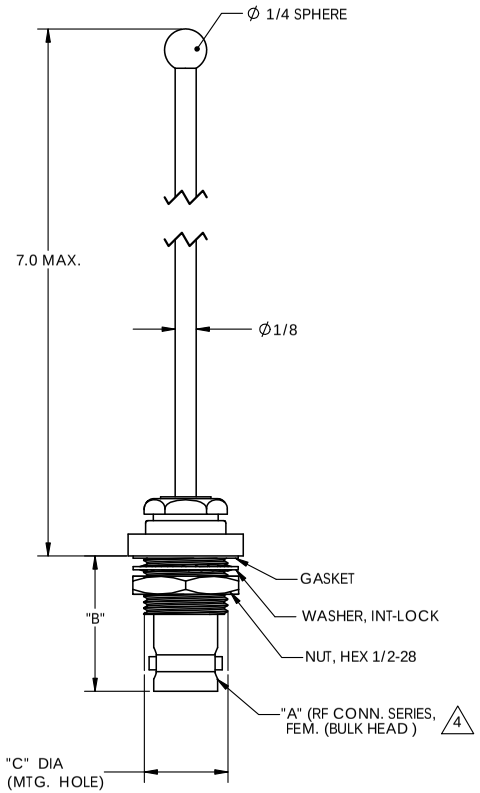
Specifications

Electrical	
Frequency	400-430 MHz
VSWR	1.8:1 Maximum
Polarization	Vertical
Radiation Pattern	Equivalent to 1/4 wave Stub
Impedance	50 Ohms
RF Power	50 Watts Average
Mechanical	
Weight	0.18 lbs
Height	7.0 inches Maximum
Material	Nickel plated brass
Finish	Tin-nickel alloy
Connector	BNC (female)
Federal Specifications	
FAA TSO	N/A

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL



DASH NO. *	"A" CONN. TYPE	"B" DIM.	"C" DIA	ASSY DWG
BSC	BNC	.68	.515	C10601-2
-2	TNC	.68	.515	
-3	C	.75	.635	
-4	RESERVED	N/A	N/A	
-5	N	.90	.635	C27101-1

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:
   - FREQUENCY : 400 TO 430 MHz
   - VSWR : 1.8 :1 MAX.
   - POLARIZATION : VERTICAL
   - RADIATION PATTERN : TYPICAL OF A 1/4 WAVE STUB
   - POWER RATING : 50 WATTS AVERAGE
2. FINISH : TIN-NICKEL ALLOY
3. WEIGHT: 0.18 LBS
4. BNC CONNECTOR PICTORIALLY SHOWN
5. SPEED RATING : 250 KNOTS TAS

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN	KARA	02/8/87
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK	RES	3/16/03
MATERIAL :	ENGR	D. HOLLOWAY	02/26/87
	APPD	R. SICCAMA	02/17/87
DO NOT SCALE DRAWING			

Comant Industries, Inc.

ANTENNA
RADIO TELEPHONE
(400-430 MHz)

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 271-*	D

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 271-* REV. D

Comant CI 273

UHF Radiotelephone

The most important thing we build is trust

CI 273 Radiotelephone

Identical to CI 271 except its electrical performance is specified over the frequency range of 403-512 MHz in various band segments with VSWR limits shown. Stub antenna designed to withstand the harsh environments associated with the underside of an aircraft. Antenna radiator is mechanically captivated and is sealed against leakage. All exposed metal surfaces are nickel-plated for corrosion resistance and long service. CI 273 mounts through a single 0.60" hole. BNC connector is standard.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

403-512 MHz

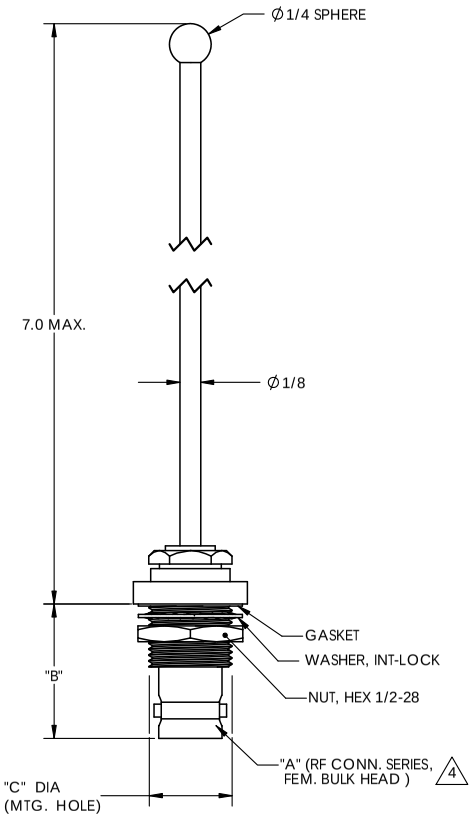
Specifications

Electrical	
Frequency	403-512 MHz
VSWR	3.0:1 @ 403 to 512 MHz 3.0:1 @ 403 to 430 MHz 2.0:1 @ 430 to 470 MHz 3.0:1 @ 470 to 512 HHz
Polarization	Vertical
Radiation Pattern	Equivalent to 1/4 wave Stub
Impedance	50 Ohms
RF Power	50 Watts Average
Mechanical	
Weight	0.18 lbs
Height	7.0 inches Maximum
Material	Nickel plated brass
Finish	Tin-nickel alloy
Connector	BNC (female)

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL



ASSY DWG	DASH NO.	"A" CONN. TYPE	"B" DIM.	"C" DIA
C10601-3	BSC	BNC	.68	.515
C27301	-2	TNC	.68	.515
	-3	C	.75	.635
C27301-4	-4 6	TNC	.68	.515
C27101-2	-5	N	.90	.635

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS

FREQUENCY	: 403 TO 512 MHz	403 TO 430 MHz	403 TO 470 MHz	470 TO 512 MHz
VSWR	: 3.0 :1 MAX.	3.0 :1 MAX.	2.0 :1 MAX.	3.0 :1 MAX.
POLARIZATION	: VERTICAL			
RADIATION PATTERN	: TYPICAL OF A 1/4 WAVE STUB			
POWER RATING	: 50 WATTS AVERAGE			
IMPEDANCE	: 50 OHMS			

2. WEIGHT: .18 LBS
3. FINISH : TIN-NICKEL ALLOY
4. BNC CONNECTOR PICTORIALLY SHOWN
5. SPEED RATING : 250 KNOTS TAS
6. FINISH: MATT BLACK PAINT (-4 ONLY) FED-STD-595, COLOR 37038

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE	ANTENNA RADIO TELEPHONE			
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	H. NGUYEN	24/07/87				
	CHECK	RES	10/8/87				
	ENGR	D. HOLLOWAY	01/12/88				
MATERIAL :	APPD	R. SNYDER	01/24/88	DWG SIZE C	CODE IDENT 51351	DWG. NO. CI 273-*	REV. C
DO NOT SCALE DRAWING				SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	

DWG NO. CI 273-* REV. C

Comant CI 275 Series

UHF Radiotelephone

The most important thing we build is trust

CI 275 Radiotelephone

Wide band UHF antenna designed for high-performance aircraft over the full frequency range of 406-512 MHz. Low profile, blade-type antenna is encased in a low drag, low weight molded body to ensure high reliability. The CI 275 is available with a selection of connectors as listed below.

CI 275	BNC
CI 275-2	TNC
CI 275-5	N

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Approved for light helicopter installations.

Frequencies Covered

406-512 MHz

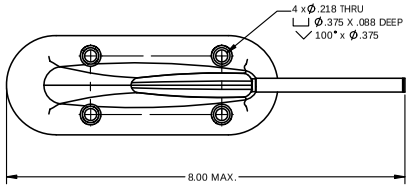
Specifications

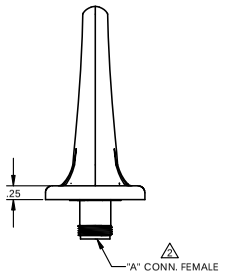
Electrical	
Frequency	406-512 MHz
VSWR	2.0:1
Polarization	Vertical
Radiation Pattern	Typical 1/4 wave stub
Impedance	50 Ohms
RF Power	100 Watts Max. Average
Mechanical	
Weight	0.5 lbs
Height	3.5 inches
Material	Nickel Plated
Finish	White Polycarbonate
Connector	BNC, TNC, N (specify)

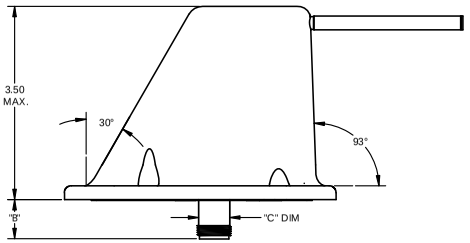
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

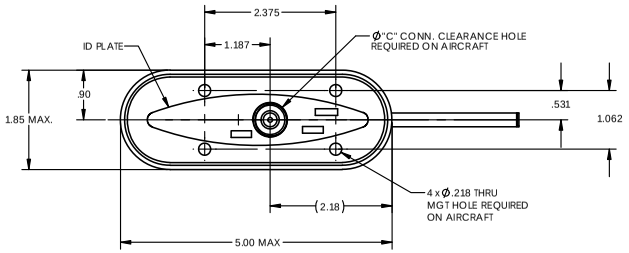
REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 88-191	DH	06/17/88	DH 06/17/88
B	REF ECN 88-208	HN	08/03/88	DH 08/03/88
C	REF ECN 89-58	HN	07/25/89	DH 09/25/89
D	REF ECN 90-18	HN	03/07/90	DH 03/09/90
E	REF ECN 92-03	HN	07/22/92	DH 07/22/92
F	REF ECN 02-04	HN	01/08/02	DH 01/08/02







DASH NO.	"A" CONN. TYPE	"B" DIM.	"C" DIM.	ASSY DWG.
BSC	BNC	.68	.515	C27521
-2	TNC	.68	.515	C27521-2
-3	C	.75	.635	-
-4	RESERVED			
-5	N	.70	.635	C27501 BSC



NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 406 TO 512 MHz
   - 1.2 VSWR _____ 2.0:1 MAX.
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN _____ TYPICAL OF A QUARTER WAVE STUB
   - 1.5 RF POWER _____ 100 WATTS MAX. AVERAGE
   - 1.6 IMPEDANCE _____ 50 OHMS
   - 1.7 EFFICIENCY _____ 90% MIN. 406-512 MHz
2. "N" CONNECTOR PICTORIALLY SHOWN
3. FINISH: WHITE POLYCARBONATE/NICKEL PLATE
4. THIS DRAWING AND SPECIRCATIONS ARE PROPRIETERY AND SHALL NOT BE REPRODUCED, OR COPIED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION.
5. DELETED
6. DESIGNED TO MEET THE REQUIREMENTS OF RTCA D0-160B ENV. CAT.: F2ACX/YJML/XXXXXX
7. RATED TO 600 KNOTTS TAS @ 25, 00 FT
8. WEIGHT : 0.5 LBS

ASSEMBLY DRAWING C27519

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, Inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS	DATE	RADIO TELEPHONE ANTENNA WIDE BAND 406-512 MHz
MACHINE FINISH 125✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN H. N GUYEN	7/27/87	
MATERIAL : --	CHECK S. ALEXANDER	5/01/88	
	ENGR D. HOLLOWAY	4/27/88	
	MFG R. SNYDER	4/29/88	DWG SIZE D · CODE IDENT 51351 · DWG. NO. CI 275-* · REV. F
DO NOT SCALE DRAWING	QC		SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1

DRAWING CI275-1-4 REV. A

Comant CI 285

Radiotelephone

The most important thing we build is trust

CI 285 Radiotelephone

UHF blade antenna design for high performance aircraft over the full range of 400-960 MHz. Low profile, low drag, light weight antenna is packaged in a molded body and metal mounting base to ensure stable performance in tough environmental conditions. Features vertically polarized/ omni-directional pattern, extremely wide band/high efficiency electrical performance. DC grounding for lightning protection, 6 hole mounting.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Approved for light helicopter installations.

Frequencies Covered

400-960 MHz

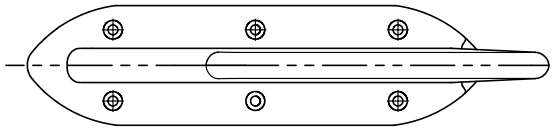
Specifications

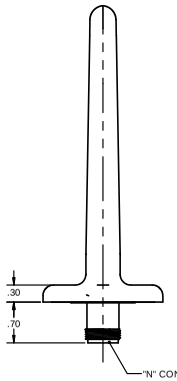
Electrical	
Frequency	400-960 MHz
VSWR	2.0:1
Polarization	Vertical
Radiation Pattern	Typical 1/4 wave stub
Impedance	50 Ohms
RF Power	100 Watts Max. Average
Mechanical	
Weight	0.75 lbs
Height	5.20 inches
Material	Lexan
Finish	Polyurethane Enamel
Connector	N (female)
Environmental	
Temperature	-55 to 85 C
Altitude	55,000 ft.
Federal Specifications	
Environmental RTCA	DO-160C

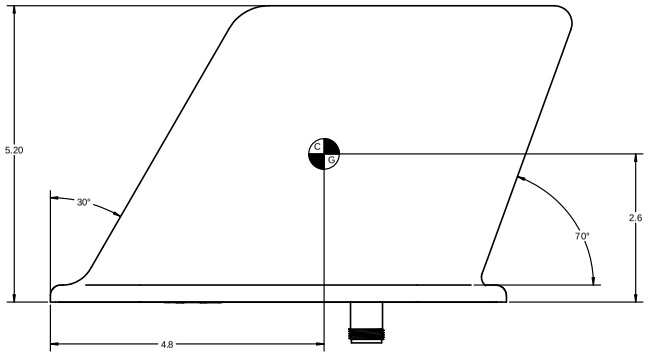
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

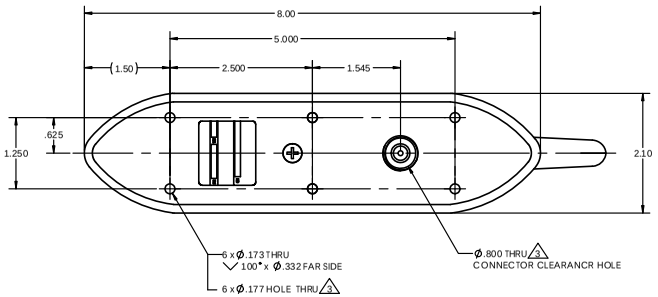
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 12-093	MN	10/26/12	DH 10/26/12









NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 400 TO 960 MHz
   - 1.2 VSWR _____ 2.0:1 MAX.
     RETURN LOSS _____ -9.54 dB
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN ____ TYPICAL OF A QUARTER WAVE STUB
   - 1.5 RF POWER _____ 100 WATTS
   - 1.6 IMPEDANCE _____ 50 OHMS
   - 1.7 EFFICIENCY _____ 90% MIN. 400-960 MHz
2. FINISH: WHITE GLOSS PAINT NON YELLOWING.
3. HOLES THRU "OML" OF AIRCRAFT REQUIRED FOR INSTALLATION
4.
5. WEIGHT : .75 LB.
6. RATED TO 600 KNOTS @ 25,000 FT.
7. TESTED TO MEET REQUIREMENTS OF RTCA D0-160C, ENV. CAT.:F2-XCCXXXXXXXXXXXXXXX

INSTALLATION DRAWING
ASSY DWG C28521

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	10/10/89
CHECK	D. HOLLOWAY	03/30/92
ENGR	S. CASLOW	03/09/92
MFG	R. SNYDER	04/03/92

Comant Industries, Inc.

ANTENNA- WIDE BAND UHF

DWG SIZE	CODE IDENT	DWG NO.	REV.
D	51351	CI 285	A

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

REV A
CI 285

CI 295-200

Dual Port - Public Service Spectrum

The most important thing we build is trust

CI 295-200 Dual Band - Dual Port

This single antenna offers frequency spectrum coverage for two of the most used Public Service bands by Search and Rescue teams around the world. Dual ports provide maximum effectiveness and flexibility, allowing the user connectivity to any radio set required for the mission.

Helicopter rated for some of the toughest vibration environments, Cobham's CI 295 Dual Band / Dual Port antenna saves installation time and space with its small, single footprint. This permits space on the aircraft for other antennas and equipment vital to the many missions and operations tasked.

Applications

Helicopters and fixed wing turbine powered aircraft. Consult your FBO or installation shop for best application information. Standard equipment on Los Angeles County Sheriff Search & Rescue Eurocopter AS332 L1 Super Puma helicopters.

Frequencies Covered

136-174 MHz VHF
380-520 MHz UHF

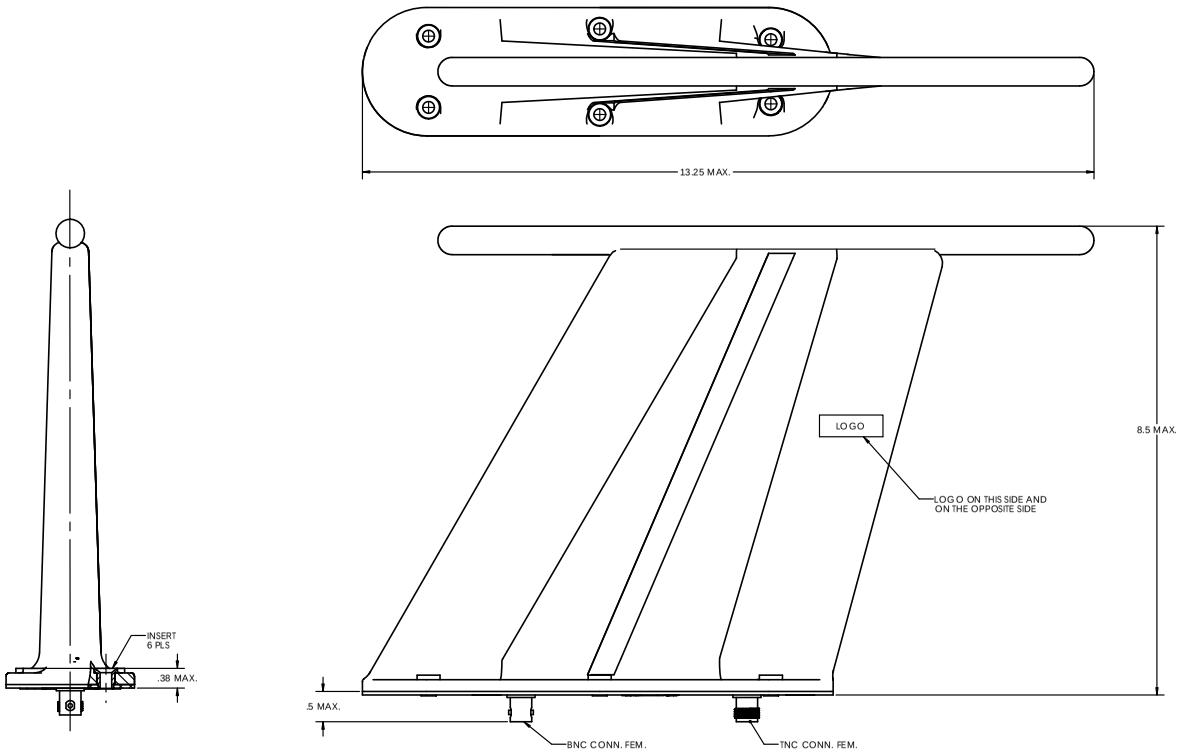
Specifications

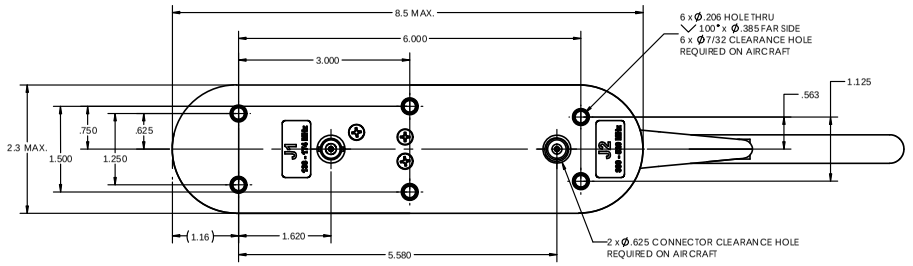
RF Characteristics	
Frequency	136-174 MHz 380-520 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Output Impedance	50 Ohms
RF Power	10 Watts C.W. Maximum
Mechanical / Environmental	
Weight	2.00 Lbs. Maximum
RTCA Environmental	DO-160G
Connectors	BNC / 136-174 MHz TNC / 380-520 MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	6/29/11	DH 6/29/11
B	REF ECN 11-076	MN	11/23/11	DH 11/23/11
C	REF ECN 14-005	MN	01/09/14	DH 01/09/14
D	REF ECN 14-125	MN	11/21/14	DH 11/25/14





ASSY DWG. D29501

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:

FREQUENCY	136-174 MHz	380-520 MHz
VSWR	3.0:1 MAX.	3.0:1 MAX.
R/L	-6.0 dB	-6.0 dB
POLARIZATION	VERTICAL	
RADIATION PATTERN	OMNI-DIRECTIONAL	
IMPEDANCE	50 OHMS	
RF POWER	10 WATTS CW MAX.	

2. ENVIRONMENT TEST CATEGORIES:
   RTCA/DO-160G ENV. CAT.: [F2X]ACE[R(C,C1)H(R)U2]XSFSXSXXXX[XXX][XX]X
   [XXXXXX][XX]AXX, MIL-STD-810G METHOD 514.6 VIBRATION CAT. 14, 24
3. CONNECTORS:
   J1: BNC (F) 136 -174 MHz
   J2: TNC (F) 380 - 520 MHz
4. FINISH: POLYURETHANE WHITE PAINT.
5. WEIGHT: 2.00 LBS MAX.
6. INSTALLATION INSTRUCTION A29537 SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD
--		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

Comant Industries, Inc.

ANTENNA-VHF/UHF

APPROVALS		DATE
DRAWN	M. NGUYEN	6/29/11
CHECK	D. HOLLOWAY	6/29/11
ENGR	D. HOLLOWAY	6/29/11
MFG	J. JONES	6/29/11
QC	S. ADAMS	6/29/11

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 295-200	D

SCALE: 1:1 CAD FILE: -- SHEET: 1 OF 1

CI 295-200 REV D

CI 295-250

Dual Port - Public Service Spectrum

The most important thing we build is trust

CI 295-200 Dual Band - Dual Port

This single antenna offers frequency spectrum coverage for two of the most used Public Service bands by Search and Rescue teams around the world. Dual ports provide maximum effectiveness and flexibility, allowing the user connectivity to any radio set required for the mission.

Helicopter rated for some of the toughest vibration environments, Cobham's CI 295 Dual Band / Dual Port antenna saves installation time and space with its small, single footprint. This permits space on the aircraft for other antennas and equipment vital to the many missions and operations tasked.

Applications

Helicopters and fixed wing turbine powered aircraft. Consult your FBO or installation shop for best application information. Standard equipment on Los Angeles County Sheriff Search & Rescue Eurocopter AS332 L1 Super Puma helicopters.

Frequencies Covered

136-174 MHz VHF
764-870 MHz UHF

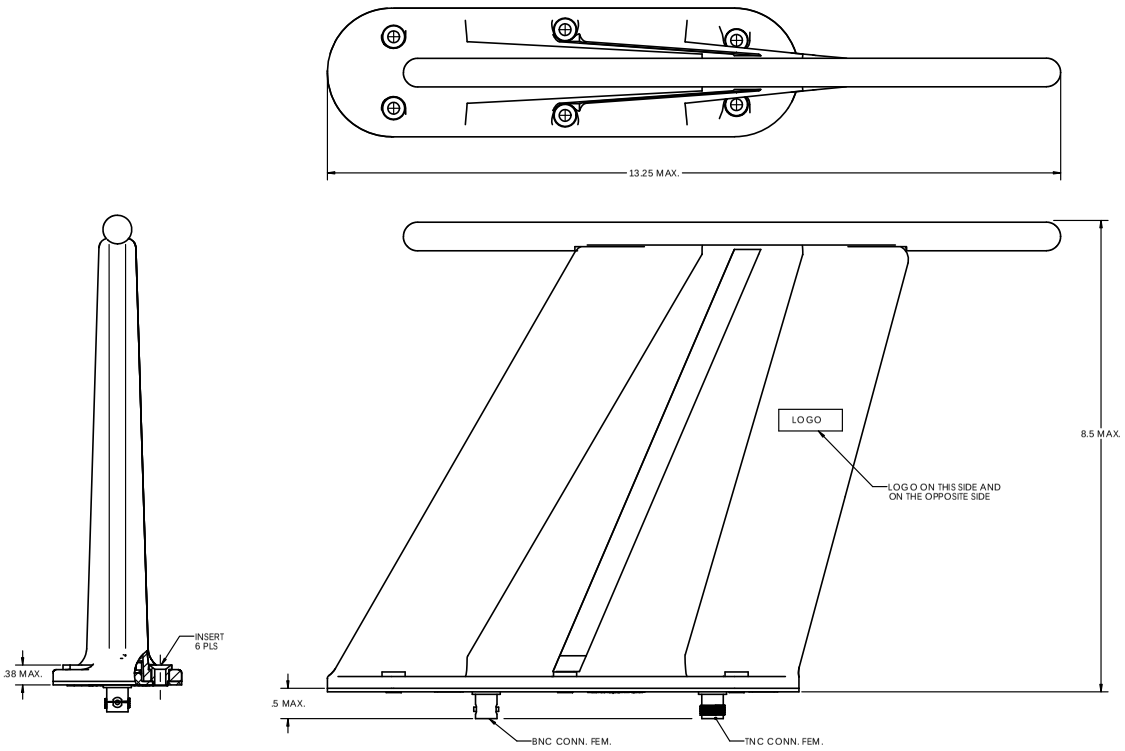
Specifications

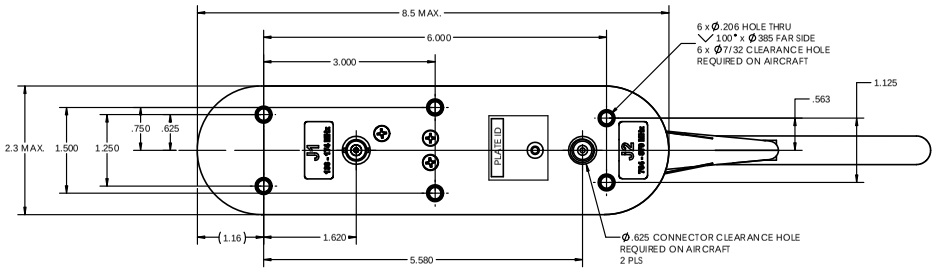
RF Characteristics	
Frequency	136-174 MHz 764-870 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Output Impedance	50 Ohms
RF Power	10 Watts C.W. Maximum
Mechanical / Environmental	
Weight	2.00 Lbs. Maximum
RTCA Environmental	DO-160G
Connectors	BNC / 136-174 MHz TNC / 764-870 MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	07/01/11	DH 07/01/11
B	REF ECN 11-078	MN	11/29/11	DH 11/29/11
C	REF ECN 14-006	MN	01/09/14	DH 01/09/14
D	REF ECN 14-124	MN	11/21/14	DH 11/25/14





ASSY DWG. D29524

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:

FREQUENCY	136-174 MHz	764-870 MHZ
VSWR	3.0:1 MAX.	3.01 MAX.
R/L	-6.0 dB	-6.0 dB
POLARIZATION	VERTICAL	
RADIATION PATTERN	OMNI-DIRECTIONAL	
IMPEDANCE	50 OHMS	
RF POWER	10 WATTS CW MAX.	

2. ENVIRONMENT TEST CATEGORIES:
   RTCA/DO-160G ENV. CAT.: [F2X]ACE[R(C,C1)H(R)U2]XSFSXSXXXX[XXX][XX]X [XXXXXX][XX]AXX, MIL-STD-810G METHOD 514.6 VIBRATION CAT. 14, 24
3. CONNECTORS:
   J1: BNC (F) 136 -174 MHz
   J2: TNC (F) 764 - 870 MHz
4. FINISH: POLYURETHANE WHITE PAINT.
5. WEIGHT: 2.00 LBS MAX.
6. INSTALLATION INSTRUCTION A29538 SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD
--	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M. NGUYEN	07/01/11
CHECK	D. HOLLOWAY	07/01/11
ENGR	D. HOLLOWAY	07/01/11
MFG	J. JONES	07/01/11
QC	S. ADAMS	07/01/11

Comant Industries, Inc.

ANTENNA-VHF/UHF DUAL BAND

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 295-250	D

SCALE: 1:1 CAD FILE: -- SHEET: 1 OF 1

CI 295-250 REV D

Comant CI 295-300 Series

Single Port - Public Service Spectrum

The most important thing we build is trust

CI-295-300 Tri-Band Single Port

Our new Tri-Band Single Port airborne SAR antenna is specifically designed to work within the public service spectrum and with radios operating within Motorola's® APX architecture.

All of our new SAR antennas, including the CI 295-300, operate within P25 standards for maximum effectiveness and connectivity.

Helicopter rated for some of the toughest vibration environments, Cobham's single port saves time and space during installation due to its small footprint. This permits space for the addition of other mission critical antennas.

Applications

Helicopters and fixed wing turbine powered aircraft. Some light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

VHF 136-174 MHz
UHF 380-520 MHz
UHF 764-870 MHz

CI 295-300 White
CI 295-300-4 Black (shown)

Specifications

VHF Specifications

Frequency	136-174 / 380-520 / 764-870 MHz
VSWR	3.0:1 Maximum
Polarization	Vertical
Radiation Pattern	Omni Directional
Impedence	50 Ohms
Power Rating	10 Watts CW Maximum

Mechanical / Environmental

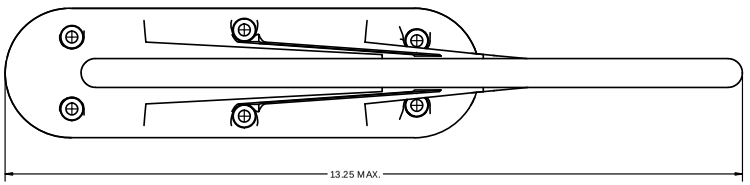
RTCA	DO-160G
MIL-STD	810G Method 514.6 Vibration Cat. 14-24
Connector	J1 TNC (F)
Finish	Polyurethane white paint (standard)
Weight	2.0 LBS. Maximum
Installation Instr.	A29546 Supplied with Antenna

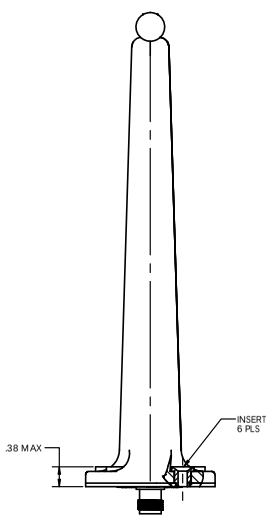
CI 295-300-4 Black (shown)

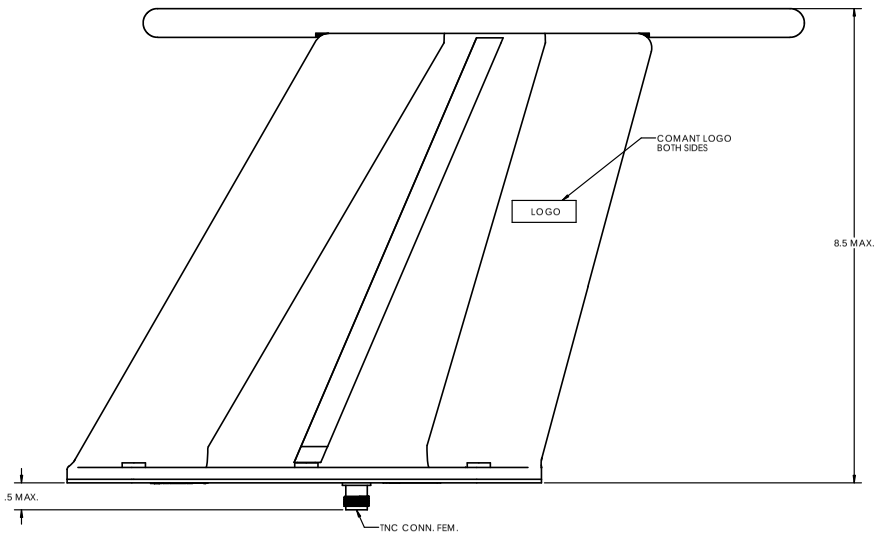
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	08/21/13	DH 8/21/13
B	REF ECN 14-026	MN	02/07/14	DH 2/07/14





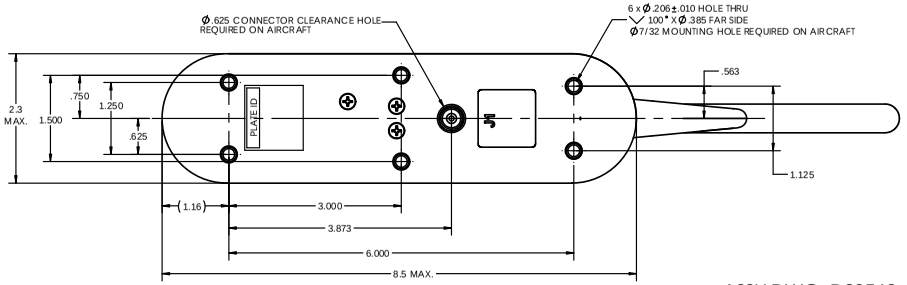


NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:

FREQUENCY	136-174 MHz	380-520 MHz	764-870 MHz
VSWR	3.0:1 MAX.	3.0:1 MAX.	3.0:1 MAX.
R/L	-6.0 dB	-6.0 dB	-6.0 dB
POLARIZATION	VERTICAL		
RADIATION PATTERN	OMNI-DIRECTIONAL		
IMPEDANCE	50 OHMS		
RF POWER	10 WATTS CW MAX.		

2. ENVIRONMENT TEST CATEGORIES:
   RTCA/DO-160G ENV. CAT.:
   [FZX]AC[E[R(C,C1)H(R)U2]XSFSXSXXXX[XXX][XX]X[XXXXXX][XX]AXX
   MIL-STD-810G METHOD 514.6 VIBRATION CAT. 14,24.
3. CONNECTOR:
   J1: TNC (F) 136-174 MHz, 380-520 MHz, 764-870 MHz
4. FINISH: POLYURETHANE WHITE PAINT.
5. WEIGHT: 2.0 LBS MAX.
6. INSTALLATION INSTRUCTION A29546 SUPPLIED WITH ANTENNA.



ASSY DWG. D29542

INSTALLATION DRAWING

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD
--	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
XX ± .01 XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

Comant Industries, Inc.

APPROVALS		DATE
DRAWN	M.NGUYEN	8/15/13
CHECK	D. HOLLOWAY	8/20/13
ENGR	D. HOLLOWAY	8/20/13
MFG	J. JONES	8/20/13
QC	S. ADAMS	8/20/13

ANTENNA-VHF/UHF

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 295-300	B

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

CI 295-300 REV B

Comant CI 306

Radiotelephone

The most important thing we build is trust

CI 306 Radiotelephone

Stub-type antenna tuned for the 800-870 MHz radio telephone band. Intended for use on low-flying aircraft and helicopters. CI 306 available with BNC connector and mounts through a single 0.600" inch diameter hole.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

800-870 MHz

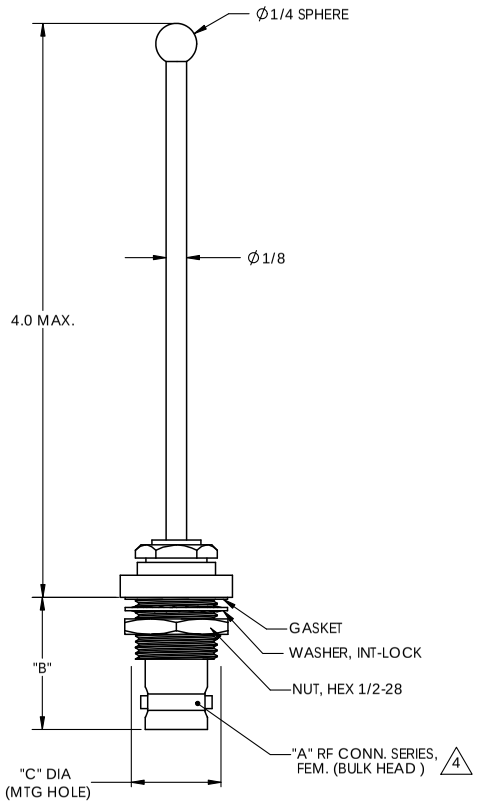
Specifications

Electrical	
Frequency	800-870 MHz
VSWR	1.5:1
Polarization	Vertical
Radiation Pattern	Typical of 1/4 wave stub
Impedance	50 Ohms
RF Power	50 Watts Average
Mechanical	
Weight	0.15 lbs
Height	4.0 inches Maximum
Material	Nickel plated brass
Finish	Tin-Nickel Alloy
Connector	BNC
Environmental	
Temperature	-55 to 70 C
Altitude	25,000 ft.

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL



ASSY DWG	DASH NO.	"A" CONN. TYPE	"B" DIM.	"C" DIA
C10601-1	BSC	BNC	.68	.515
	-2	TNC	.68	.515
	-3	C	.75	.635
	-4	RESERVED	N/A	N/A
C27101-3	-5	N	.90	.635

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY : 800 TO 870 MHz
   - VSWR : 1.5 :1 MAX.
   - POLARIZATION : VERTICAL
   - RADIATION PATTERN : TYPICAL OF A 1/4 WAVE STUB
   - POWER RATING : 50 WATTS AVERAGE
2. FINISH : TIN-NICKEL ALLOY
3. WEIGHT: 0.15 LBS
4. BNC CONNECTOR PICTORIALLY SHOWN
5. SPEED RATING : 250 KNOTS TAS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .010 .XXX ± .005
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	KARA	03/17/86
CHECK	R. QUAN	03/26/86
ENGR	R. QUAN	03/26/86
APPD	R. SICCAMAS	03/26/86

Comant Industries, Inc.

ANTENNA
RADIO TELEPHONE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 306-*	A

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 306-* REV. A

Comant CI 310 Series

Radiotelephone

The most important thing we build is trust

CI 310 Series Radiotelephone

L Band / UHF blade antenna designed for high performance aircraft. Low profile, light weight antenna and is packaged in a molded body with metal mounting base to ensure stable environmental performance and resistance to vibration, rain erosion and cleaning solvents. Features vertical/omnidirectional pattern, wide band/high efficiency electrical performance and DC grounding for lightning protection.

CI 310-20 BNC Connector
CI 310-22 TNC Connector

CI 310-22-4 TNC Connector / Black

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

806-960 & 1030-1090 MHz

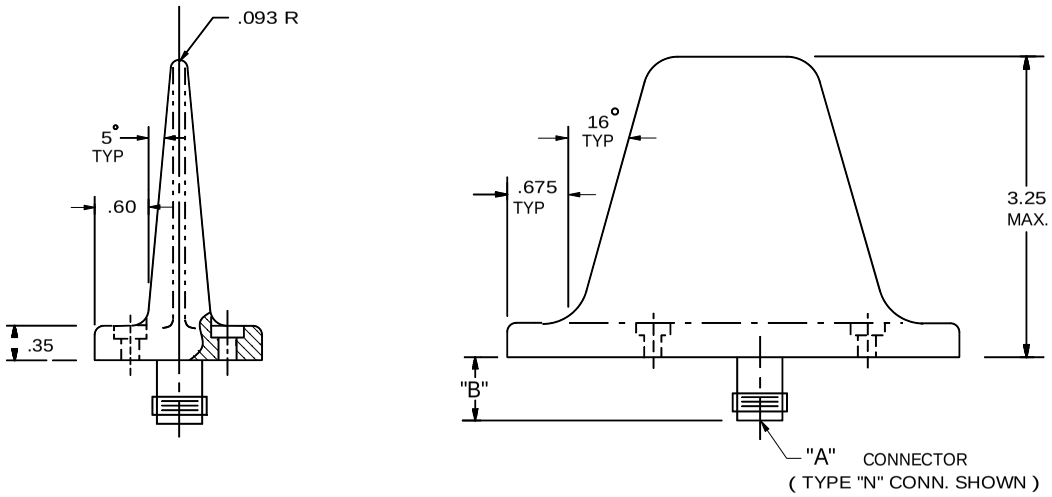
Specifications

Electrical	
Frequency	806-960 MHz & 1030-1090 MHz
VSWR	1.75:1 @ 806 to 960 MHz 1.5:1 @1030 to 1090 MHz
Polarization	Vertical
Radiation Pattern	Equivalent 1/4 Wave Stub
Impedance	50 Ohms
RF Power	100 Maximum Watts Average
Mechanical	
Weight	0.32 lb
Height	3.25 inches
Material	High Density Polyurethane
Finish	White Polyurethane Enamel
Connector	BNC or TNC (specify)
Environmental	
Temperature	-55 to 70 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C74a, Class 1A
Environmental RTCA	DO-160C

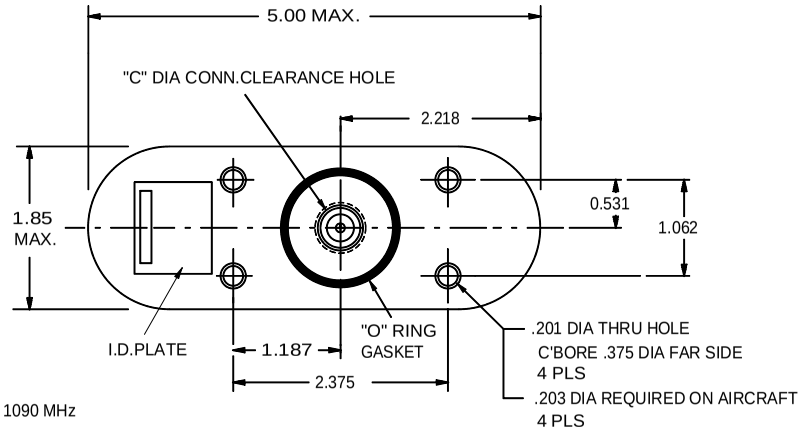
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	REF ECN 04-39 HN	03/23/04	DH 03/23/04



DASH NO.	"A" CONN. TYPE	"B" DIM	"C" DIA
-20	BNC	.50	.575
-22	TNC	.50	.575
-23	C	.75	.750
-24	RESERVED		
-25	N	.70	.800



NOTES:

1. RF CHARACTERISTICS:

FREQUENCY	806 TO 960 MHz AND 1030 TO 1090 MHz
VSWR	1.75:1 MAX. AND 1.5:1 MAX.
POLARIZATION	VERTICAL
RADIATION PATTERN	TYPICAL OF A QUATER WAVE STUB.
RF POWER	100 WATTS MAX. AVG.
IMPEDANCE	50 OHMS
EFFICIENCY	90% MIN.

2. FINISH: WHITE POLYURETHANE PAINT
3. TSO C74a, CLASS 1A DO-160C ENV.CAT.: [A2F2]-AC[CLMY]XRFXXSXXXXXXXXXX
4. RATED TO 600 KNOTS TAS @ 25,000 FT
5. WEIGHT: 0.32 Lb.

NEXT ASSY	USED ON	DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ±.010 XXX ±.005
FRACTIONS ± 1/16 ANGLES ± 1°
MACH.FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL

DO NOT SCALE DRAWING

CONTRACT NO.

DATE 07 JULY 1994

DFTSM	H.Nguyen	07/07/94
CHECK	D.J.Holloway	07/07/94
ENGR	S.Caslow	07/07/94
APPD	R.N.Alexander	07/07/94

Comant Industries, Inc.

TITLE
ANTENNA-
L-BAND/TRANSPONDER

DWG. SIZE	CODE IDENT	DWG. NO.
C	51351	CI 310-20..-25

SCALE : 1/1 | WT | SHEET 1 OF 1

CI 310-20--25 A

Comant CI 101

Transponder

The most important thing we build is trust

CI 101 Transponder

Transponder antenna with top loaded stub monopole. Antenna radiator is mechanically captivated and is machined from solid brass for impact resistance. Contact points are made from beryllium copper. Metallic parts are plated with bright nickel for corrosion protection. Mounts through a single 0.600" diameter mounting hole. The only model of this type with FAA TSO Authorization.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

1030-1090 MHz

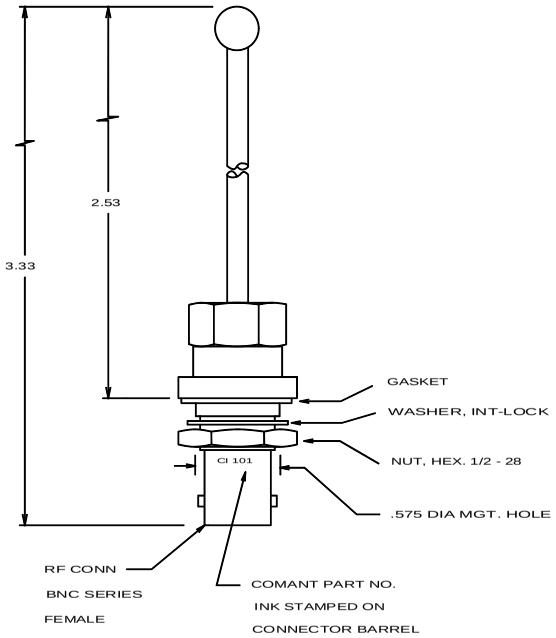
Specifications

Electrical	
Frequency	1030 to 1090 MHz
VSWR	1.5:1 1030 MHz / Return Loss 14.0 dB 1.5:1 1090 MHz / Return Loss 14.0 dB
Polarization	Vertical
Radiation Pattern	Equivalent of 1/4 wave stub typical
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	1.0 KW Peak
Mechanical	
Weight	0.06 lb. Maximum
Height	3.33 in. Maximum
Finish	Tin-nickel Alloy
Connector	BNC (Female)
Environmental	
Temperature	-54C to +55C
Altitude	30,000 ft
Federal Specifications	
RTCA Env. / MOPS	DO-138
FAA TSO	C74c

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
D	REDRAWN. REF ECN 03-79. PREVIOUS REVISIONS ON FILE. HN	03/05/03	DH 04/09/03



INSTALLATION DRAWING

NOTES:

1. RF CHARACTERISTICS

VSWR AT 1030 MHz	1.5:1 MAX.	RETURN LOSS	14.0 dB
VSWR AT 1090 MHz	1.5:1 MAX.	RETURN LOSS	14.0 dB
POLARIZATION	VERTICAL		
RADIATION PATTERN	TYPICAL OF A QUATER WAVE STUB		
RF POWER	1.0 KW PEAK		
GROUND PLANE	9-1/2 ' x 4 ' ALUMINUM SHEET		

2. FINISH: TIN-NICKEL ALLOY
3. TSO C74c, DO-138 ENV.CAT.: BAJXXXXXXXXX
4. WEIGHT : .06 LB
5. INSTALLATION INFORMATION : ONE .575 DIA HOLE THRU OML OF AIRCRAFT REQUIRED.
6. AIRSPEED RATING : 300 KNOTS TAS

ASSY DWG. C10127

D

CI 101

NEXT ASSY	USED ON	DWG DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH.FINISH 125√ PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.,
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE MAR 05-03

DFTSM	H.Nguyen	03/05/03
CHECK	J. Gomez	4/9/03
ENGR	D.J.Holloway	4/9/03
QC	P.Bosneanu	4/9/03
APPD	D.J.Holloway	4/9/03

Comant Industries, Inc.

TITLE
ANTENNA-
TRANSPONDER STUB

DWG. SIZE	CODE IDENT	DWG. NO.
C	51351	CI 101

SCALE: NONE | WT | SHEET 1 OF 1

Comant CI 105

DME/Transponder

The most important thing we build is trust

CI 105 DME Transponder

Broadband and rugged antenna designed for DME or transponder use. Antenna assembly encased in a glass reinforced polyester molded shell. Standard two stud mounting configuration. CI 105 includes a BNC connector.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

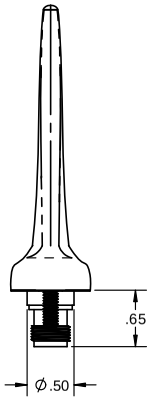
Specifications

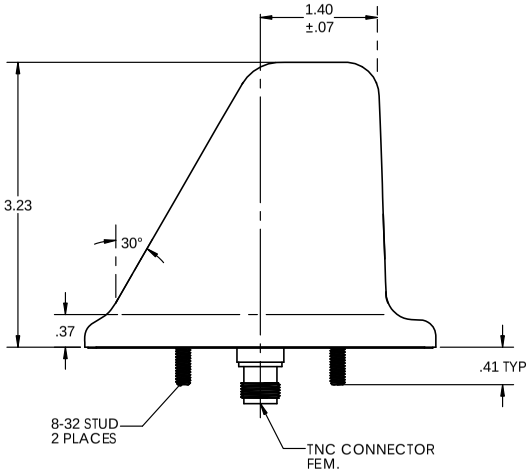
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.24 lbs
Height	3.23 inches
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-54 C to +55 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66b, C74c
RTCA Environmental	DO-160C
Gasket	B10505

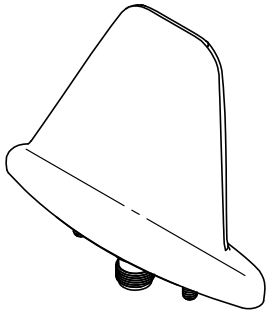
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

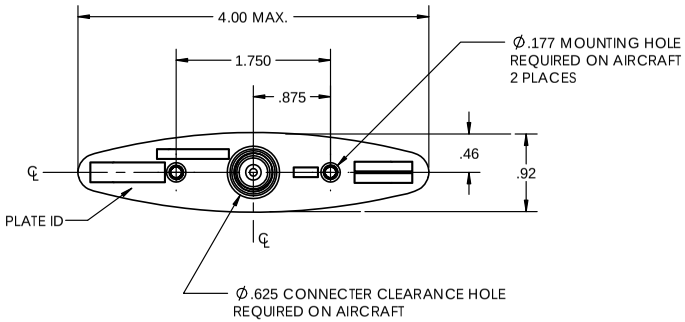
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 95-127	HN	10/25/95	DH 10/30/95
B	REF ECN 04-59	HN	4/13/04	DH 04/13/04
C	REF ECN 13-013	MN	4/18/13	DH 4/18/13









ANTENNA P/N	COLOR △2	ASSY DWG.
CI 105-11	WHITE	C105101
CI 105-11-4	FLAT BLACK	C105101-4

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 960 TO 1220 MHz
   - VSWR _____ 1.5:1 MAX. @ 960 TO 1220 MHz
   - 1.3:1 MAX @ 1025 TO 1150 MHz
   - RF POWER _____ 2.5 KW PEAK
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: SEE TABLE
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. TSO C66b, C74c, D0-160A ENV. CAT.: E1B/JLY/XRHXXXXXXXX
5. WEIGHT : 0.24 LB MAX.
6. AIRSPEED: 400 KNOTS TAS @ 25,000 FT

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ±1°	APPROVALS		DATE	ANTENNA- DME TRANSPONDER			
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	H. NGUYEN	1/11/93				
	CHECK	D. HOLLOWAY	4/29/93				
	ENGR	D. HOLLOWAY	4/26/93				
MATERIAL :	APPD	R. ALEXANDER	4/29/93	DWG SIZE C	CODE IDENT 51351	DWG. NO. CI 105-11-*	REV. C
DO NOT SCALE DRAWING				SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	

DWG NO CI 105-11-* REV. C

Comant CI 105-3

DME/Transponder

The most important thing we build is trust

CI 105-3 DME Transponder

Comant CI 105-3 DME/Transponder antenna. Identical to the CI 105 in operating characteristics. Antenna configuration specifically designed for external applications using a three hole flange mounting. BNC female connector.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

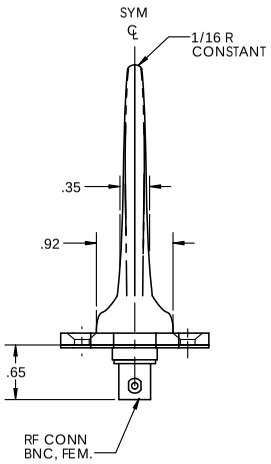
Specifications

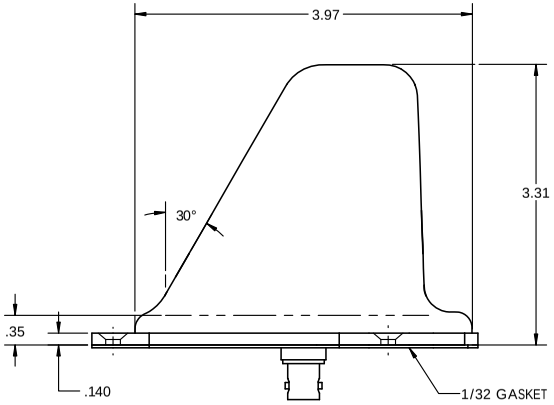
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.24 lbs
Height	3.31 inches
Finish	Polyurethane Enamel
Connector	BNC (female)
Environmental	
Temperature	-54 C to +55 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66b, C74c
RTCA Environmental	DO-160C
Gasket	B10535

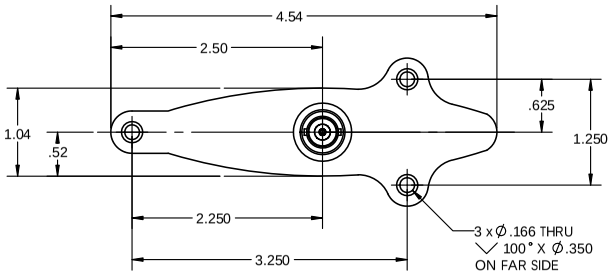
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL







INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 960 TO 1220 MHz
   - 1.2 VSWR _____ 1.5:1 MAX. @ 960 TO 1220 MHz
     1.3:1 MAX @ 1025 TO 1150 MHz
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
   - 1.5 RF POWER _____ 2.5 KW PEAK
2. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. TSO C66b, C74c, D0-160C ENV. CAT.: [E1]-B[CLY]XRHXXXXXXXXXXXXX
5. WEIGHT : 0.24 LBS
6. SPEED RATING: 450 KNOTS TAS @ 25,000 FT

ASSY DWG. C10531

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	10/15/77
CHECK	D.DAMARAS	01/15/78
ENGR	H. SUMMERS	01/15/78
APPD	H. SUMMERS	01/15/78

Comant Industries, inc.

ANTENNA -BLADE DME TRANSPONDER

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 105-3	E

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO. CI 105-3 REV. E

Comant CI 105-6 & CI 105-7

DME/XPDR

The most important thing we build is trust

CI 105-6 & CI 105-7 DME/XPDR

Comant CI 105-6 & CI 105-7 DME/Transponder antenna. Identical to the CI 105 in operating characteristics. The antenna is designed for external applications using a four hole flange mounting. BNC female connector.

CI 105-6 BNC
CI 105-7 C

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

Specifications

Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.40 lbs
Height	3.31 inches
Finish	Polyurethane Enamel
Material	Molded Radome
Connector CI 105-6	BNC
Connector CI 105-7	C
Environmental	
Temperature	-54 C to +55 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66b, C74c
RTCA Environmental	DO-160C
Gasket	B10006-1

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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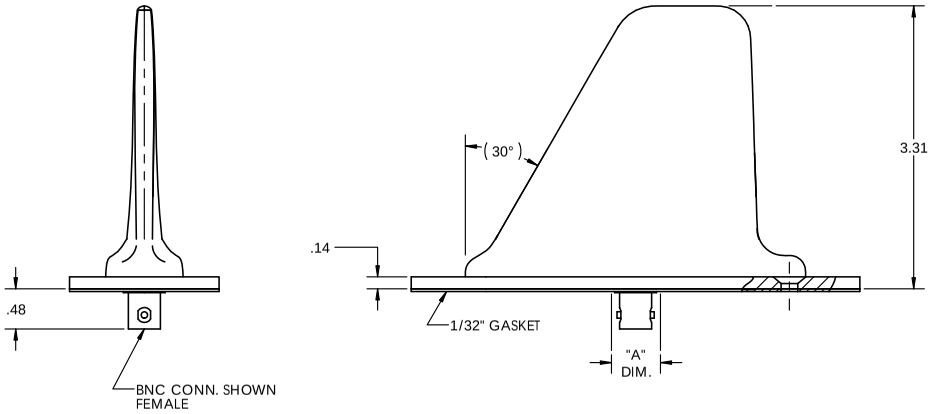
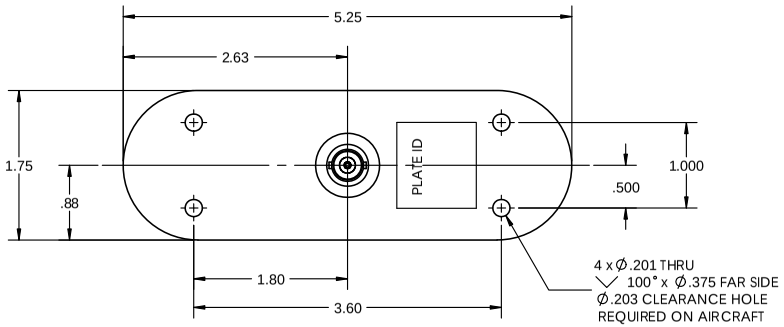
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL





ANTENNA MODEL *	CONNECTOR TYPE	"A" DIM
CI 105-6	BNC	.575
CI 105-7	C	.750

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 960 TO 1220 MHz, 1025 TO 1150 MHz
   - 1.2 VSWR _____ 1.5:1 MAX. , 1.3:1 MAX.
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: WHITE POLYURETHANE PAINT
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. MEET REQUIREMENTS OF TSO C66b, C74c, D0-160c ENV. CAT.: [E1]-B[CLY]XRHXXXXXXXXXXXXXX
5. WEIGHT : 0.40 LB
6. AIRSPEED RATING: 400 KNOTS TAS @ 25,000 FT

ASS DWG. C24401-*

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .X ± .03 .XX ± .01 .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 1°	APPROVALS		DATE	ANTENNA- DME TRANSPONDER			
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	BOCORONDO	4/13/82				
	CHECK	R. PORTYER	5/4/82				
	ENGR	R. PORTYER	5/4/82				
MATERIAL :	APPD	L. BROWN	5/4/82	DWG SIZE C	CODE IDENT 51351	DWG. NO. CI 105-*	REV. J
DO NOT SCALE DRAWING				SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	

DWG NO CI 105-* REV. J

Comant CI 105-9

DME/Transponder

The most important thing we build is trust

CI 105-9 DME/Transponder

Broadband and rugged antenna designed for DME or Transponder use. Antenna assembly encased in a glass reinforced polyester molded shell.

CI 105-9 comes standard with a 6" extension coax cable and BNC connector. This model offers standard two stud mounting, where the studs are extended to 1 inch in length.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

Specifications

Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.30 lbs
Height	3.23 inches
Finish	Polyurethane Enamel
Connector	Cable Terminal - BNC (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66b, C74c
RTCA Environmental	DO-160A
Gasket	B10505

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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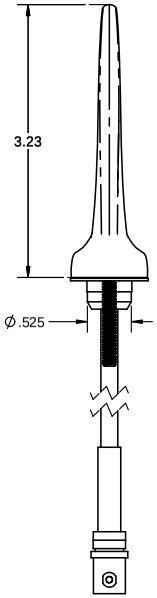
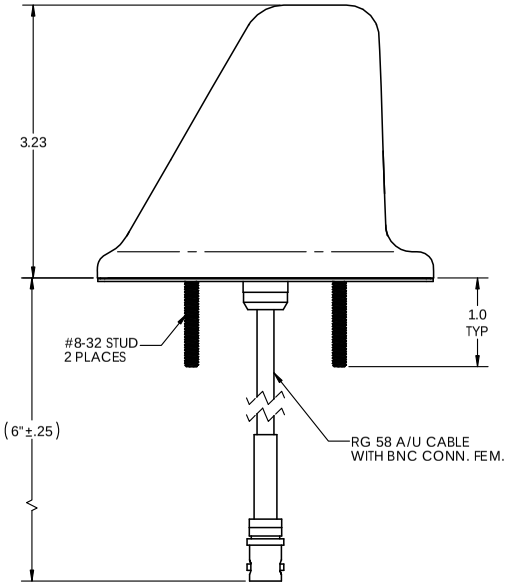
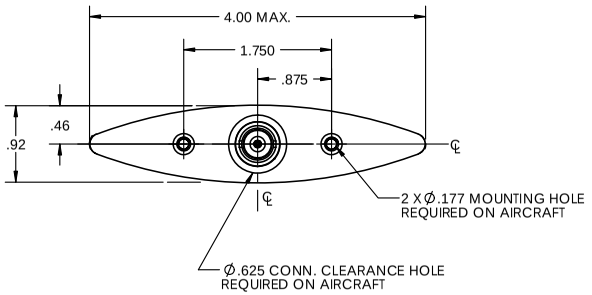
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 04-64	HN	5/29/90	DH 5/29/90
F	REF ECN 16-103	MN	11/03/16	DH 11/04/16







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 960 TO 1220 MHz
   - VSWR _____ 1.5:1 MAX. @ 960 TO 1220 MHz
     1.3:1 MAX @ 1025 TO 1150 MHz
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
   - RF POWER _____ 2.5 KW PEAK
2. DELETED
3. MOUNTING SURFACE, CONNECTOR AND STUDS ARE FREE OF PAINT.
4. AIRSPEED: 400 KNOTS TAS @ 25,000 FT
5. TSO C66b, C74c, D0-160c ENV. CAT.: [E1]-B[CLY]XRHXXXXXXXXXXXXX
6. WEIGHT : 0.30 LBS MAX.

REV. F
DWG NO. CI 105-9

INSTALLATION DRAWING

ASSY DWG.C10501-9

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : DO NOT SCALE DRAWING	CONTRACT NO.		
	APPROVALS		DATE
	DRAWN	H. NGUYEN	04/15/04
	CHECK	R. GOMEZ	04/22/04
	ENGR	D. HOLLOWAY	04/22/04
	QC	C. DARABAN	04/22/04
	APPD	D. HOLLOWAY	04/22/04

Comant Industries, Inc.

ANTENNA-
DME TRANSPONDER

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 105-9	F

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

Comant CI 105-11

DME/Transponder

The most important thing we build is trust

CI 105 DME Transponder

Broadband and rugged antenna designed for DME or transponder use. Antenna assembly encased in a glass reinforced polyester molded shell. Standard two stud mounting configuration. CI 105 includes a TNC connector.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

Specifications

Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.24 lbs
Height	3.23 inches
Finish	Polyurethane Enamel
Connector	TNC (female)
Environmental	
Temperature	-54 C to +55 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66b, C74c
RTCA Environmental	DO-160C
Gasket	B10505

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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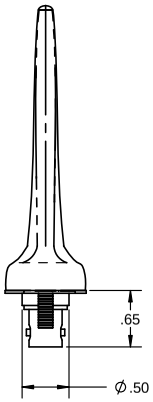
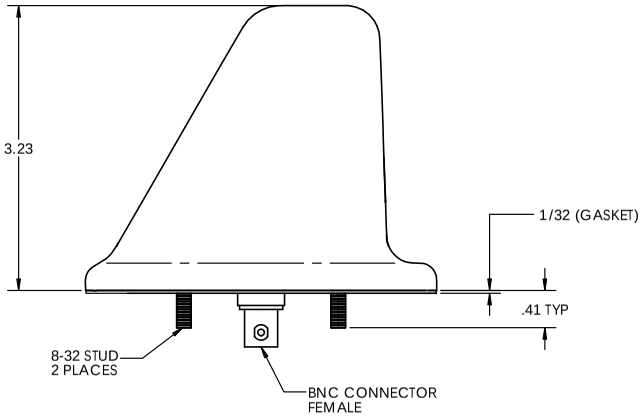
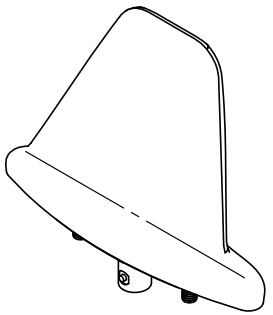
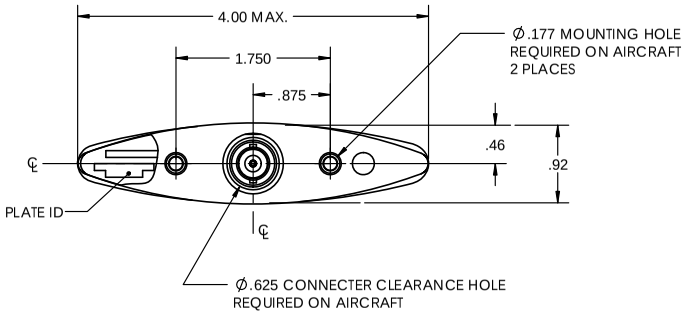
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
J	REF ECN 90-37	HN	5/29/90	DH 5/29/90
K	REF ECN 95-127	HN	10/25/95	DH 10/30/95
L	REF ECN 06-152	HN	12/04/06	DH 12/04/06
M	REDRAWN IN CAD. REF ECN 08-095	MN	12/11/08	DH 12/11/08
N	REF ECN 09-030	MN	5/26/09	DH 5/26/09









NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 960 TO 1220 MHz
   - VSWR _____ 1.5:1 MAX. @ 960 TO 1220 MHz
   - 1.3:1 MAX @ 1025 TO 1150 MHz
   - RF POWER _____ 2.5 KW PEAK
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
2. DELETED
3. MOUNTING SURFACE, CONNECTOR AND STUDS ARE FREE OF PAINT.
4. TSO C66b, C74c, D0-160c ENV. CAT.: [E1]-B[CLY]XRHXXXXXXXXXXXXX
5. AIRSPEED: 400 KNOTS TAS @ 25,000 FT
6. DELETED
7. WEIGHT : 0.24 LB
8. FINISH: SEE TABLE

CI 105-4	MATTE BLACK PAINT	D10501-4
CI 105	VALOX, WHITE	D10501
ANTENNA P/N	FINISH 8	ASSY DWG.

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	SHAWN KUG	2/1984
CHECK	R. SKEEN	2/8/84
ENGR	L. BROWN	2/21/84
APPD	L. BROWN	2/21/84

Comant Industries, Inc.

ANTENNA-
DME TRANSPONDER

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 105	N

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 105 REV. N

Comant CI 105-16

DME/Transponder

The most important thing we build is trust

CI 105-16 DME/Transponder

Broadband and rugged antenna designed for DME or Transponder use. The CI 105-16 was designed specifically to replace the Honeywell Bendix-King™ KA60.

This unit offers the extended length two-stud mounting found on the KA60.

Tested to the tougher DO-160D environmental requirements, this antenna offers the best in ruggedness and performance.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

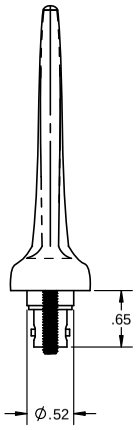
Specifications

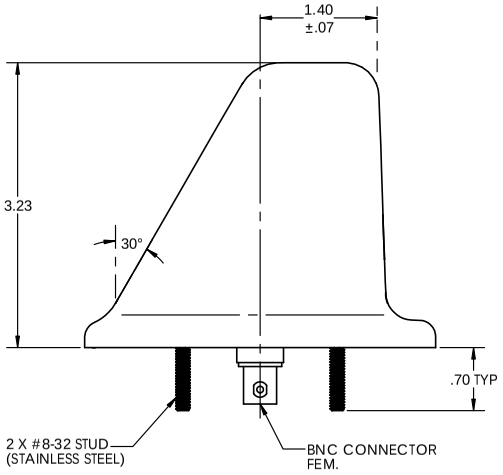
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max 960-1220 MHz 1.3:1 Max 1025-1150 MHz
Polarization	Vertical
Radiation Pattern	Equivalent to a 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	2.5 KW Peak
Mechanical	
Weight	0.2 lbs
Height	3.23 inches
Finish	Unpainted White Valox Shell
Connector	BNC (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66c, C74c
RTCA Environmental	DO-160D

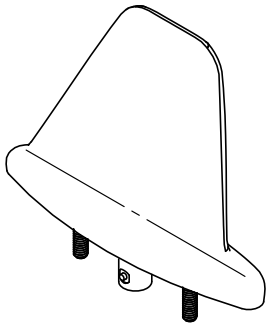
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

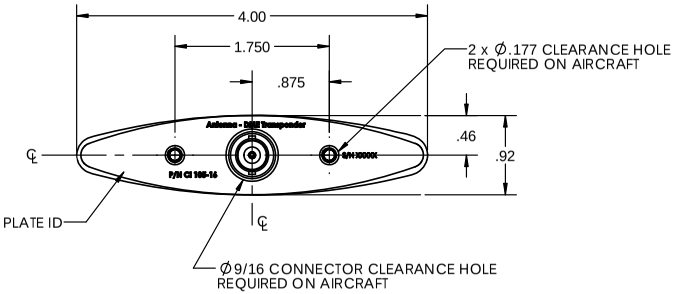
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 03-189	HN	7/23/03	DH 7/23/03
B	REF ECN 08-095	HN	12/11/08	DH 12/11/08
C	REF ECN 13-028	MN	8/7/13	DH 8/7/13









NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 960 TO 1220 MHz
   - VSWR _____ 1.5:1 MAX. @ 960 TO 1220 MHz
     1.3:1 MAX @ 1025 TO 1150 MHz
   - R/L _____ -14.0 dB MAX. @ 960-1220 MHz
     -17.7 dB MAX. @ 1025-1150 MHz
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN ____ EQUIVALENT OF A QUARTER WAVE STUB
   - RF POWER _____ 2.5 KW PEAK
2. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
3. TSO C66c, C74c, D0-160D ENV. CAT.: [E1X]XXX[C,C1,F,F1,R]XRFXXSXXXXX[XX]X[XXXX]XXX
4. WEIGHT : 0.2 Lb.
5. AIRSPEED: 400 KNOTS TAS @ 25,000 FT
6. CONSTRUCTION: UNPAINTED WHITE VALOX SHELL FILLED WITH EPOXY.

ASST DWG. C10501-16

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	APPROVALS	DATE	ANTENNA- DME TRANSPONDER
	DRAWN H. NGUYEN	3/13/00	
	CHECK D.STEWARD	5/31/00	
	ENGR D. HOLLOWAY	5/31/00	
	QC P. BOSNEANU	6/02/00	DWG SIZE C · CODE IDENT 51351 · DWG. NO. CI 105-16 · REV. C
	APPD D. HOLLOWAY	5/31/00	SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1

DWG NO CI 105 -16 REV. C

Comant CI 105-17-L

Single Port ADS-B for UAT and 1090ES

COBHAM

The most important thing we build is trust

CI 105-17-L ADS-B / TIS-B / UAT Antenna

Ideal for upcoming ADS-B FAA mandate, this is the only antenna of its kind, capable of both IN and OUT processing. Single connector blade antenna that can be used for ADS-B, TIS-B, UAT, DME or ATCRBS Transponder, plus Mode S. Unlike competitive models, the CI 105-17-L utilizes standard 6-hole mounting pattern.

TSO:

C66c
C74d
C112e
C154c
C166b

Applications

Consult your FBO or installation shop for best application information. Helicopter approved.

Frequencies Covered

960-1220 MHz
1030-1020 MHz
978 MHz
1090 ± 1 MHz

Specifications

Electrical

Frequency	960 MHz to 1220 MHz 1030 MHz to 1090 MHz 978 MHz 1090 ± 1 MHz
VSWR	2.0:1 MAX 1.5:1 MAX 1.7:1 MAX 1.5:1 MAX
Return Loss	9.54 dB MAX -13.98 dB MAX -11.73 dB -13.98 dB MAX
Polarization	Vertical
Radiation Pattern	Omni-Directional
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	1 KW Peak

Mechanical

Weight	0.3 lbs
Connector	TNC (female)
Finish	Polyurethane White Paint

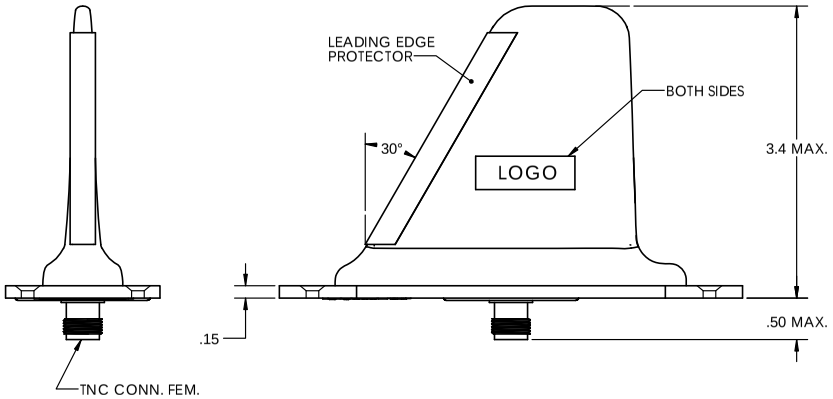
TSO-C66c, 960-1215 MHz
TSO-C74d, Class A, 1030-1090 MHz
TSO-C112e, 1030-1090 MHz
TSO-C154c, Class A3, 978 MHz
TSO-C166b, Class A, B, 1090 ± 1 MHz
RTCA/DO-160G, ENV. CAT.:
[F2X]A CE[R(C,C1)H(R)U2(F,F1)S(L)]XSFSXSXXXX[XXX][XX]X[XXXXXX][XX]AXX

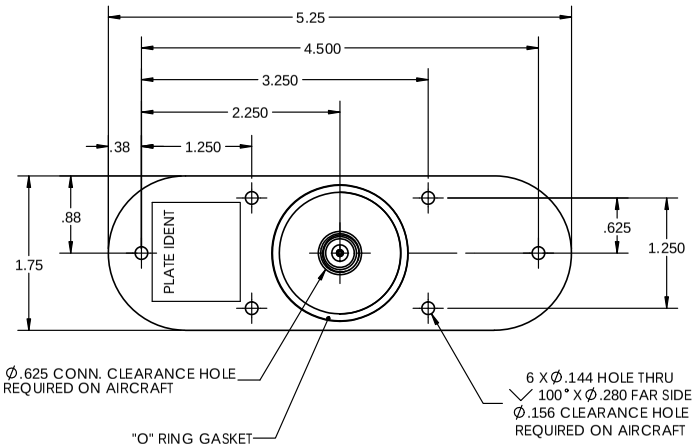
A10540 Installation Instructions Supplied with Antenna
BNC (female)

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	11/02/15	DH 11/02/15
B	REF ECN 15-103	MN	11/16/15	DH 11/16/15
C	REF ECN 15-104	MN	12/22/15	DH 12/22/15





NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS

FREQUENCY	960 MHz TO 1220 MHz	1030 MHz TO 1090 MHz	978 MHz	1090 ± 1 MHz
VSWR	2.0:1 MAX	1.5:1 MAX	1.7:1 MAX	1.5:1 MAX
RETURN LOSS	9.54dB MAX.	-13.98 dB MAX.	-11.73 dB	-13.98 dB MAX.

   POLARIZATION _____ VERTICAL
   RADIATION PATTERN ____ OMNI -DIRECTIONAL
   IMPEDANCE _____ 50 OHMS
   RF POWER _____ 1 KW PEAK
2. WEIGHT: 0.3 LB.
3. FINISH: POLYURETHANE WHITE PAINT.
4. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
5. TSO-C66c, 960-1215 MHz
   TSO-C74d, CLASS A, 1030-1090 MHz
   TSO-C112e, 1030-1090 MHz
   TSO-C154c, CLASS A3, 978 MHz
   TSO-C166b, CLASS A, B, 1090 ± 1 MHz
   RTCA/DO-160G, ENV. CAT.:
   [F2X]ACE[R(C,C1)H(R)U2(F,F1)S(L)]XSFSXSXXXX[XXX][XX]X[XXXXXX][XX]AXX
6. A10540 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

ASSY DWG C10538

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, Inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .015 FRACTIONS ± 1/32 ANGLES ± 1°	APPROVALS	DATE	ADS-B (UAT/TIS-B) ANTENNA
MACHINE FINISH 125 PER ANSI-B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN M. NGUYEN	11/02/15	
	CHECK D. HOLLOWAY	11/02/15	
	ENGR D. HOLLOWAY	11/02/15	
MATERIAL :	MFG J. JONES	11/02/15	DWG SIZE C · CODE IDENT 51351 · DWG. NO. CI 105-17-L · REV. C
DO NOT SCALE DRAWING	QC S. ADAMS	11/02/15	SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1

DWG NO CI 105-17-L REV. C

Comant CI 110-40-30

DME/Transponder

The most important thing we build is trust

CI 110-40-30 DME/Transponder

All metal, low profile antenna designed for business jet and commercial high speed aircraft. With a popular four hole mount and connector with open path to ground, this antenna is ideally suited for those aircraft equipped with standard and Mode S transponders.

Tough one-piece construction provides 175 lbs. side load capability. Integral Nitrile 'O' Ring. The only antenna of it's type to have passed [1A] lightening direct effects testing.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

960 -1220 MHz

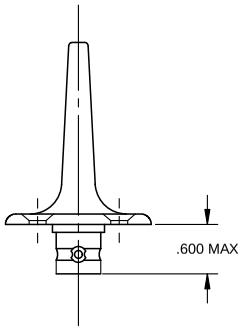
Specifications

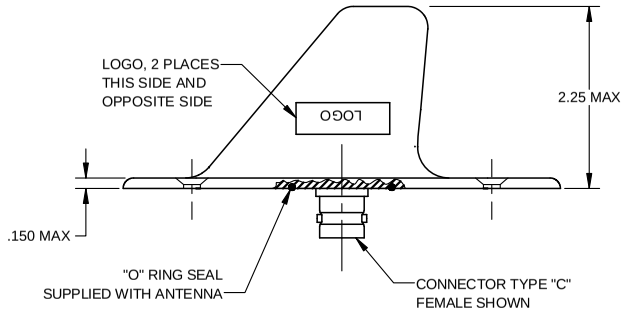
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max
Polarization	Vertical
Radiation Pattern	Omnidirectional - Equiv. 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	3.0 KW Peak / 100 watt average
Mechanical	
Weight	0.25 lbs
Height	2.25 inches
Finish	Gloss White Polyurethane Enamel
Connector	C (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66c, C74c, C112 (Class 1A)
RTCA Environmental	DO-160D
Gasket	O-ring Seal (70456)

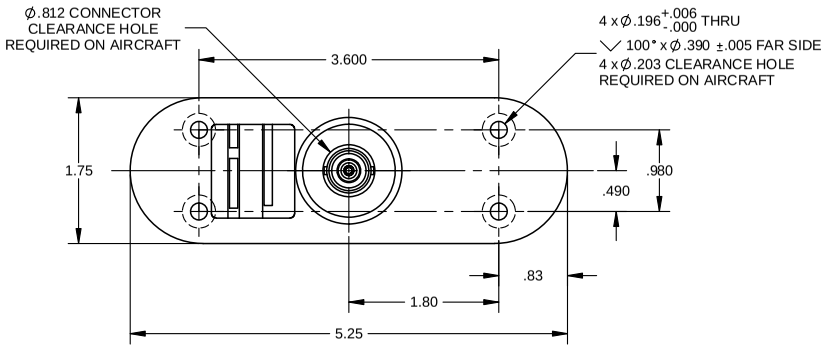
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	6/29/04	DH 6/30/04
B	REF ECN 08-095	MN	1/22/09	DH 1/22/09
C	REF ECN 14-113	MN	10/07/14	DH 10/07/14







SPECIFICATION NOTES:

1. RF CHARACTERISTICS:
   - FREQUENCY _____ 960 - 1220 MHz
   - VSWR _____ 1.5:1 MAX
   - POWER _____ PEAK 3KW
     AVERAGE 100W
   - IMPEDANCE _____ RF 50 OHMS
     DC OPEN CIRCUIT
   - POLARIZATION _____ VERTICAL
   - GAIN _____ AVERAGE AT HORIZONTAL: 0 dB
   - RADIATION PATTERN_____ OMNI DIRECTIONAL,
     EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: GLOSS WHITE POLYURETHANE ENAMEL PAINT.
3. MOUNTING SURFACE: CHEM FILM CLASS 3 CLEAR PER MIL-C-5541
4. SIDE LOAD: WILL WITHSTAND 175 LBS.
5. APPROVAL: TSO C74c (ATC TRANSPONDER)
   TSO C66c (DME)
   TSO C112 (ATCRBS / MODE S) CLASS 1A
   RTCA DO-160D ENV. CAT. :[F2X]ACB[S(L)U(F,F1)T(C,C1,R)]
   XRFDXSXXXXX[XX]X[XXXX][1A]XX.
6. WEIGHT: .25 LB.
7. A11017 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG. D11013

INSTALLATION DRAWING

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANKS	6/29/04
CHECK	J. GOMEZ	6/29/04
ENGR	D.HOLLOWAY	6/29/04
QC	S. ADAMS	6/29/04
APPD	D.HOLLOWAY	6/29/04

Comant Industries, Inc.

DME / TRANSPONDER
ATCRBS / MODE S ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 110-40-30	C

SCALE: 1 / 1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 110-40-30 REV. C

Comant CI 110-41-30

DME/Transponder

The most important thing we build is trust

CI 110-41-30 DME/Transponder

All metal, low profile antenna is designed for business jet and commercial high speed aircraft. With a popular four hole mount and connector with short path to ground, this antenna is ideally suited for those aircraft equipped with standard and Mode S transponders.

Tough one-piece construction provides 175 lbs. side load capability. Moisture failure is prevented with completely sealed construction. The only antenna of it's type to have passed [1A] lightening direct effects testing.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

960 -1220 MHz

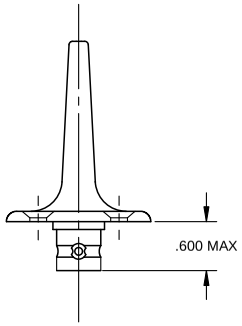
Specifications

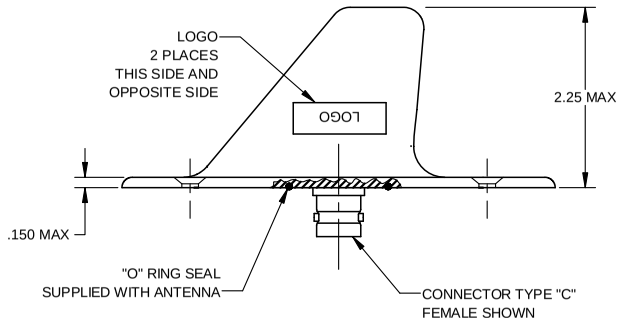
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max
Polarization	Vertical
Radiation Pattern	Omnidirectional - Equiv. 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Short Circuit
Power RF	3.0 KW Peak / 100 watt average
Mechanical	
Weight	0.25 lbs
Height	2.25 inches
Finish	Gloss White Polyurethane Enamel
Connector	C (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66c, C74c, C112 (Class 1A)
RTCA Environmental	DO-160D
Gasket	O-ring Seal (70445)

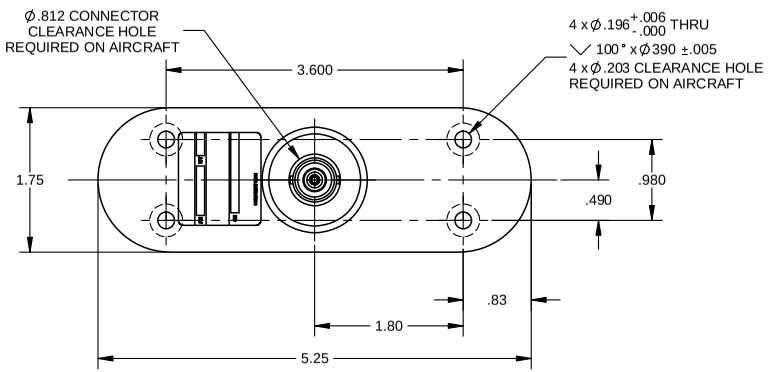
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	06/29/04	DH 06/30/04
B	REF ECN 08-095	MN	1/22/09	DH 1/22/09
C	REF ECN 14-113	MN	10/07/14	DH 10/07/14







SPECIFICATION NOTES:

1. RF CHARACTERISTICS:
   - FREQUENCY _____ 960 - 1220 MHz
   - VSWR _____ 1.5:1 MAX
   - POWER _____ PEAK 3KW
     AVERAGE 100W
   - IMPEDANCE _____ RF 50 OHMS
     DC SHORT CIRCUIT
   - POLARIZATION _____ VERTICAL
   - GAIN _____ AVERAGE AT HORIZONTAL: 0 dB
   - RADIATION PATTERN _____ OMNI DIRECTIONAL,
     EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: GLOSS WHITE POLYURETHANE ENAMEL PAINT.
3. MOUNTING SURFACE: CHEM FILM CLASS 3 CLEAR PER MIL-C-5541
4. SIDE LOAD: WILL WITHSTAND 175 LBS.
5. APPROVAL: TSO C74c (ATC TRANSPONDER)
   TSO C66c (DME)
   TSO C112 (ATCRBS / MODE S) CLASS 1A
   RTCA DO-160D ENV. CAT. :[F2X]ACB[S(L)U(F,F1)T(C,C1,R)]
   XRFDXSXXXXX[XX]X[XXXX][1A]XX.
6. WEIGHT: .25 LB.
7. A11018 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG. D11014

INSTALLATION DRAWING

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J FRANKS	06/29/04
CHECK	J GOMEZ	06/29/04
ENGR	D HOLLOWAY	06/29/04
QC	S ADAMS	06/29/04
APPD	D HOLLOWAY	06/29/04

Comant Industries, inc.

DME / TRANSPONDER
ATCRBS / MODE S ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 110-41-30	C

SCALE: 1 / 1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 110-41-30 REV. C

Comant CI 110-60-30

DME/Transponder

The most important thing we build is trust

CI 110-60-30 DME/Transponder

All metal, low profile antenna is designed for business jet and commercial high speed aircraft. With a popular six hole mount and connector with open path to ground, this antenna is ideally suited for those aircraft equipped with standard and Mode S transponders.

Tough one-piece construction provides 175 lbs. side load capability. Moisture failure is prevented with completely sealed construction. The only antenna of it's type to have passed [1A] lightening direct effects testing.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

960 -1220 MHz

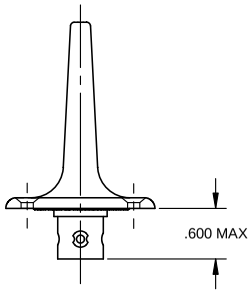
Specifications

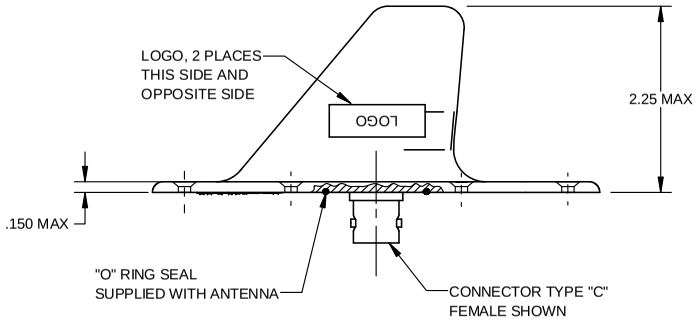
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max
Polarization	Vertical
Radiation Pattern	Omnidirectional - Equiv. 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Open Circuit
Power RF	3.0 KW Peak / 100 watt average
Mechanical	
Weight	0.25 lbs
Height	2.25 inches
Finish	Gloss White Polyurethane Enamel
Connector	C (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66c, C74c, C112 (Class 1A)
RTCA Environmental	DO-160D
Gasket	O-ring Seal (70456)

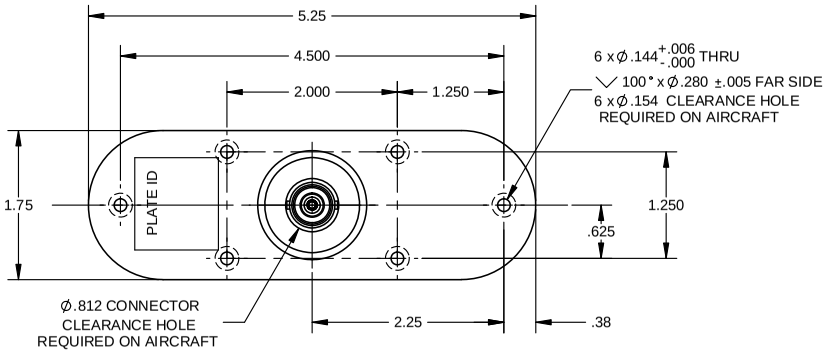
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	6/29/04	DH 6/30/04
B	REF ECN 08-095	MN	12/10/08	DH 12/16/08
C	REF ECN 14-114	MN	10/07/14	DH 10/07/14







SPECIFICATION NOTES:

1. RF CHARACTERISTICS:
   - FREQUENCY _____ 960 - 1220 MHz
   - VSWR _____ 1.5:1 MAX
   - POWER _____ PEAK 3KW
     AVERAGE 100W
   - IMPEDANCE _____ RF 50 OHMS
     DC OPEN CIRCUIT
   - POLARIZATION _____ VERTICAL
   - GAIN _____ AVERAGE AT HORIZONTAL: 0 dB
   - RADIATION PATTERN _____ OMNI DIRECTIONAL,
     EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: GLOSS WHITE POLYURETHANE ENAMEL PAINT.
3. MOUNTING SURFACE: CHEM FILM CLASS 3 CLEAR PER MIL-C-5541
4. SIDE LOAD: WILL WITHSTAND 175 LBS.
5. APPROVAL: TSO C74c (ATC TRANSPONDER)
   TSO C66c (DME)
   TSO C112 (ATCRBS / MODE S) CLASS 1A
   RTCA DO-160D ENV. CAT. :[F2X]ACB[S(L)U(F,F1)T(C,C1,R)]
   XRFDXSXXXXX[XX]X[XXXX][1A]XX.
6. WEIGHT: .25 LB.
7. A11019 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG. D11015

INSTALLATION DRAWING

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J.FRANKS	6/29/04
CHECK	J.GOMEZ	6/29/04
ENGR	D.HOLLOWAY	6/29/04
QC	S.ADAMS	6/29/04
APPD	D.HOLLOWAY	6/29/04

Comant Industries, Inc.

DME / TRANSPONDER
ATCRBS / MODE S ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 110-60-30	C

SCALE: 1 / 1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 110-60-30 REV C

Comant CI 110-61-30

DME/Transponder

The most important thing we build is trust

CI 110-61-30 DME/Transponder

All metal, low profile antenna is designed for business jet and commercial high speed aircraft. With a popular six hole mount and connector with short path to ground, this antenna is ideally suited for those aircraft equipped with standard and Mode S transponders.

Tough one-piece construction provides 175 lbs. side load capability. Moisture failure is prevented with completely sealed construction. The only antenna of it's type to have passed [1A] lightening direct effects testing.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

960 -1220 MHz

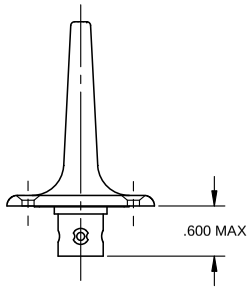
Specifications

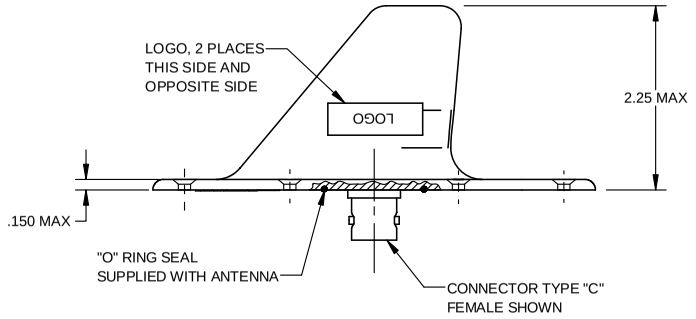
Electrical	
Frequency	960-1220 MHz
VSWR	1.5:1 Max
Polarization	Vertical
Radiation Pattern	Omnidirectional - Equiv. 1/4 wave stub
Impedance RF	50 Ohms
Resistance DC	Short Circuit
Power RF	3.0 KW Peak / 100 watt average
Mechanical	
Weight	0.25 lbs
Height	2.25 inches
Finish	Gloss White Polyurethane Enamel
Connector	C (female)
Environmental	
Temperature	-55 C to +85 C
Altitude	70,000 ft.
Federal Specifications	
FAA TSO	C66c, C74c, C112 (Class 1A)
RTCA Environmental	DO-160D
Gasket	O-ring Seal (70456)

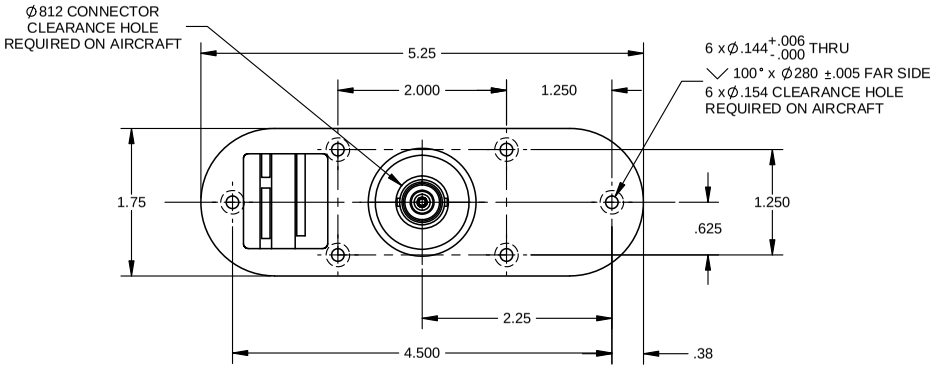
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	6/29/04	DH 6/30/04
B	REF ECN 08-095	MN	1/21/09	DH 1/22/08
C	REF ECN 14-114	MN	10/07/14	DH 10/07/14







SPECIFICATION NOTES:

1. RF CHARACTERISTICS:
   - FREQUENCY _____ 960 - 1220 MHz
   - VSWR _____ 1.5:1 MAX
   - POWER _____ PEAK 3KW
     AVERAGE 100W
   - IMPEDANCE _____ RF 50 OHMS
     DC SHORT CIRCUIT
   - POLARIZATION _____ VERTICAL
   - GAIN _____ AVERAGE AT HORIZONTAL: 0 dB
   - RADIATION PATTERN _____ OMNI DIRECTIONAL,
     EQUIVALENT OF A QUARTER WAVE STUB
2. FINISH: GLOSS WHITE POLYURETHANE ENAMEL PAINT.
3. MOUNTING SURFACE: CHEM FILM CLASS 3 CLEAR PER MIL-C-5541
4. SIDE LOAD: WILL WITHSTAND 175 LBS.
5. APPROVAL: TSO C74c (ATC TRANSPONDER)
   TSO C66c (DME)
   TSO C112 (ATCRBS / MODE S) CLASS 1A
   RTCA DO-160D ENV. CAT. :[F2X]ACB[S(L)U(F,F1)T(C,C1,R)]
   XRFDXSXXXXX[XX]X[XXXX][1A]XX.
6. WEIGHT: .25 LB.
7. A11020 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG. D11016

INSTALLATION DRAWING

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J FRANKS	06/29/04
CHECK	J GOMEZ	06/29/04
ENGR	D HOLLOWAY	06/29/04
QC	S ADAMS	06/29/04
APPD	D HOLLOWAY	06/29/04

Comant Industries, Inc.

DME / TRANSPONDER
ATCRBS / MODE S ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 110-61-30	C

SCALE: 1 / 1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 110-61-30 REV. C

Comant CI 305

DME/Transponder

The most important thing we build is trust

CI 305 DME/Transponder

Miniature high speed DME/Transponder - one of the smallest DME/Transponder antennas available from Comant. Less than 2.75 inches high, featuring a very low-drag frontal profile. Strong, lightweight and easy to mount using four external mounting holes through base.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

960-1220 MHz

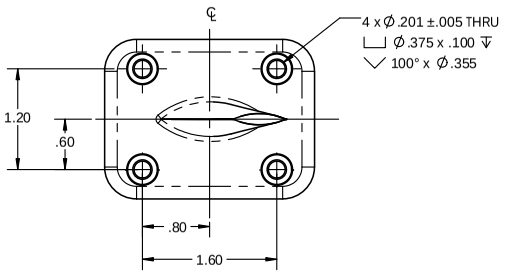
Specifications

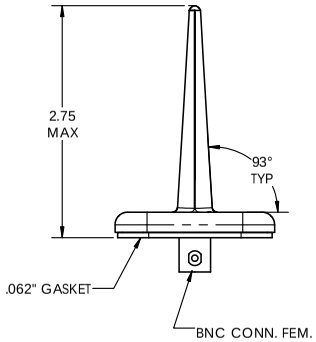
Electrical	
Frequency	960 to 1220 MHz
VSWR	1.8:1 Maximum
Polarization	Vertical
Radiation Pattern	Equivalent of 1/4 wave stub
Impedance RF	50 Ohms
Power RF	1.0 KW Peak
Mechanical	
Weight	0.3 lb. Maximum
Height	2.75 in. Maximum
Finish	White Polyurethane Enamel
Connector	BNC (Female)
Environmental	
Temperature	-54C to +55C
Altitude	45,000 ft
Federal Specifications	
RTCA Env. / MOPS	DO-160A
FAA TSO	C66b, C74c

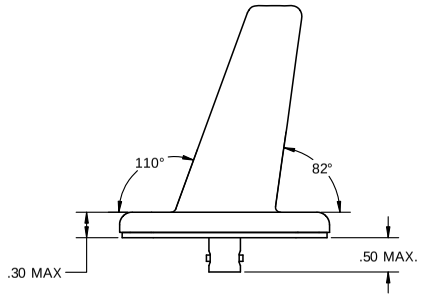
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

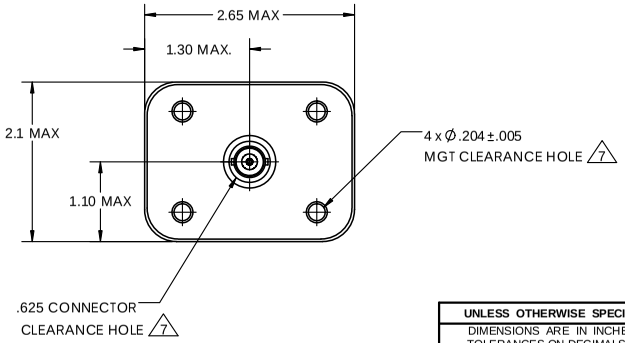
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF ECN 92-107	HN	7/21/92	DH 7/21/92
F	REF ECN 07-009	AV	1/16/07	AV 1/21/07
G	REF ECN 17-053	MN	5/18/17	DH 5/18/17









NOTES: UNLESS OTHERWISE SPECIFIED

1. SPECIFICATIONS:
   - FREQUENCY : 960-1220 MHz
   - IMPEDANCE : 50 OHMS
   - RADIATION PATTERNS: EQUIV. OF A QUARTER WAVE
   - POLARIZATION : VERTICAL
   - VSWR : 1.8:1 MAX.
   - POWER : 1KW PEAK
2. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING AND SKYDROL RESISTANT.
3. MOUNTING SURFACE, HOLES, AND CONNECTOR ARE FREE OF PAINT.
4. AIR SPEED RATING: 600 KNOTS AT 35,000 FT
5. WEIGHT: 0.3 LBS. MAX
6. APPROVED PER TSO C66b AND C74c DO-160A ENV. CAT: AE1/A/JXXXXXXXXXXX
7. HOLES REQ'D THRU OML OF AIRCRAFT FOR INSTALLATION.

INSTALLATION DRAWING

ASSY DWG D30501

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, Inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS	DATE	DME TRANSPONDER ANTENNA
MACHINE FINISH 125 ✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN Kara Naapetyer CHECK R. SKEEN ENGR R. QUAN	11/10/85 11/10/85 11/10/85	DWG SIZE C · CODE IDENT 51351 · DWG. NO. CI 305 · REV. G
MATERIAL :	MFG R. QUAN	11/10/85	SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1
DO NOT SCALE DRAWING			

DWG NO CI 305 REV. G

Comant CI 102

Marker Beacon

The most important thing we build is trust

CI 102 Marker Beacon

Designed for use with the modern, high sensitivity marker beacon receivers. Small and lightweight, featuring 4-hole internal mounting for simple installation. Antenna assembly is enclosed in an injection molded radome which is impervious to the tough environments typical of the underside of an aircraft. Skydrol and rain erosion resistant. DC grounded to minimize accumulation of precipitation static.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

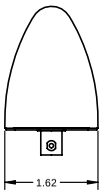
Specifications

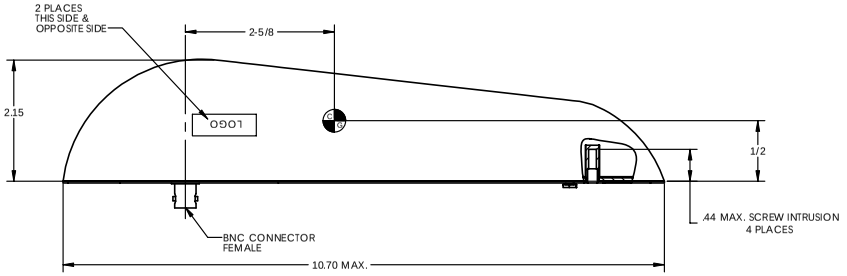
Electrical	
Frequency	75 MHz
VSWR	1.5:1 Maximum / Return Loss -13.98 dB
Polarization	Parallel to mounting plane
Radiation Pattern	E-Field Parallel with Flight Direction
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive only
Mechanical	
Weight	0.6 lbs
Height	2.15 inches
Finish	Valox Polyester
Connector	BNC (Female)
Environmental	
Temperature	-55C to +85C
Altitude	45,000 ft
Federal Specifications	
FAA TSO	C35d, Class A
RTCA MOPS	DO 138, DO 143
RTCA Environmental	DO-160A
Gasket	C10208

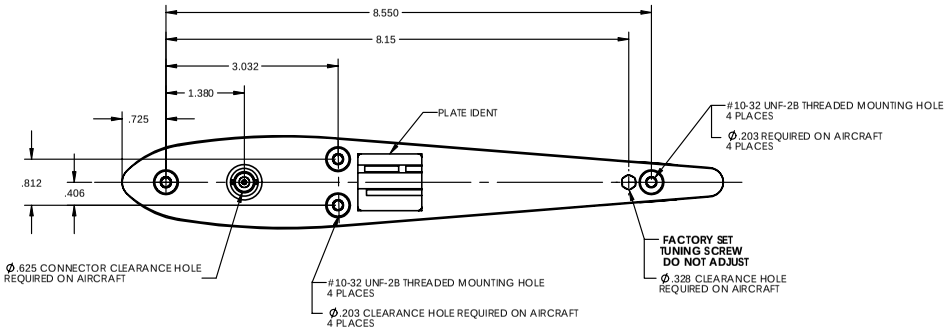
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF ECN 05-258	HN	12/15/05	JF 12/15/05
F	REF ECN 08-095	HN	11/11/08	DH 11/11/08







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 75 MHz
   - VSWR _____ 1.5: 1 MAX.
   - R/L _____ -13.98 dB
   - RADIATION PATTERN _____ E-FIELD PARALELLEL WITH FLIGHT DIRECTION
   - IMPEDANCE _____ 50 OHMS
   - POWER _____ RECEIVES ONLY
2. DELETED
3. TSO C35d, CL. A, DO-138 AND DO-143, ENV. CAT.: AASXXXXXXXXX
4. AIRSPEED RATING: 400 KNOTS TAS @ 25,000 FT
5. A10215 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

ASSY DWG. NO. D10201

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	A. TAM	12/04/85
CHECK	R.E.S.	12/04/85
ENGR	R. QUAN	12/04/85
APPD	R. SICCAMA	12/04/85

Comant Industries, inc.

ANTENNA-MARKER BEACON

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 102	F

SCALE: 1/1 | CAD FILE: -- | SHEET : 1 OF 1

CI 102 REV. F

Comant CI 118

Marker Beacon

The most important thing we build is trust

CI 118 Marker Beacon

Designed specifically for high-performance aircraft applications. Features aerodynamic design in a lightweight package. Antenna is a low profile blade-type encased in a molded polyurethane shell. Skydrol and rain erosion resistant.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

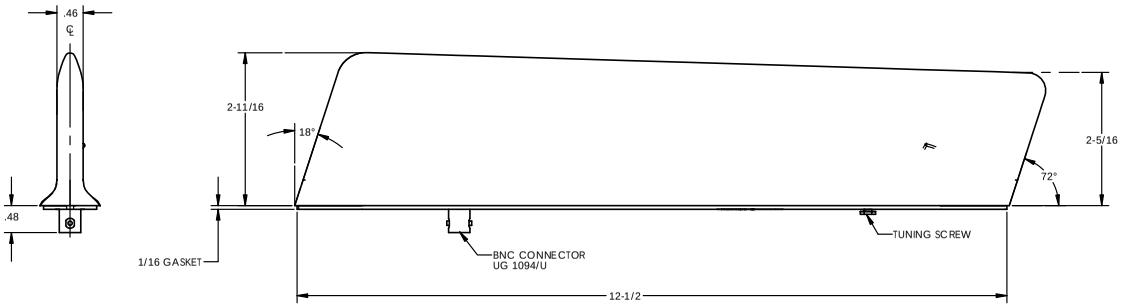
Specifications

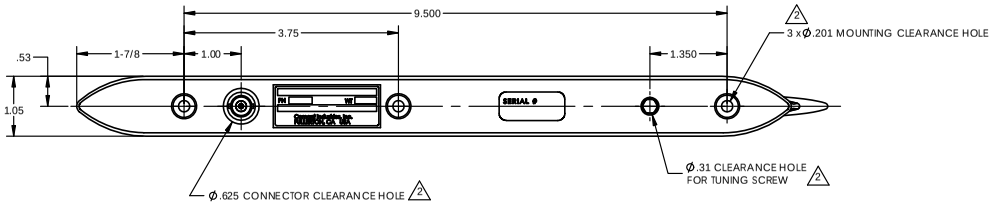
Electrical	
Frequency	75 MHz
VSWR	1.5:1
Polarization	Parallel to mounting plane
Radiation Pattern	Primarily Downward
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive Only
Mechanical	
Weight	0.5 lbs
Height	2 11/16 inches
Finish	Polyurethane Enamel
Connector	BNC
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft
Federal Specifications	
FAA TSO	C35d, Class A
RTCA Environmental	DO-138
Gasket	C11806

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF ECN 89-95	HN	10/08/89	SC 11/12/89
F	REF ECN 15-006	MN	02/26/13	DH 3/03/13
G	REF ECN 17-055	MN	05/18/17	DH 5/18/17





SPECIFICATIONS:

1. APPLICATION: MARKER BEACON RECEIVER OPERATION AT 75 MHz INTENDED FOR BOTTOM FUSELAGE MOUNTING.
2. POLARIZATION: PARALLEL TO THE MOUNTING PLANE.
3. PATTERN: PRIMARILY DOWNWARD.
4. IMPEDANCE: 50 OHMS
5. VSWR: LESS THAN 1.5:1 AT 75 MHz.
   RETURN LOSS: -13.98 dB.
6. PERFORMANCE REQUIREMENTS
   ANTENNA SHALL MEET OR EXCEED ALL REQUIREMENTS OF FAA TSO C35d, CLASS A, DO-138 ENV. CAT.: AASXXXXXXXXX
7. PRECIPITATION STATIC: ANTENNA ELEMENT TO BE DC GROUNDED FOR MINIMUM PRECIPITATION STATIC PICKUP.
8. AERODYNAMIC CHARACTERISTICS:
   MAX. DRAG OF 0.3 LB AT 350 KNOTS, ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG AND TURBULENCE AT SPEED UP TO 0.9 MACH
9. CONSTRUCTION: MOLDED RIGID FOAM
   FINISH: WHITE POLYURETHANE PAINT
10. MATING CONNECTOR: BNC, UG-88/U.
11. WEIGHT: 0.5 LB.
12. AIR SPEED RATING: 400 KNOTS TAS @ 25,000

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.
1. CONSULT FAA ADVISOR CIRCULAR 43-13-2 FOR PROPER INSTALLATION.
2. HOLES IN OMLOF AIRCRAFT FOR INSTALLATION.

ASSEMBLY DRAWING D11801

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI-B-46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : --	CONTRACT NO.	Comant Industries, Inc.	
	APPROVALS / DATE DRAWN F. PRADO 06/07/72 CHECK H. SUMMRES 08/24/72 ENGR H. SUMMERS 08/24/72 APPD MAS III 08/25/72	ANTENNA- MARKER BEACON	
DO NOT SCALE DRAWING		DWG SIZE D / CODE IDENT 51351 / DWG. NO. CI 118 / REV. G	
		SCALE: 1:1 / CAD FILE: -- / SHEET: 1 OF 1	

REV. G
CI 118

Comant CI 118-1

Marker Beacon

The most important thing we build is trust

CI 118-1 Marker Beacon

Low-drag, lower profile alternative to the popular CI 102 “boat style” marker beacon antenna. Approved for medium to high performance single, turbo-prop or jet aircraft and provides simple external mounting. Skydrol and rain erosion resistant. DC grounded to minimize accumulation of precipitation static.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

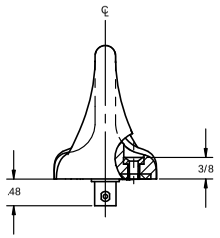
Specifications

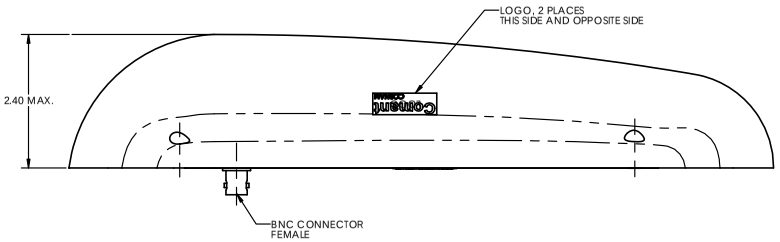
Electrical	
Frequency	75 MHz
VSWR	1.5:1
Polarization	Parallel to mounting plane
Radiation Pattern	Primarily Downward
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive Only
Mechanical	
Weight	0.5 lbs
Height	2.40 inches
Finish	Polyurethane Enamel
Connector	BNC
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft
Federal Specifications	
FAA TSO	C35d, Class A
RTCA Environmental	DO-138
Gasket	None

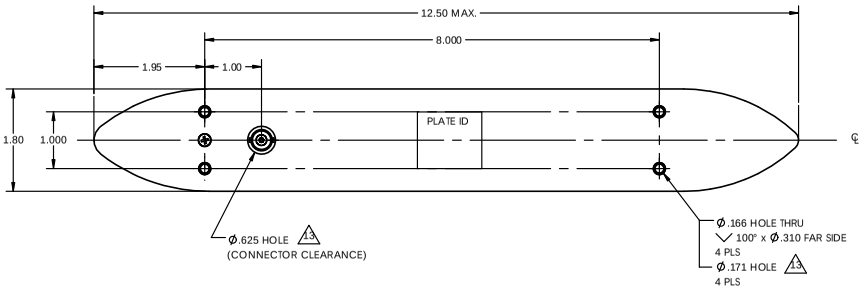
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF ECN 07-102. REDRAWN IN CAD	MN	06/28/07	AV 6/28/07
F	REF ECN 08-095	MN	12/08/08	DH 12/09/08
G	REF ECN 17-055	MN	05/18/17	DH 5/18/17







NOTES: UNLESS OTHERWISE SPECIFIED.

1. APPLICATION:
   MARKER BEACON RECEIVER OPERATION AT 75 MHz INTENDED FOR BOTTOM FUSELAGE MOUNTING.
2. POLARIZATION: PARALLEL TO THE MOUNTING PLANE.
3. PATTERN: PRIMARILY DOWNWARD.
4. IMPEDANCE: 50 OHMS
5. VSWR: LESS THAN 1.5:1 AT 75 MHz.
   RETURN LOSS: -13.98dB.
6. PERFORMANCE REQUIREMENTS:
   ANTENNA SHALL MEET OR EXCEED ALL REQUIREMENTS OF FAA
   TSO C35d CLASS A, DO-138 ENV. CAT.: AASXXXXXXXX
7. PRECIPITATION STATIC:
   ANTENNA ELEMENT TO BE DC GROUNDED FOR MINIMUM PRECIPITATION STATIC PICKUP.
8. AERODYNAMIC CHARACTERISTICS:
   MAX. DRAG OF 0.3 LB AT 350 KNOTS, ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG
   AND TURBULENCE AT SPEED UP TO 0.9 MACH
9. CONSTRUCTION: MOLDED WITH POLYURETHANE.
10. MATING CONNECTOR: BNC, UG-88D/U.
11. WEIGHT: 0.7 LB MAX.
12. AIR SPEED RATING: 400 KNOTS TAS @ 25,000 FT
13. HOLES REQUIRED IN "OML" OF AIRCRAFT FOR INSTALLATION.
14. A11829 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSEMBLY DRAWING D11801-1

INSTALLATION DRAWING

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD
--	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M.
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	F. BOCARANDA	3/25/82
CHECK	R. PORTYER	3/25/82
ENGR	R. PORTYER	3/25/82
APPD	L. BROWN	3/25/82

Comant Industries, Inc.

ANTENNA-MARKER BEACON

DWG SIZE	CODEIDENT	DWG. NO	REV.
D	51351	CI 118-1	G

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

REV. G
CI 118-1

Comant CI 118-9

Marker Beacon

The most important thing we build is trust

CI 118-9 Marker Beacon

Identical to the CI 118 except the mounting configuration allows for "drop-in" replacement to the Honeywell Bendix-King KA 26 Marker Beacon. This Comant design has been tested to the tough DO-160D environmental standards. Skydrol and rain erosion resistant. DC grounded to minimize accumulation of precipitation static.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

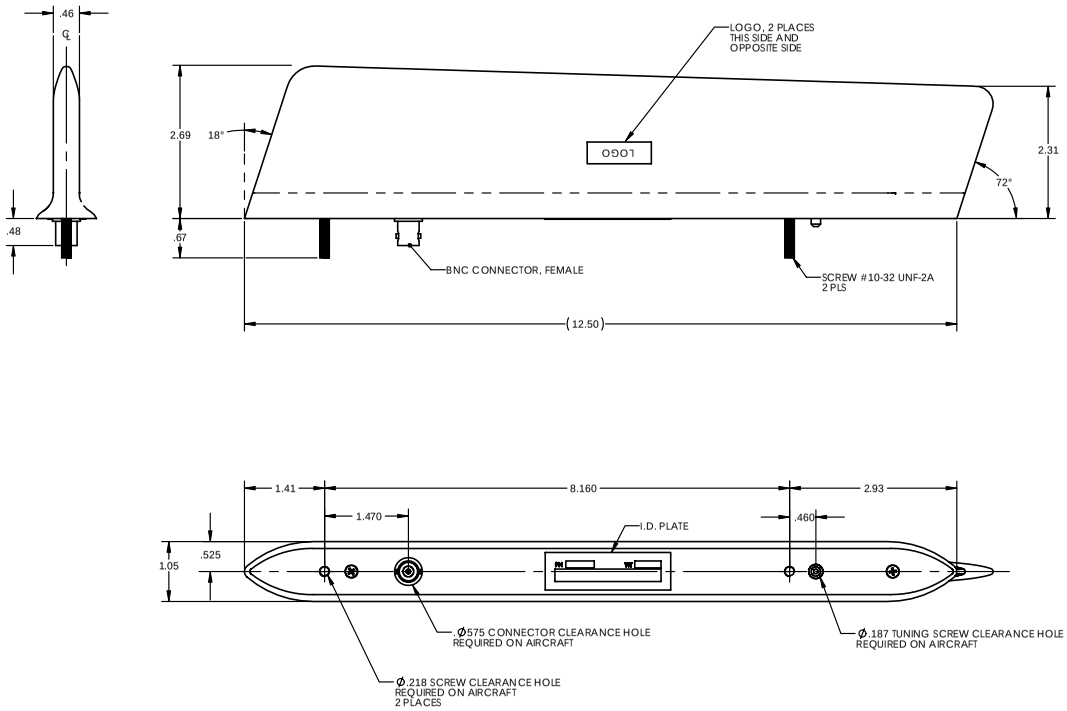
Specifications

Electrical	
Frequency	75 MHz
VSWR	1.5:1 Maximum
Polarization	Parallel to mounting plane
Radiation Pattern	Primarily Downward
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive Only
Mechanical	
Weight	0.65 lbs
Height	2.69 inches
Construction	Molded Rigid Foam
Finish	Polyurethane Enamel
Connector	BNC
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft
Federal Specifications	
FAA TSO	C35d, Class A
RTCA Environmental	DO-160-D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 05-263	HN	01/12/06	JF 01/16/06
B	REF ECN 08-095	MN	12/08/08	DH 12/09/08



NOTES: UNLESS OTHERWISE SPECIFIED.

SPECIFICATIONS:

1. APPLICATION: MARKER BEACON RECEIVER OPERATION AT 75 MHz INTENDED FOR BOTTOM FUSELAGE MOUNTING.
2. POLARIZATION: PARALLEL TO THE MOUNTING PLANE.
3. PATTERN: PRIMARILY DOWNWARD.
4. IMPEDANCE: 50 OHMS
5. VSWR: LESS THAN 1.5:1 AT 75 MHz.
   RETURN LOSS: -13.98 dB.
6. PERFORMANCE REQUIREMENTS
   ANTENNA MEETS ALL REQUIREMENTS OF FAA TSO C35d, DO-160D
   ENV. CAT.: [D2]-XAX[S(C,F,Y)XRFDXSX[X]XXX[XXX]X[XXXX]XXX
7. PRECIPITATION STATIC: ANTENNA ELEMENT TO BE DC GROUNDED FOR MINIMUM PRECIPITATION STATIC PICKUP.
8. AERODYNAMIC CHARACTERISTICS:
   MAX. DRAG OF 0.3 LB AT 350 KNOTS, ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG AND TURBULENCE AT SPEED UP TO 0.9 MACH
9. CONSTRUCTION: MOLDED RIGID FOAM
   FINISH: WHITE POLYURETHANE PAINT
10. MATING CONNECTOR: BNC, UG-88/U.
11. WEIGHT: 0.65 LB.
12. AIR SPEED RATING: 400 KNOTS TAS @ 25,000
13. A11828 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSEMBLY DRAWING D11817

INSTALLATION DRAWING

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CONTRACT NO.			Comant Industries, inc.
	APPROVALS		DATE	ANTENNA- MARKER BEACON
	DRAWN	H. NGUYEN	10/25/00	
	CHECK	M. Kashanpour	11/20/00	
	ENGR	D. HOLLOWAY	11/20/00	
MATERIAL : --	APPD	D. HOLLOWAY	11/20/00	DWG SIZE D · CODE IDENT 51351 · DWG. NO. CI 118-9 · REV. B
DO NOT SCALE DRAWING	QC	P. BOSNEANU	11/20/00	SCALE: -- · CAD FILE: -- · SHEET: 1 OF 1

DWG NO. CI 118-9 REV B

Comant CI 118-10

Marker Beacon

The most important thing we build is trust

CI 118-10 Marker Beacon

This Comant marker beacon is identical to the CI 118 except with a 4-hole through mount configuration. This model has been tested to the tough DO-160D environmental standards. Skydrol and rain erosion resistant. DC grounded to minimize accumulation of precipitation static.

This is the replacement for the Beechcraft CI 118-5.

Applications

Some light turbine and light jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

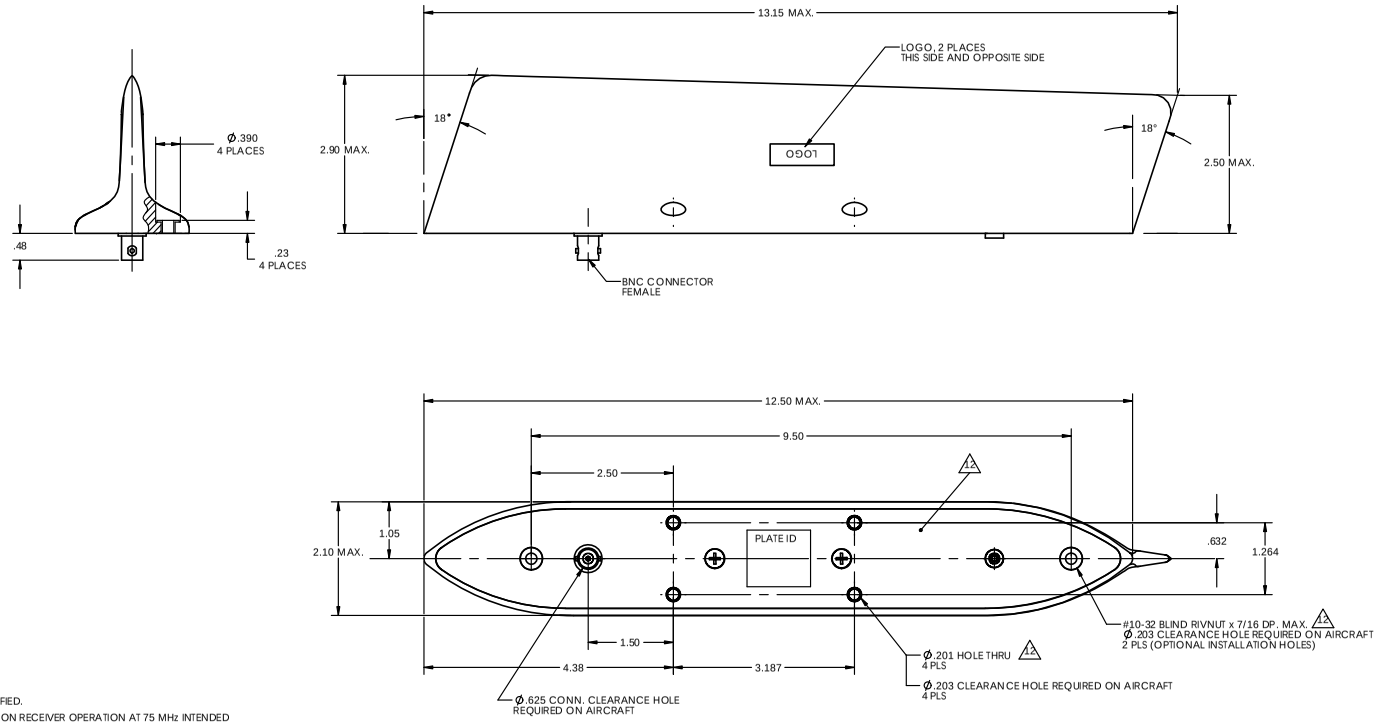
Specifications

Electrical	
Frequency	75 MHz
VSWR	1.7:1 Maximum
Polarization	Parallel to the mounting
Radiation Pattern	Primarily downward
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive only
Mechanical	
Weight	0.8 lbs
Height	2.90 inches
Construction	Molded Radome
Finish	White Polyurethane Paint
Connector	BNC (female)
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft.
Federal Specifications	
FAA TSO	C35d, Class A
RTCA Environmental	DO-138

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	06/13/05	DH 06/13/05
B	REF ECN 08-095	MN	12/08/08	DH 12/09/08
C	REF ECN 17-055	MN	05/18/17	DH 05/18/17



NOTES: UNLESS OTHERWISE SPECIFIED.

1. APPLICATION: MARKER BEACON RECEIVER OPERATION AT 75 MHz INTENDED FOR BOTTOM FUSELAGE MOUNTING.
2. POLARIZATION: PARALLEL TO THE MOUNTING PLANE.
3. PATTERN: PRIMARILY DOWNWARD.
4. IMPEDANCE: 50 OHMS
5. VSWR: LESS THAN 1.7:1 AT 75 MHz.
   RETURN LOSS: -11.73dB.
6. TSO C35d (INCOMPLETE SYSTEM), CLASS A, RTCA DO-138 ENV. CAT.: AASXXXXXXXXX
7. PRECIPITATION STATIC: ANTENNA ELEMENT TO BE GROUNDED FOR MINIMUM PRECIPITATION STATIC PICKUP.
8. AERODYNAMIC CHARACTERISTICS:
   MAX. DRAG OF 0.3 LB AT 350 KNOTS, ANTENNA SHALL BE CAPABLE OF WITHSTANDING DRAG AND TURBULENCE AT SPEED UP TO 0.9 MACH
9. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING, SKYDROL RESISTANT.
10. WEIGHT: 0.8 LB.
11. AIR SPEED RATING: 400 KNOTS TAS @ 25,000 FT
12. NO PAINT ON MOUNTING SURFACE AND MOUNTING HOLES.
13. A11826 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125✓ PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	6/09/05
CHECK	D. HOLLOWAY	6/09/05
ENGR	D. HOLLOWAY	6/10/05
QC	S. ADAMS	6/13/05
APPD	D. HOLLOWAY	6/10/05

Comant Industries, inc.

ANTENNA-MARKER BEACON

DWG SIZE	CODEIDENT	DWG. NO	REV.
D	51351	CI 118-10	C

SCALE: -- CAD FILE: -- SHEET : 1 OF 1

REV. C CI 118-10 DWG NO

Comant CI 164

Marker Beacon

The most important thing we build is trust

CI 164 Marker Beacon

Lightweight flush mount antenna. Provides for dual marker beacon signal outputs at the antenna, eliminating the need for a separate marker beacon splitter. Antenna is housed in an aluminium enclosure with a glass laminate cover. Internal components are potted in place for mechanical integrity. The CI 164 is designed for curved "crown" surface mounting as is currently used on the Cessna Citation I and II.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

Specifications

Electrical	
Frequency	75 +/- .15 MHz
VSWR	1.5:1 Max at 75 MHz 5.0:1 Max at 75 +-.15 MHz
Polarization	Horizontal
Isolation btwn Ports	20 dB Minimum
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive Only
Mechanical	
Weight	1.0 lbs
Height	Flush Mount
Construction	Aluminium Housing Glass Lam. Cover
Finish	White Poly. Enamel /Housing Flat Grey
Connector	BNC (Two Ports)
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft.
Federal Specifications	
FAA TSO	C35d

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

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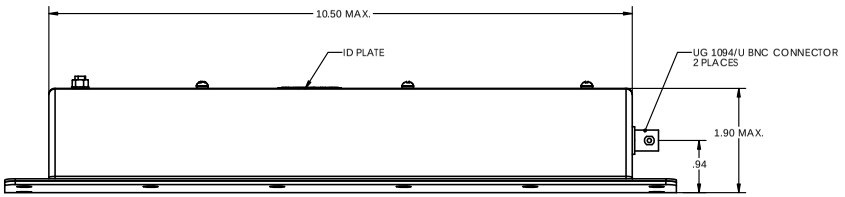
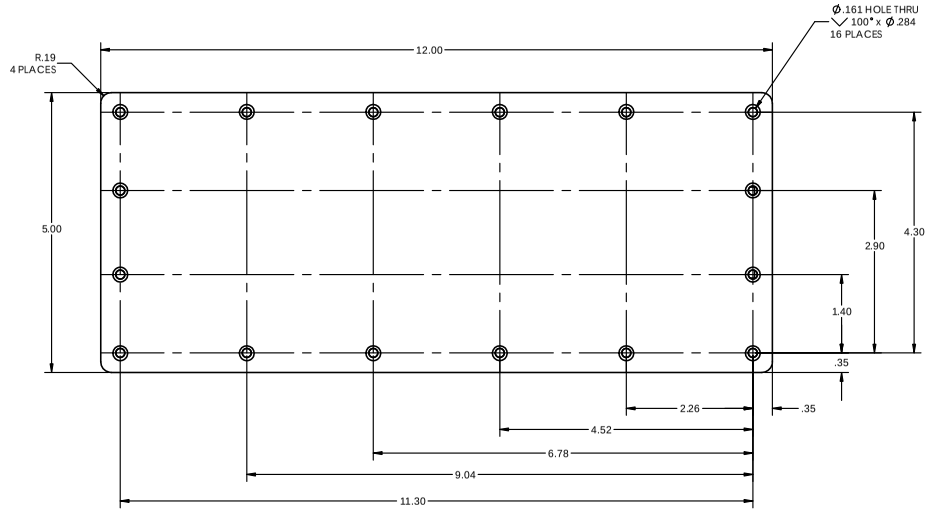
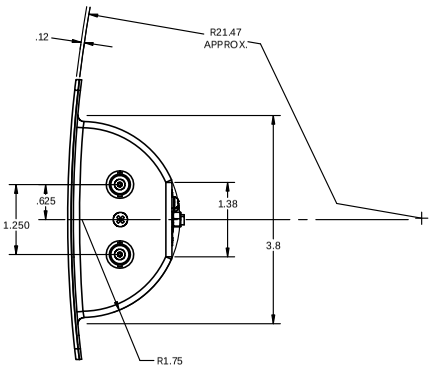
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:
   FREQUENCY: 75 MHz ± .15 MHz
   VSWR: 1.5:1 MAX @ 75 MHz
   5.0:1 MAX @ .15 MHz
   POLARIZATION: HORIZONTAL
   ISOLATION: BETWEEN ANTENNA PORTS 20 dB MIN
2. TSO C35d, ENV. CAT.: AASXXXXXXXXX CLASS A, DO-138.
3. FINISH: GLASS LAMINATE COVER. WHITE POLYURETHANE PAINT NON-YELLOWING ALUMINUM HOUSING: FLAT GREY EPOXY PAINT.
4. CONSULT FAA ADVISORY CIRCULAR 43-13-2 FOR PROPER INSTALLATION.

ASSY DWG. 16D00401-2

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	F. PRADO	10/7/74
CHECK	H. SUMMERS	10/8/74
ENGR	H. SUMMERS	30/30/74
APPD	WWS III	10/31/74

Comant Industries, Inc.

ANTENNA-
MARKER BEACON-

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 164	H

SCALE: 1/1 WEIGHT: 1.00 LBS SHEET: 1 OF 1

CI 164 H

Comant CI 165 Series

Marker Beacon

The most important thing we build is trust

CI 165 Marker Beacon

Lightweight flush mount antenna. Provides for dual marker beacon signal outputs at the antenna, eliminating the need for a separate marker beacon splitter. Antenna is housed in an aluminium enclosure with a glass laminate cover. Internal components are potted in place for mechanical integrity. The CI 165 is designed for flat surface mounting. For curved fuselage applications see CI 164.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

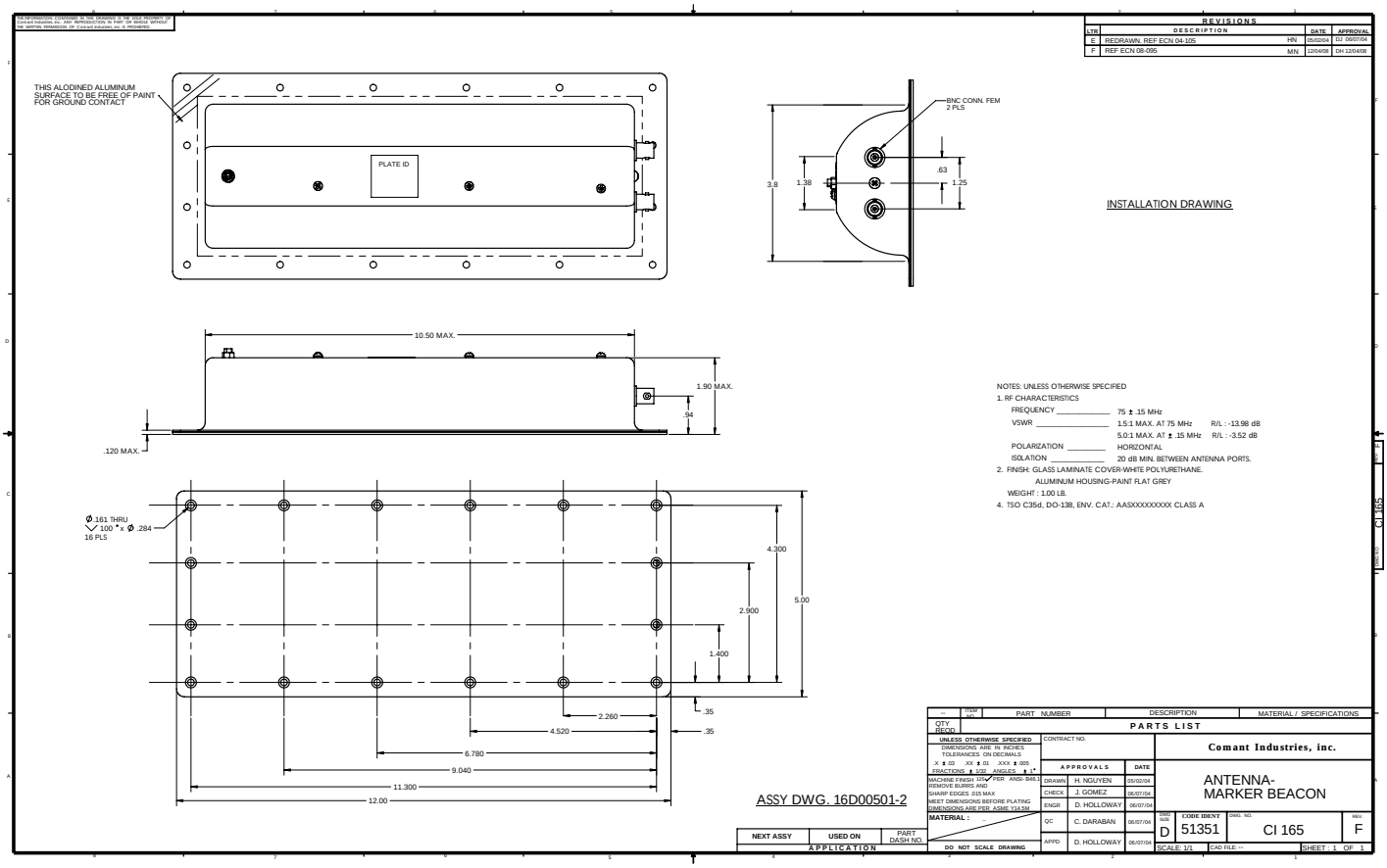
CI 165-1 for Dassault
See page 135

Specifications

Electrical	
Frequency	75 +/- .15 MHz
VSWR	1.5:1 Max at 75 MHz 5.0:1 Max at 75 +-.15 MHz
Polarization	Horizontal
Isolation btwn Ports	20 dB Minimum
Impedance RF	50 Ohms
Resistance DC	DC Grounded
Power RF	Receive Only
Mechanical	
Weight	1.0 lbs
Height	Flush Mount
Construction	Aluminium Housing Glass Lam. Cover
Finish	White Poly. Enamel /Housing Flat Grey
Connector	BNC (Two Ports)
Environmental	
Temperature	-55 to 85 C
Altitude	45,000 ft.
Federal Specifications	
FAA TSO	C35d

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED
1. RF CHARACTERISTICS
FREQUENCY _____ 75 ± .15 MHz
VSWR _____ 1.5:1 MAX. AT 75 MHz R/L : -13.98 dB
5.0:1 MAX. AT ± .15 MHz R/L : -3.52 dB
POLARIZATION _____ HORIZONTAL
ISOLATION _____ 20 dB MIN. BETWEEN ANTENNA PORTS.
2. FINISH: GLASS LAMINATE COVER-WHITE POLYURETHANE.
ALUMINUM HOUSING-PAINT FLAT GREY
WEIGHT : 1.00 LB.
4. TSO C35d, DO-138, ENV. CAT.: AASXXXXXXXXX CLASS A

ASSY DWG. 16D00501-2

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 04-105	HN	05/02/04	DJ 06/07/04
F	REF ECN 08-095	MN	12/04/08	DH 12/04/08

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL : --

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	05/02/04
CHECK	J. GOMEZ	06/07/04
ENGR	D. HOLLOWAY	06/07/04
QC	C. DARABAN	06/07/04
APPD	D. HOLLOWAY	06/07/04

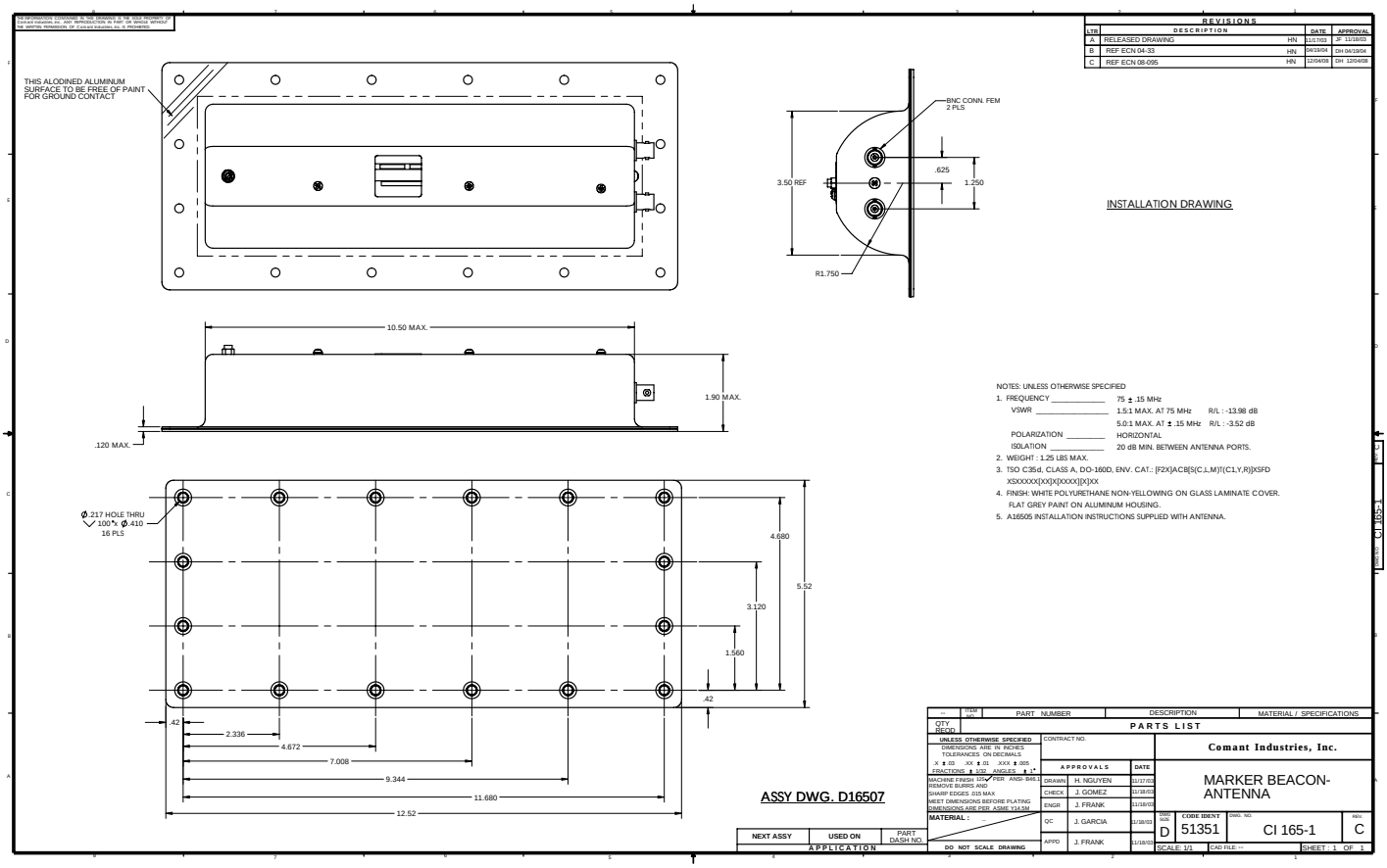
Comant Industries, inc.

ANTENNA-
MARKER BEACON

CODE IDENT	DWG. NO.	REV.
51351	CI 165	F

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		



INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED
1. FREQUENCY _____ 75 ± .15 MHz
VSWR _____ 1.5:1 MAX. AT 75 MHz R/L : -13.98 dB
5.0:1 MAX. AT ± .15 MHz R/L : -3.52 dB
POLARIZATION _____ HORIZONTAL
ISOLATION _____ 20 dB MIN. BETWEEN ANTENNA PORTS.
2. WEIGHT : 1.25 LBS MAX.
3. TSO C35d, CLASS A, DO-160D, ENV. CAT.: [F2X]ACE[S(C,L,M)T(C1,Y,R)]XSFD XSXXXXX[XX][X]XXXX][X]XX
4. FINISH: WHITE POLYURETHANE NON-YELLOWING ON GLASS LAMINATE COVER. FLAT GREY PAINT ON ALUMINUM HOUSING.
5. A16505 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ASSY DWG. D16507

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	11/17/03	JF 11/18/03
B	REF ECN 04-33	HN	04/19/04	DH 04/19/04
C	REF ECN 08-095	HN	12/04/08	DH 12/04/08

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL :

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	11/17/03
CHECK	J. GOMEZ	11/18/03
ENGR	J. FRANK	11/18/03
QC	J. GARCIA	11/18/03
APPD	J. FRANK	11/18/03

Comant Industries, Inc.

MARKER BEACON-
ANTENNA

CODE IDENT	DWG. NO.	REV.
51351	CI 165-1	C

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

Comant CI 1600

Marker Beacon

The most important thing we build is trust

CI 1600 Marker Beacon

Comant's all new CI 1600 low profile Marker Beacon is specifically designed for high speed applications on Commercial and Business Jets.

No more than 1.55 inches tall the CI 1600 still provides excellent coverage. Integral, high temperature silicone 'O' ring gasket. DC grounded for lighting protection.

Applications

Commercial and Business Jet aircraft for applications of this antenna design. Consult your FBO or installation shop for best application information.

Frequencies Covered

75 MHz

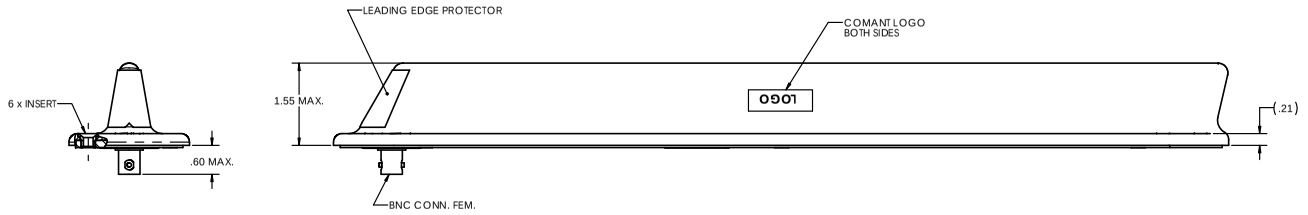
Specifications

Electrical	
Frequency	75 MHz
VSWR Return Loss	1.5:1 Maximum -13.98 dB
Polarization	Horizontal
Radiation Pattern	Single Downward Lobe
Impedance RF	50 Ohms
Power RF	Receive Only
Mechanical	
Weight	1.25 lbs
Height	1.55 inches
Finish	Gloss White
Connector	BNC (female)
Environmental	
TBD	
Federal Specifications	
FAA TSO	Pending
'O' Gasket	AS568A

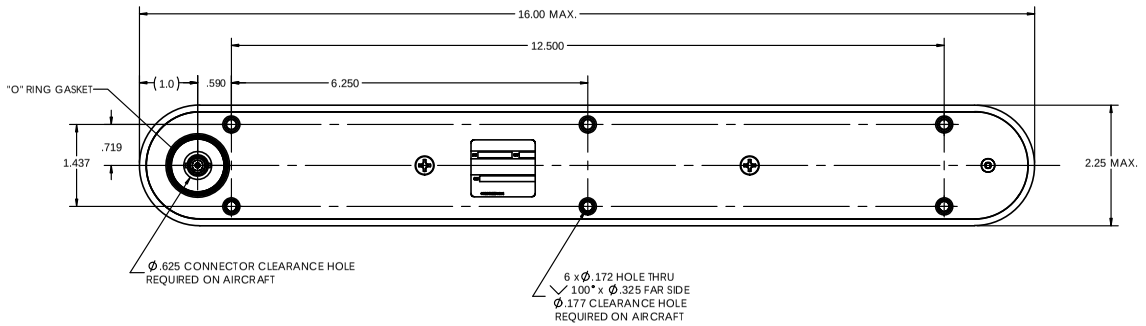
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING.	MN	04/21/15	DH 4/21/15
B	REF ECN 15-039	MN	06/08/15	DH 6/08/15
C	REF ECN 16-043	MN	05/06/16	DH 5/11/16



INSTALLATION DRAWING



NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY _____ 75 MHz
   - VSWR _____ 1.5: 1 MAX.
   - R/L _____ -13.98 dB
   - RADIATION PATTERN _____ SINGLE DOWNWARD LOBE
   - POLARIZATION _____ HORIZONTAL
   - IMPEDANCE _____ 50 OHMS
   - POWER _____ RECEIVE ONLY
   - LIGHTNING PROTECTION __ DC GROUNDED
2. WEIGHT : 1.25 LBS MAX.
3. FINISH: GLOSSY WHITE VALOX.
4. TSO: C35d, CLASS A. RTCA/DO-160G ENV. CAT. :
   [F2X]ACE[R(C,C1)H(R)U2(F,F1)S(L)]XSFSXSXXXX[XXX][XX]X[XXXXXX][XX]AXX
5. A160011 INSTALLATION INSTRUCTIONS AIRWORTHINESS LIMITATIONS, AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA)SUPPLIED WITH ANTENNA.
6. TEST TO ATP CI 1600 FT.

ASSY DWG. D160001

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125✓ PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M. NGUYEN	04/21/15
CHECK	D. HOLLOWAY	04/21/15
ENGR	D. HOLLOWAY	04/21/15
MFG	J. JONES	04/21/15
QC	S. ADAMS	04/21/15

Comant Industries, Inc.

ANTENNA-
MARKER BEACON

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 1600	C

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

CI 1600 REV C

Comant CI 193

Glide Slope

The most important thing we build is trust

CI 193 Glide Slope

Half wave dipole designed for interior mounting for GS reception. Integral ferrite balun can result in improved performance when propeller modulation is a problem.

Applications

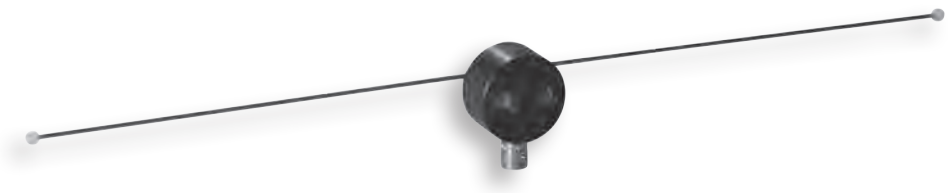
Internal mount.

Frequencies Covered

329-335 MHz (GS)

Specifications

Electrical	
Frequency	329-335 MHz (GS)
VSWR	2.5:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Gain	2.0 dB Nominal
Mechanical	
Weight	0.15 lbs. Maximum
Height	1.5 inches Maximum
Material	Delrin housing / Brass radiators
Finish	Black / Nickel
Connector	BNC
Environmental	
Temperature	-55 C to +55 C
Federal Specifications	
FAA TSO	C34c
RTCA MOPS	DO-192
RTCA Environmental	DO-160



WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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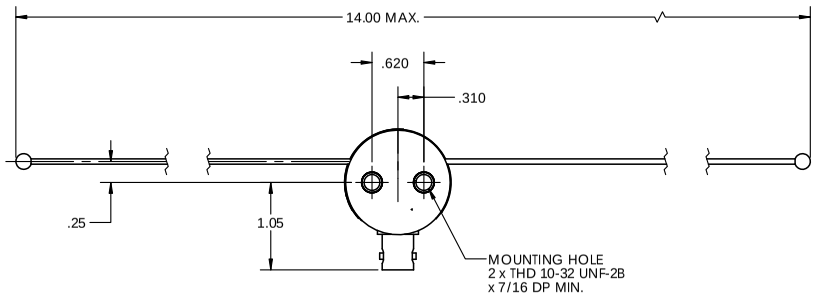
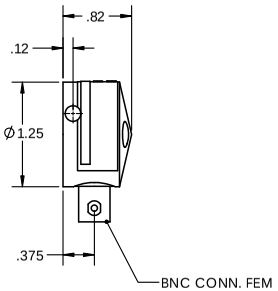
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	ADDED NOTES 1.4, 2 AND 3. DIM .12 WAS .375 NOTE 1.1 WAS 329 TO 335		9/27/79	DDM
B	13-5/8 WAS 15-5/8, VSWR 5.0:1 WAS 2.0:1		7/01/80	DDM
C	1.4 GAIN: +2.0 NOM WAS +2.5 DB		1/28/82	DDM
D	REF ECN 98-109	HN	12/5/89	DH 12/07/89
E	REF ECN 93-84	HN	11/3/93	SC 11/8/93
F	REF ECN 02-225	HN	7/31/02	DH 08/05/02
G	REF ECN 03-132	HN	6/9/03	DH 06/10/03
H	REF ECN 14-073	MN	6/03/14	DH 6/03/14





RECOMMENDED INSTALLATION

1. ANTENNA MAY BE MOUNTED EITHER IN THE RADOME (NOSE COMPARTMENT) OR INSIDE THE CABIN IN THE WINDSHIELD AREA.
2. LOCATE ANTENNA SYMMMETRICAL WITH CENTERLINE OF AIRCRAFT. RADIATORS TO BE AT LEAST 3 INCHES FROM METAL SURFACES.

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARATERISTICS
   - 1.1 FREQUENCY RANGE: _____ 329 TO 335 MHz
   - 1.2 VSWR: _____ 2.5:1 MAX.
   - 1.3 IMPEDANCE: _____ 50 OHMS NOMINAL
   - 1.4 GAIN: _____ +2.0 dB NOMINAL
2. TSO C34c, DO-160, ENV. CAT. D2AL XXXXXXXXXX
3. WEIGHT: .15 LB

ASSY DWG. C19301

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	12/18/77
CHECK	D. MADARAS	1/78
ENGR	J. R. TORRES	10/1/79
APPD	H. SUMMERS	10/1/79

Comant Industries, Inc.

ANTENNA-
GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 193	H

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

REV. H
DWG NO. CI 193

Comant CI 205-3

VOR/LOC/GS

The most important thing we build is trust

CI 205-3 VOR/LOC/GS

VOR/LOC/GS high performance navigation antenna set. Designed for mounting on the aircraft vertical stabilizer or helicopter tail boom. Features low weight/drag, tabular structure to minimize helicopter rotor "down wash" forces. Contains wide band/high efficiency electrical performance and DC grounding for lightning protection.

Set includes a pair (2) of "towel bar" sensor elements each with a BNC output connector and a one-piece dual coax interconnect signal combiner harness with single BNC connector output. Provides for a single cable run to the avionics location.

D20543 Antenna separately
C20544 Combiner and Coax separately

Applications

Consult your FBO or installation shop for best application information.

Approved for light helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

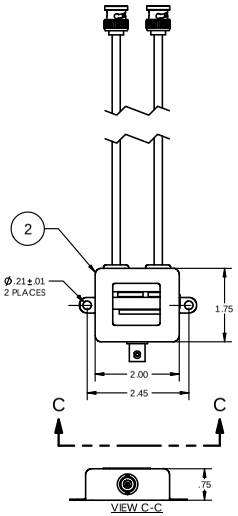
Specifications

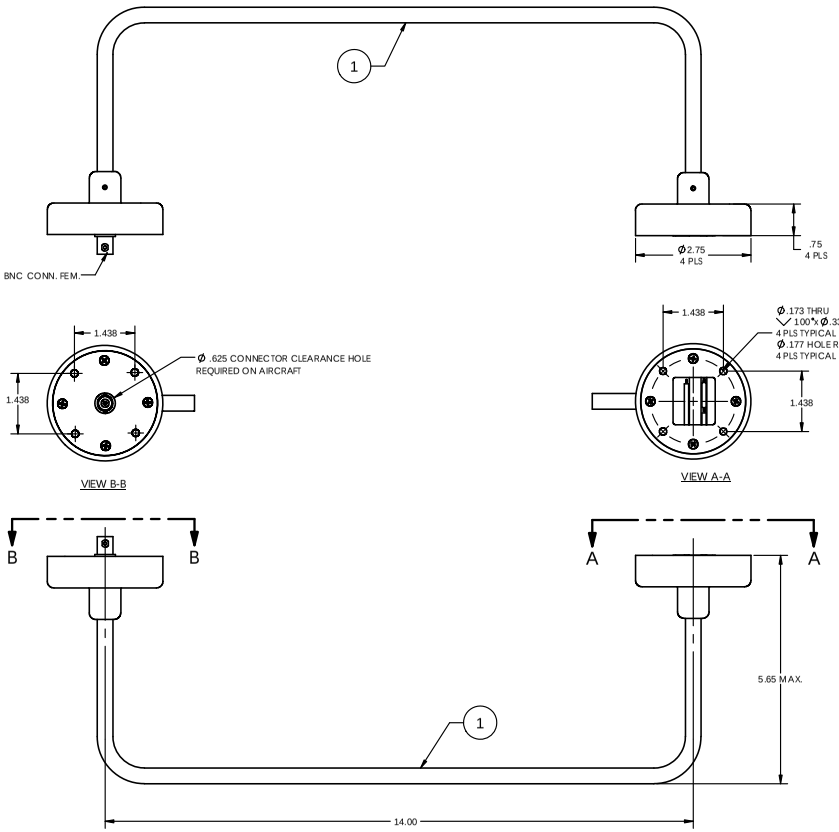
Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	5.0:1 Max. 108-118 MHz (VOR/LOC) 5.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	1.75 lbs. Maximum
Material	Delrin mounts / Aluminium "Towel Bar"
Finish	Polyurethane Enamel
Connector	BNC (Female)
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 04-272	HN	7/22/04	JF 07/23/04
F	REF ECN 08-095	MN	11/17/08	DH 11/19/08
G	REF ECN 09-025	MN	5/20/09	DH 5/20/09
H	REF ECN 15-109	MN	11/30/15	DH 11/30/15





NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY: VOR/LOC 108-118 MHz G/S 329-335 MHz
   - 1.2 VSWR: VOR/LOC 5.0:1 MAX G/S 5.0:1 MAX
   - R/L: VOR/LOC -3.52 dB G/S -3.52 dB
   - 1.3 IMPEDANCE: 50 OHMS NOMINAL
   - 1.4 POLARIZATION: HORIZONTAL
2. COMBINER FURNISHED WITH SET
3. DELETED.
3. WEIGHT: 1.75 LBS MAX.
4. TSO C34c, C36c, C40a AND DO-160D
   ENV. CAT.: [F2X]XCB[(C,Y,W)U(G,J)]XXXXXXXXXXX[XX]X[XXXX]XXX.

QTY	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
1	3	A20550	INSTALLATION INSTRUCTION	
1	2	C20544	COMBINER-BALANCED LOOP	
2	1	D20543	ANTENNA - VOR/LOC/GS	

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	07/23/91
CHECK	S. ALEXANDER	08/07/91
ENGR	D. HOLLOWAY	08/02/91
APPD	R. SNYDER	08/13/91

Comant Industries, Inc.

ANTENNA SET VOR / LOC / GS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 205-3	H

SCALE: NONE CAD FILE: -- SHEET : 1 OF 1

CI 205-3 REV. H

Comant CI 120 G/S

VOR/LOC/GS

The most important thing we build is trust

CI 120G/S

VOR/LOC/GS antenna system provides optimum performance when used for instrument navigation and landings. Antenna system qualified for use on single engine, twin, jet, and helicopter aircraft.

Provides glideslope reception capability. Complete set includes a pair (2) of blades, each with single BNC connector output, two coax interconnect cables and a signal combiner output providing for a single cable run to the avionics installation.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

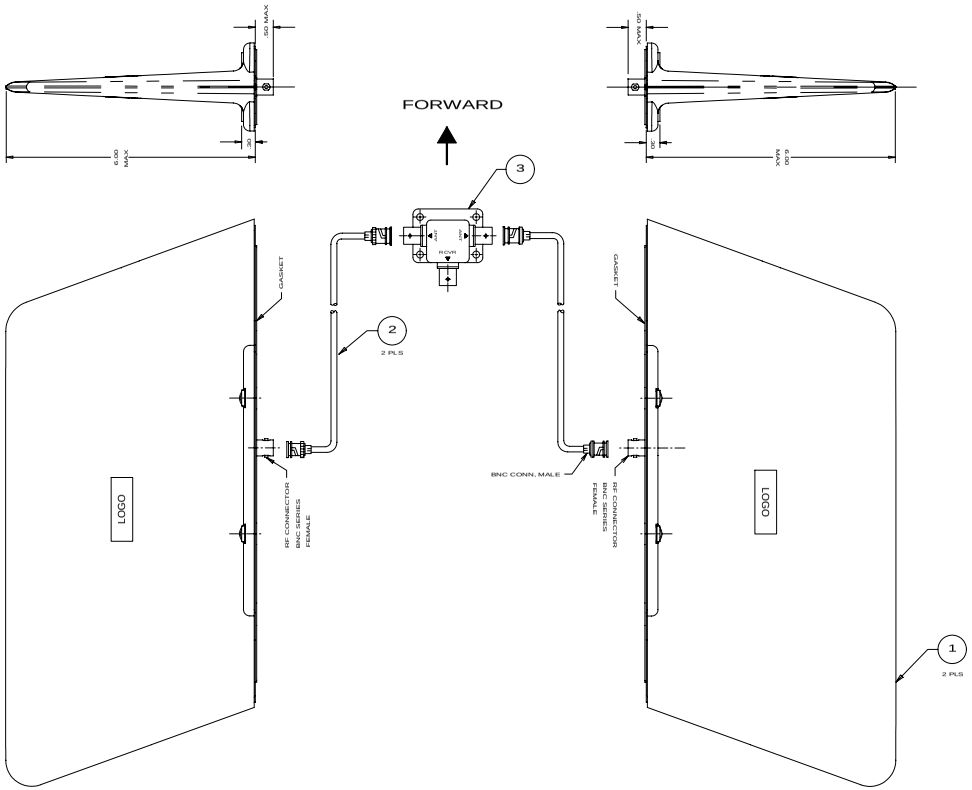
Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	6.0:1 108-118 MHz 5.0:1 329-335 MHz
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
System Weight	2.7 lbs
Height	6.0 Inches Maximum
Finish	Polyurethane Enamel
Connector	BNC / Single Output Combiner
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160D
Gasket	
Cork	C 120181-1

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
Y	REDRAWN. REF ECN 03-157	HN	07/08/03	DH 07/09/03
AA	REF ECN 08-095	HN	12/09/08	DH 12/09/08



NOTES:

1. RF CHARACTERISTICS:

	VOR/LOC	AND	G/S
1.1 FREQUENCY:	108-118 MHz		329-335 MHz
1.2 VSWR:	6.0:1 MAX		5.0:1 MAX
RETURN LOSS:	- 2.92 dB		-3.52 dB

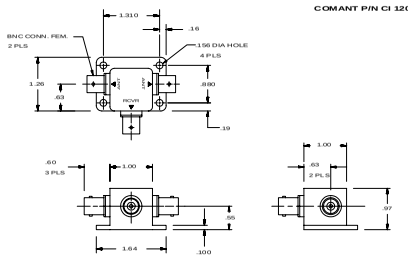
(WHEN TESTED IN THE COMPLETE ANTENNA SYSTEM).

1.3 IMPEDANCE: 50 OHMS NOMINAL

1.4 POLARIZATION: HORIZONTAL

2. AIRSPEED RATING: 600 KNOTS T.A.S @ 25,000 FT
3. TSO C34e, C36e, C40c RTCA DO-160D
   ENV. CAT. : [F2X]ACB[T(E1,P)]XRFDXSXXXX[XX]X[XXX]XCX.
4. SYSTEM WEIGHT: 2.70 LBS.
5. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING
6. APPLY ON THE SYSTEM.

POWER COMBINER
COMANT P/N CI 120-3



ITEM NO.	QTY	PART NO.	DESCRIPTION	MATERIAL / SPECIFICATIONS
1	6	B120178-1	ANTENNA SYSTEM LABEL	6
1	5	B12011	MOUNTING KIT	INCLUDED
1	4	A12053	INSTALLATION INSTRUCTIONS	INCLUDED
1	3	CI 120-3	POWER COMBINER	
2	2	CI 120-2	CABLE ASSY	
2	1	CI 120-1	ANTENNA-BLADE	

LIST OF MATERIALS

NEXT ASSY	USED ON	DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .03 XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH.FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MBRT DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE	JULY 08-03	
DFTSM	H.Nguyen	07/08/03
CHECK	J. Gomez	07/08/03
ENGR	D.J.Holloway	07/08/03
QC	P.Bosneanu	07/08/03
APPD	D.J.Holloway	07/08/03

Comant Industries, Inc.

TITLE
ANTENNA SYSTEM-
VOR/LOC/GS

CODE IDENT	DWG. NO.
51351	CI 120G/S

SCALE: NONE WT: SHT 1 OF 1

CI 120G/S AA

Comant CI 120-200 G/S

VOR/LOC/GS

The most important thing we build is trust

CI 120-200 G/S VOR/LOC/GS

Navigation antenna system provides optimum VOR/LOC/GS performance. Antenna system qualified for use on single engine, twin, jet, and helicopter aircraft.

Complete set includes a pair (2) of blades, each with single BNC connector output, two coax interconnect cables and a dual output signal combiner providing for separate RF cable runs to the avionics installation for NAV1 and NAV 2 receivers.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

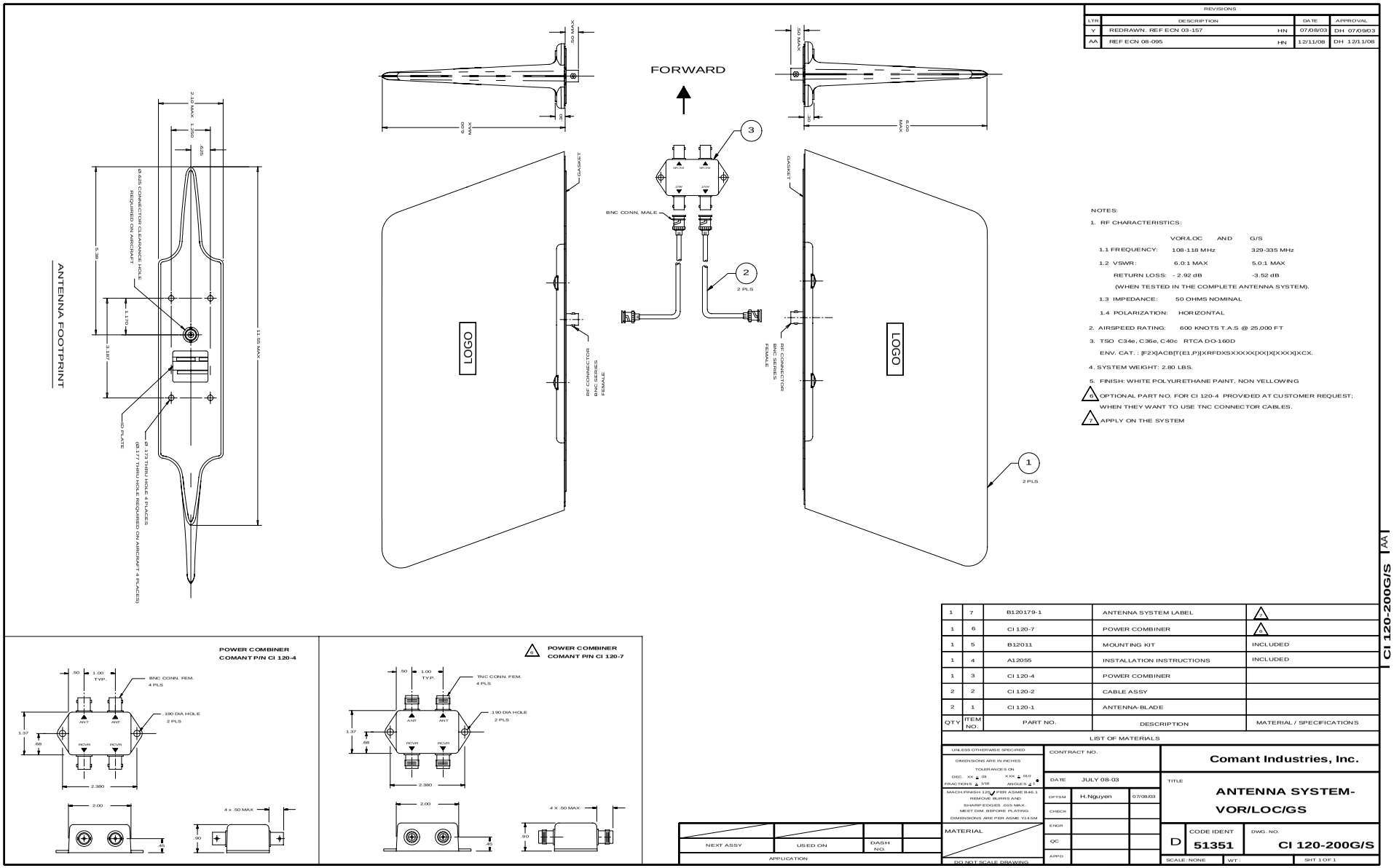
108-118 MHz (VOR/LOC)
329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	6.0:1 108-118 MHz 5.0:1 329-335 MHz
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
System Weight	2.8 lb
Height	6.0 Inches Maximum
Finish	Polyurethane Enamel
Connector	BNC / Single Output Combiner
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160D
Gasket	C120181-1

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
Y	REDRAWN. REF ECN 03-157	HN	07/08/03	DH 07/09/03
AA	REF ECN 08-095	HN	12/11/08	DH 12/11/08

NOTES:

1. RF CHARACTERISTICS:

	VOR/LOC AND	G/S
1.1 FREQUENCY:	108-118 MHz	329-335 MHz
1.2 VSWR:	6.0:1 MAX	5.0:1 MAX
RETURN LOSS:	- 2.92 dB	-3.52 dB

(WHEN TESTED IN THE COMPLETE ANTENNA SYSTEM).

1.3 IMPEDANCE: 50 OHMS NOMINAL

1.4 POLARIZATION: HORIZONTAL

2. AIRSPEED RATING: 600 KNOTS T.A.S @ 25,000 FT
3. TSO C34e, C36e, C40c RTCA DO-160D
   ENV. CAT. : [F2X]ACB[T(E1,P)]XRFDXSXXXX[XX]X[XXX]XCX.
4. SYSTEM WEIGHT: 2.80 LBS.
5. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING

△6 OPTIONAL PART NO. FOR CI 120-4 PROVIDED AT CUSTOMER REQUEST; WHEN THEY WANT TO USE TNC CONNECTOR CABLES.

△7 APPLY ON THE SYSTEM

QTY	ITEM NO.	PART NO.	DESCRIPTION	MATERIAL / SPECIFICATIONS
1	7	B120179-1	ANTENNA SYSTEM LABEL	△7
1	6	CI 120-7	POWER COMBINER	△6
1	5	B12011	MOUNTING KIT	INCLUDED
1	4	A12055	INSTALLATION INSTRUCTIONS	INCLUDED
1	3	CI 120-4	POWER COMBINER	
2	2	CI 120-2	CABLE ASSY	
2	1	CI 120-1	ANTENNA-BLADE	

LIST OF MATERIALS

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC XX ± .03 XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL

DO NOT SCALE DRAWING

CONTRACT NO.

DATE JULY 08-03

DFTSM	H.Nguyen	07/08/03
CHECK		
ENGR		
QC		
APPD		

Comant Industries, Inc.

TITLE: **ANTENNA SYSTEM- VOR/LOC/GS**

CODE IDENT: D — 51351

DWG. NO.: **CI 120-200G/S**

SCALE: NONE WT: SHT 1 OF 1

CI 120-200G/S | AA

Comant CI 120-200 G/S-L

VOR/LOC/GS

The most important thing we build is trust

CI 120-200 G/S-L VOR/LOC/GS

Navigation antenna system provides optimum VOR/LOC/GS performance. Antenna system qualified for use on single engine, twin, jet, and helicopter aircraft. Blades have leading edge protection and come with a silicone gasket enabling mounting on curved vertical stabilizers.

Complete set includes a pair (2) of blades, each with single BNC connector output, two coax interconnect cables and a dual output signal combiner providing for separate RF cable runs to the avionics installation for NAV1 and NAV 2 receivers.

Applications

The popular design is standard equipment on many Cessna jets and also the new HondaJet. Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

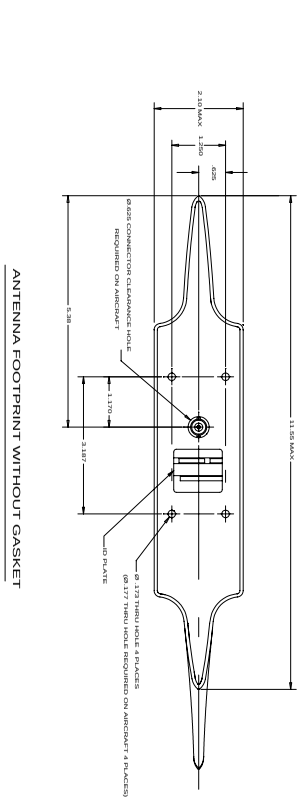
108-118 MHz (VOR/LOC)
329-335 MHz (GS)

Specifications

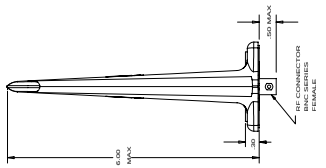
Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	6.0:1 108-118 MHz 5.0:1 329-335 MHz
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	1.4 lb Per Blade
Height	6.0 Inches Maximum
Finish	Polyurethane Enamel
Connector	BNC / Single Output Combiner
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160D
Gasket	B12058

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

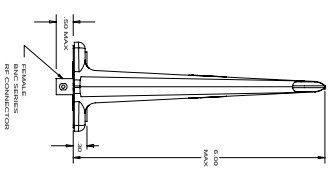
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

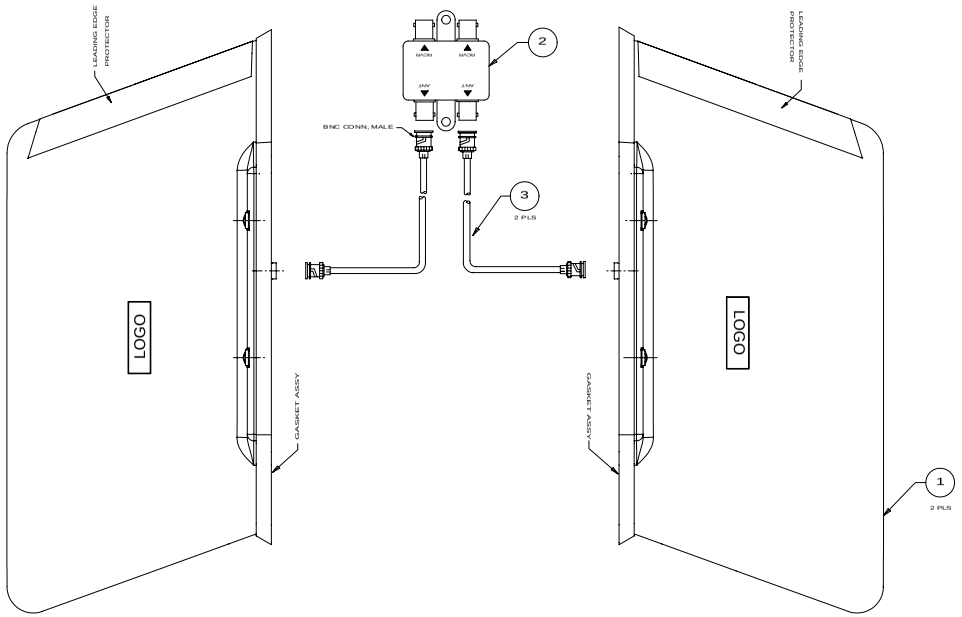


ANTENNA FOOTPRINT WITHOUT GASKET



FORWARD





REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
C	REDRAWN. REF ECN 03-158	HN	07/08/03	DJH 07/09/03
D	RE ECN 08-095	HN	11/14/08	DH 11/14/08

NOTES:

1. RF CHARACTERISTICS:

	VOR/LOC	AND	G/S
1.1 FREQUENCY:	108-118 MHz		329-335 MHz
1.2 VSWR:	6.0:1 MAX		5.0:1 MAX
RETURN LOSS:	- 2.92 dB		-3.52 dB

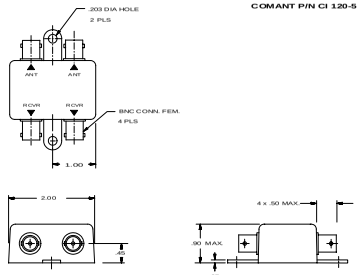
(WHEN TESTED IN THE COMPLETE ANTENNA SYSTEM).

1.3 IMPEDANCE: 50 OHMS NOMINAL

1.4 POLARIZATION: HORIZONTAL

2. AIRSPEED RATING: 600 KNOTS T.A.S @ 25,000 FT
3. TSO C34e, C36e, C40c RTCA DO-160D
   ENV. CAT. : [F2X]ACB[T(E1,P)]XRFDXSXXXX[XX][XXXX]XCX.
4. SYSTEM WEIGHT: 3.00 LBS. MAX.
5. FINISH: WHITE POLYURETHANE PAINT, NON YELLOWING
6. APPLY ON THE SYSTEM.

POWER COMBINER
COMANT P/N CI 120-5



QTY	ITEM NO.	PART NO.	DESCRIPTION	MATERIAL / SPECIFICATIONS
1	5	B120180-1	ANTENNA SYSTEM LABEL	6
1	4	A12038	INSTALLATION INSTRUCTIONS	INCLUDED
2	3	CI 120-2	CABLE ASSY	
1	2	CI 120-5	POWER COMBINER	
2	1	CI 120-1-L	ANTENNA-BLADE	

LIST OF MATERIALS

NEXT ASSY	USED ON	DASH NO.
APPLICATION		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ± .03 XXX ± 0.10
FRACTIONS ± 1/16 ANGLES ± 1°
MACH FINISH 125 PER ASME B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX.
MEET DM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.
CESSNA

DATE JULY 08-03

DFTSM	H.Nguyen	07/08/03
CHECK	J. Gomez	07/09/03
ENGR	D.J.Holloway	07/09/03
QC	P.Bosneanu	07/09/03
APPD	D.J.Holloway	07/09/03

Comant Industries, Inc.

TITLE
ANTENNA SYSTEM-
VOR/LOC/GS

CODE IDENT	DWG. NO.
51351	CI 120-200G/S-L

D

SCALE: NONE WT: SHT 1 OF 1

CI 120-200G/S-L D

Comant CI 120-400

VOR/LOC/GS

The most important thing we build is trust

CI 120-400 VOR/LOC/GS

Comant designed this VOR/LOC/GS navigation antenna blade set for the Cessna 182 Series. Unique design and manufacturing techniques keep this set competively priced while offering the reduced-drag advantages of a blade set.

Complete kit includes a pair (2) of blades, each with a single BNC output, and two coax interconnect cables. Single BNC output phasing combiner providing for a single RF cable run to the avionics installation.

Applications

Consult your FBO or installation shop for best application information.

Frequencies Covered

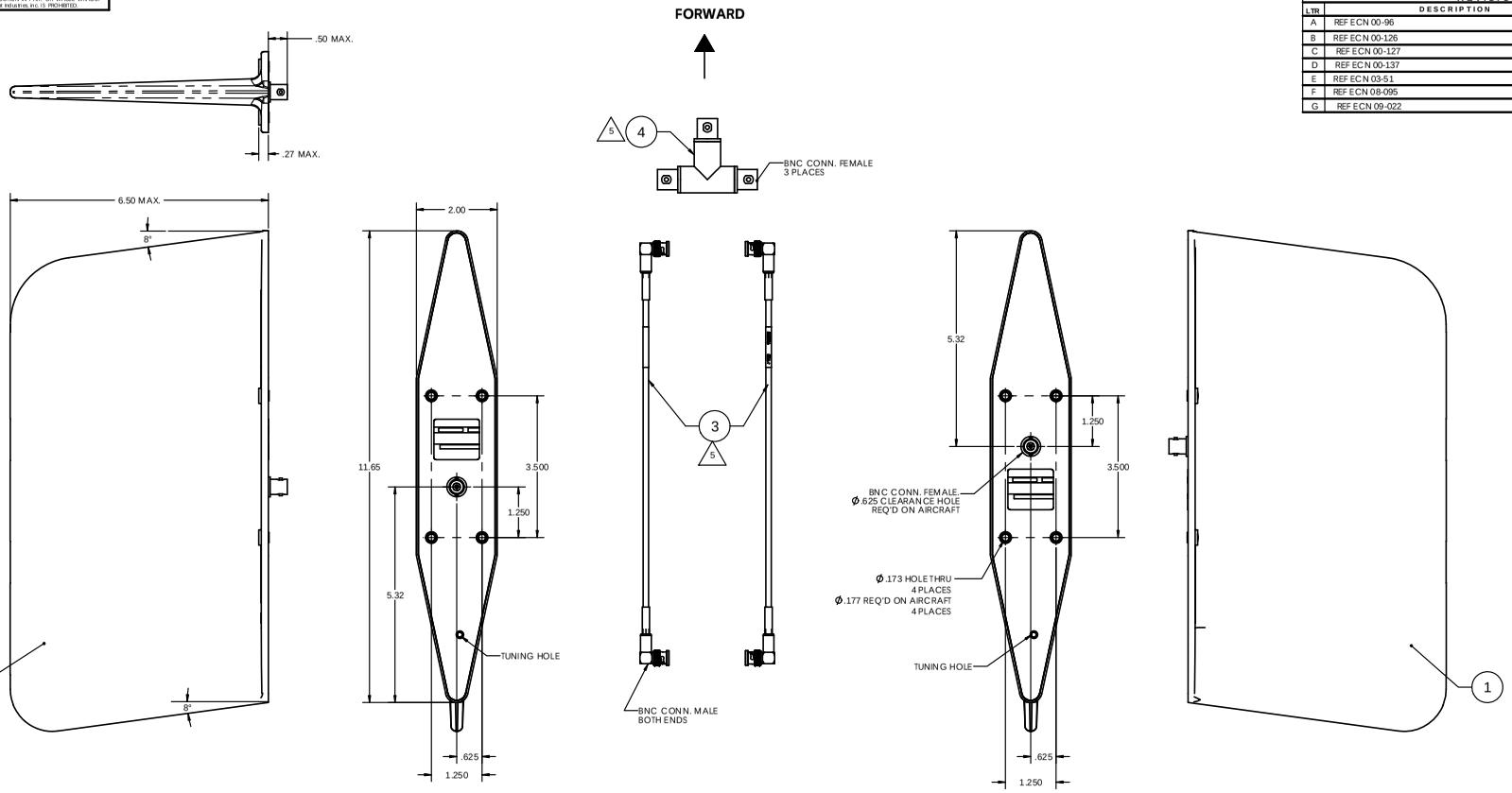
108-118 MHz (VOR/LOC), 329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	6.0:1 108-118 MHz 3.5:1 329-335 MHz
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
System Weight	2.8 lbs
Height	6.5 Inches Maximum
Finish	Polyurethane Enamel
Connector	BNC / Single Output Combiner
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



REVISIONS

LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 00-96	HN	7/17/00	DH 07/18/00
B	REF ECN 00-126	DL	9/12/00	DH 9/12/00
C	REF ECN 00-127	DL	9/15/00	DH 9/15/00
D	REF ECN 00-137	HN	10/10/00	DH 10/10/00
E	REF ECN 03-51	HN	3/12/03	DH 3/12/03
F	REF ECN 08-095	HN	11/18/08	DH 11/19/08
G	REF ECN 09-022	MN	05/14/09	DH 05/14/09

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS:

	VOR/LOC	AND	G/S
1.1 FREQUENCY:	108-118 MHz		329-335 MHz
1.2 VSWR:	6.0:1 MAX		3.5:1 MAX
R/L:	-2.92 dB MAX.		-5.11 dB MAX.

(WHEN TESTED IN THE COMPLETE ANTENNA SYSTEM).

1.3 IMPEDANCE: 50 OHMS NOMINAL

1.4 POLARIZATION: HORIZONTAL

2. AIRSPEED RATING: 300 KNOTS T.A.S MAX. @ 25,000 FT
3. TSO C34e, C36e, C40c, RTCA DO-160D
   ENV. CAT.: [D2X]ACB[S(E)]XRFDXSXXXXX[XX]X[XXXX]XXX.
4. SYSTEM WEIGHT: 2.8LBS.
5. T-PHASING COMBINER AND CABLES (2) ARE SUPPLIED WITH SYSTEM

QTY	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
1	5	A120173	INSTALLATION INSTRUCTION	
1	4	B120103	T-PHASING COMBINER	
2	3	B120106	CABLE ASSY	
1	2	D120167-L	ANTENNA BLADE,VOR,LOC,GS, LEFT	
1	1	D120167-R	ANTENNA BLADE,VOR,LOC,GS, RIGHT	

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	03/12/03
CHECK	J. GOMEZ	03/12/03
ENGR	D.HOLLOWAY	03/12/03
QC	P. BOSNEANU	03/12/03
APPD	D. HOLLOWAY	03/12/03

Comant Industries, Inc.

ANTENNA SYSTEM-
VOR/LOC/GS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 120-400	G

SCALE: 1:1 | CAD FILE: -- | SHEET: 1 OF 1

DWG NO CI 120-400 REV G

Comant CI 24-37-01

VOR/LOC/GS

The most important thing we build is trust

Comant 24-37-01 VOR/LOC/GS

Navigation antenna system provides optimum VOR/LOC/GS performance. Antenna system qualified for use on larger twin engine, jet, and helicopter aircraft. Complete set includes a pair (2) of blades, each with single BNC connector output, two coax interconnect cables and a single output signal combiner providing for single RF cable runs to the avionics installation for NAV receivers.

Applications

The popular design is standard equipment on many Beech King Airs.

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

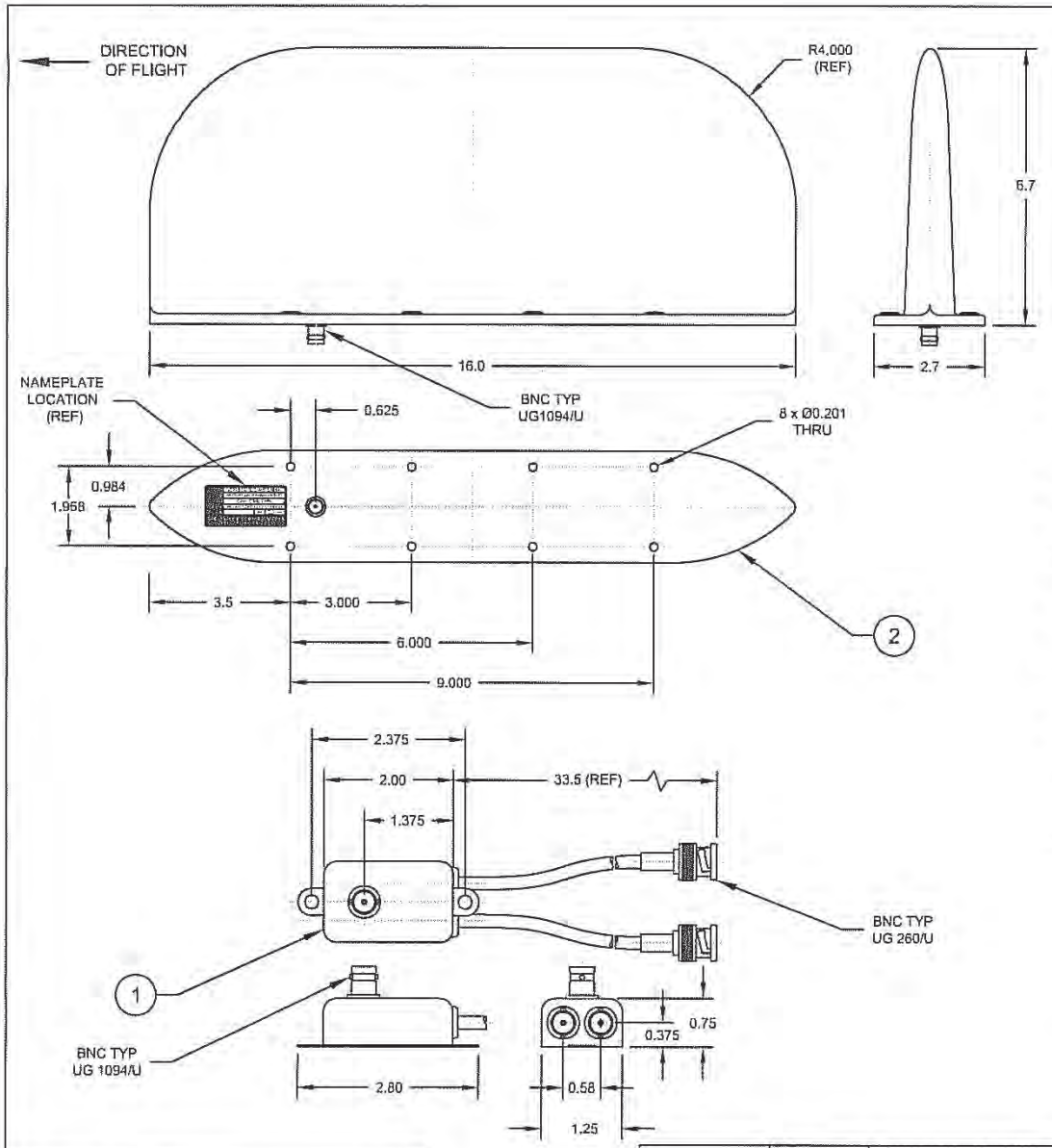
108-118 MHz (VOR/LOC)
329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	6.0:1 108-118 MHz 3.5:1 329-335 MHz
Polarization	Horizontal
Radiation Pattern	Omni Directional
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
System Weight	2.8 lbs
Height	6.5 Inches Maximum
Finish	Polyurethane Enamel
Connector	BNC / Single Output Combiner
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160D

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
C	REDRAWN DCN 028	870805	VINH
D	SPELLING CORRECTION: "BALANCED"	940916	VINH
E	UPDATE PER DCN 115	061207	VINH
F	UPDATE PER DCN 2011-78	110711	XX

SPECIFICATION:

FREQUENCY RANGE:	*108-118 MHz*
	329-336 MHz
VSWR:	*5.0:1 MAX*
RF POWER RATING:	*50 WATTS*
IMPEDANCE:	*50 OHMS NOMNAL*
GROUNDING PROVISION:	*THROUGH MOUNTING*
TEMPERATURE RANGE:	*-55°C TO +71°C*
MATING CONNECTION:	*BNC SERIES MIL TYPE UG 88/U*
SHELL CONSTRUCTION:	*POLYESTER RESIN AND FIBERGLASS FILLED WITH POLYURETHANE FOAM.*
FINISH:	*WHITE POLYURETHANE PAINT.*

NOTES:

1. *ANTENNA UNIT DESIGNED TO MEET OR EXCEED TSO REQUIREMENTS C34c, C36c AND C40b.*

2. *ANTENNA UNIT SHALL HAVE TSO IDENTIFICATION PLATE.*

ITEM	QTY	PART NUMBER	DESCRIPTION	SPEC
2	2	24-37-101	BLADE ANTENNA	
1	1	80-37-101	PHASING COUPLER	

PARTS LIST

CONTRACT NO.

Comant Industries, Inc.

APPROVALS		DATE
DRAWN	VINH	870805
CHECKED	FPR	870805
RELEASED	FPR	870805

TITLE: *NAVIGATION ANTENNA BALANCED LOOP*

SIZE	FSCM NO.	DWG NO.	REV
A	51351	24-37-01	F

SCALE NONE SHEET 1 OF 1

NEXT ASSY	USED ON
APPLICATION	DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS ± —— DECIMALS .X ± .1 .XX ± .030 .XXX ± .010 ANGLES ± 2°

Comant CI 157P

VOR/LOC/GS

The most important thing we build is trust

CI 157P VOR/LOC/GS

"V" Dipole VOR/LOC/GS antenna with fixed elements designed specifically for compatibility with the Piper Aircraft mounting. Integral ferrite balun provides for higher radiation efficiency replacing cumbersome coaxial baluns previously utilized. Radiating elements are not removable.

Applications

Consult your FBO or installation shop for best application information.

Not approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR/LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	0.5 lbs. Maximum
Height	18.6 inches Maximum
Finish	Black housing / Stainless steel whips
Connector	BNC
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34e, C36e, C40c
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160C

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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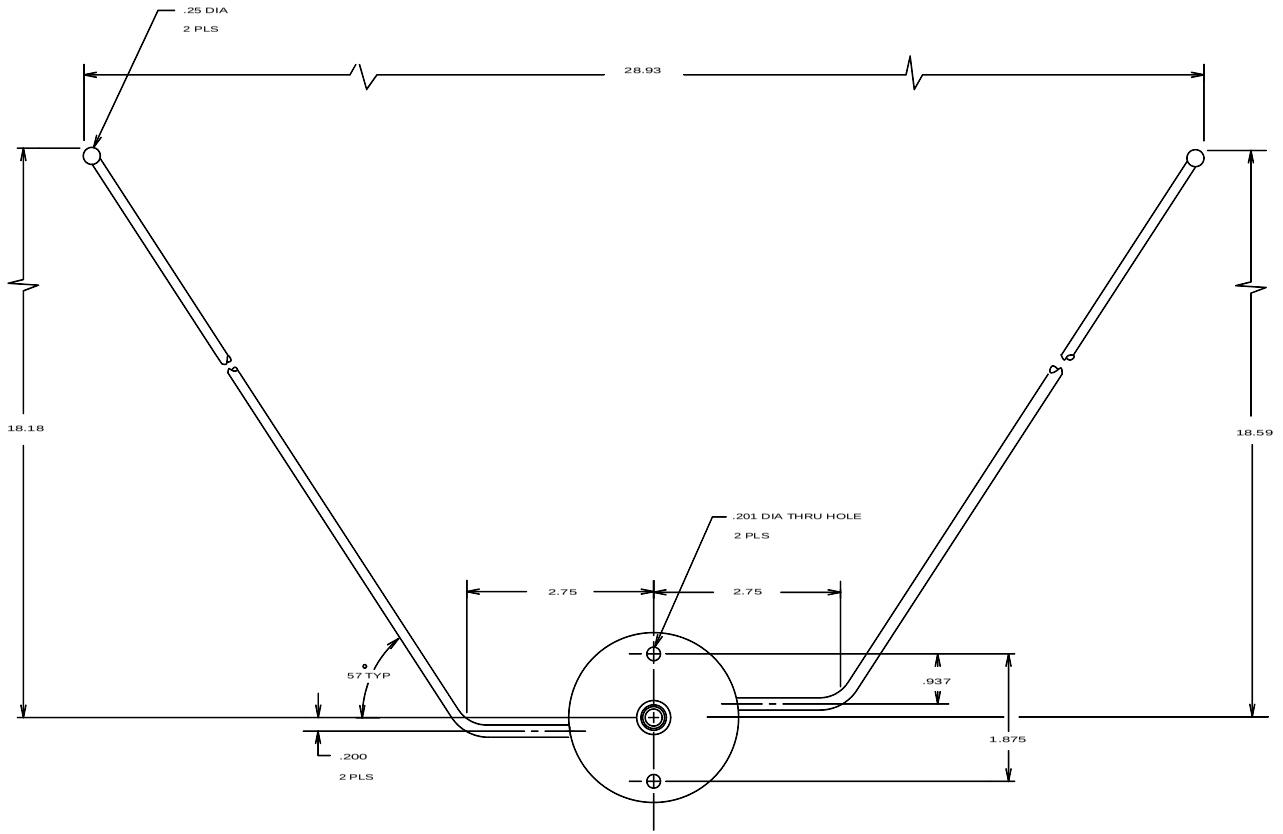
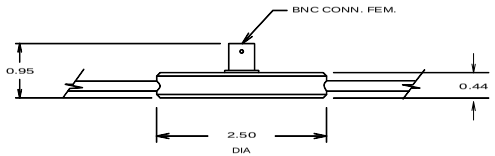
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	ADDED GROUD LUG	5/9/78	DDM
B	REDRAWN 8-10-84 AND 1-11-85. ADDED △1 & DWG NOTE 4	1-11-85	DS 1-21-85
C	REF ECN 95-106	8/15/95	DH 8/24/95
D	REF ECN 95-125	10/18/95	DH 10/30/95





NOTES:

1. RF CHARACTERISTICS:
   - FREQUENCY _____ 108-118 MHz and 329-335 MHz
   - VSWR _____ 3.0:1 MAX.
   - POLARIZATION _____ HORIZONTAL
   - IMPEDANCE _____ 50 OHMS
2. ANTENNA BALUN IS INTEGRAL TO MOUNTING BASE.
3. WEIGHT: 0.5 Lb.
4. AIRSPEED RATING: 250 KNOTS TAS
5. TSO C34e, C36e, C40c, DO -160C ENV. CAT.:
   [A2F2]-AC[CLM]XRFXXXXXXXXXXXC

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DEC .XX ± .03 XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ASME B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIM. BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	DATE 1-11-85		TITLE ANTENNA - DIPOLE VOR/LOC/GLIDE SLOPE
	DRAWN GREG LAZARRE	1-11-85	
	CHECK RIES	1-21-85	
	ENGR RIES	1-21-85	
	APPD R.SICCAMA	1-15-85	D / CODE IDENT 51351 / DWG. NO. CI 157P
			SCALE: 1/1 / WT: / SHT 1 OF 1

CI 157P D

Comant CI 158C

VOR/LOC/GS

The most important thing we build is trust

CI 158C VOR/LOC/GS

"V" Dipole VOR/LOC/GS antenna with detachable elements mounts on top of vertical stabilizer for most single engine general aviation aircraft. RF design similar to the CI 157P. Integral ferrite balun provides for higher radiation efficiency. Detachable elements result in a significantly smaller shipping and storage carton than fixed element versions.

Applications

Consult your FBO or installation shop for best application information.

Not approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

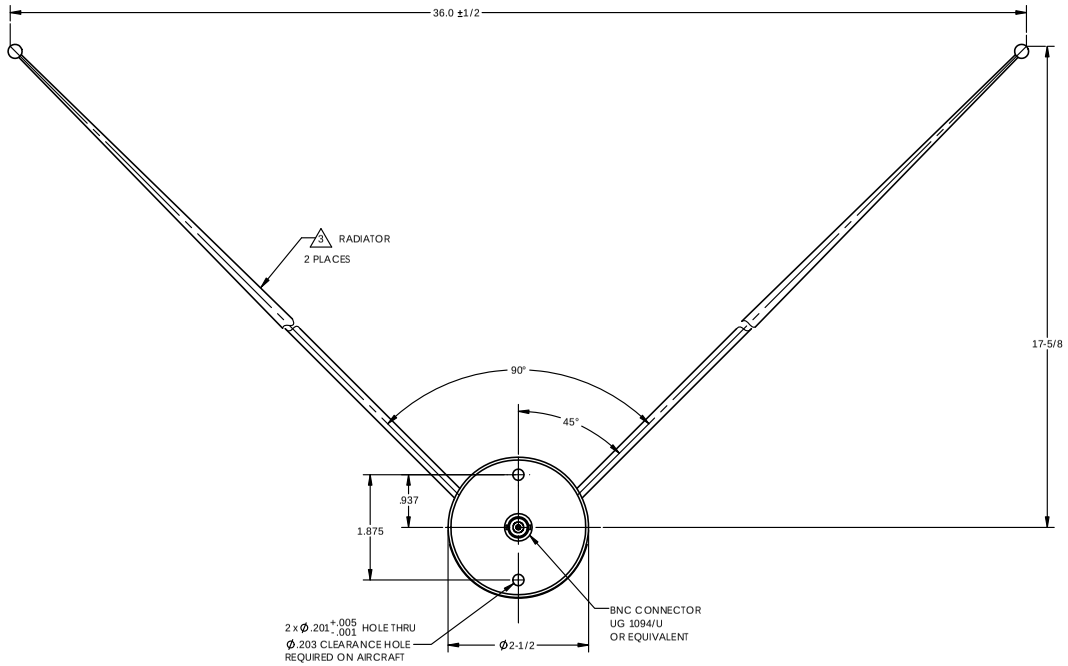
Specifications

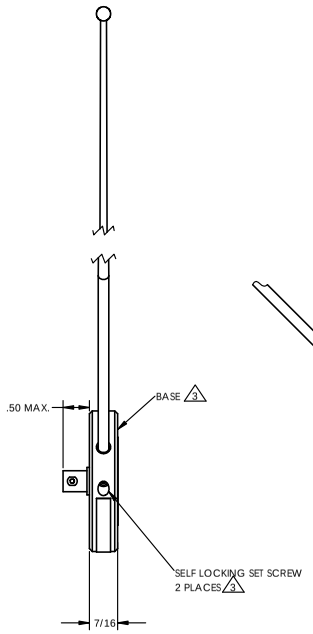
Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR/LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	0.35 lbs. Maximum
Height	17 5/8 inches Maximum
Finish	Black housing / Stainless steel whips
Connector	BNC
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160

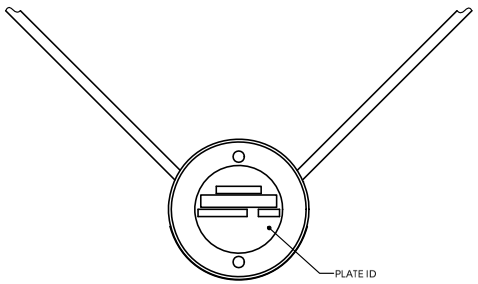
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	PART NO. WAS CI 158A	4/8/79	DDM
B	ADDED NOTE 5, TSO ETC NO. , 5/8 CONN DIM WAS .48	8/19/79	DDM
C	DWG. NO. (PART NO.) WAS CI 158B	8/29/79	DDM
D	ADDED NOTE 6 & ASSY DWG. NO.	1/10/85	RES 1/16/85
E	NOTE 5 ENV CAT. WAS B2AL	10/10/85	RES 10/10/85
F	REF ECN 16-023 MN	5/11/16	DH 5/11/16







NOTES; UNLESS OTHERWISE SPECIFIED.

1. RE CHARACTERISTICS:
   - FREQUENCY _____ 108 TO 118 MHz AND 329 TO 335 MHz
   - VSWR _____ 3.0:1 MAX.
   - IMPEDANCE _____ 50 OHMS NOMINAL
   - POLARIZATION _____ HORIZONTAL
2. ANTENNA BALUN INTERNAL TO MOUNTING BASE.
3. ANTENNA SHIPPED WITH RADIATORS DISASSEMBLED. TO ASSEMBLE, SCREW RADIATORS INTO BASE AND LOCK IN PLACE WITH SELF LOCKING SET SCREWS.
4. WEIGHT: .35 LBS
5. TSO C34c, C36c, C40a, DO-160 ENV. CAT.: B2ALXXXXXXXXXX
6. SPEED RATING: 250 KNOTS TAS

ASSEMBLY DRAWING B15801

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .X ± .03 .XX ± .01 .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : –	CONTRACT NO.	Comant Industries, Inc.	
	APPROVALS / DATE	ANTENNA - DIPOLE VOR / LOC / GLIDE SLOPE	
	DRAWN DAVEY 05/05/79		
	CHECK D. MARARAS 08/19/79		
	ENGR J. R. TORRES 08/30/79		
	APPD R. SICCAMA 08/30/79	DWG SIZE D / CODE IDENT 51351 / DWG. NO. CI 158C / REV. F	
DO NOT SCALE DRAWING		SCALE: – / CAD FILE: – / SHEET: 1 OF 1	

Comant CI 158C-2

VOR/LOC/GS

The most important thing we build is trust

CI 158C-2 VOR/LOC/GS

"V" Dipole VOR/LOC/GS antenna with detachable elements mounts on top of vertical stabilizer for most single engine general aviation aircraft. RF design similar to the CI 157P. Integral ferrite balun provides for higher radiation efficiency. Detachable elements result in a significantly smaller shipping and storage carton than fixed element versions.

Applications

Consult your FBO or installation shop for best application information.

Not approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR/LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	0.35 lbs. Maximum
Height	17 5/8 inches Maximum
Finish	Black housing / Stainless steel whips
Connector	BNC
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

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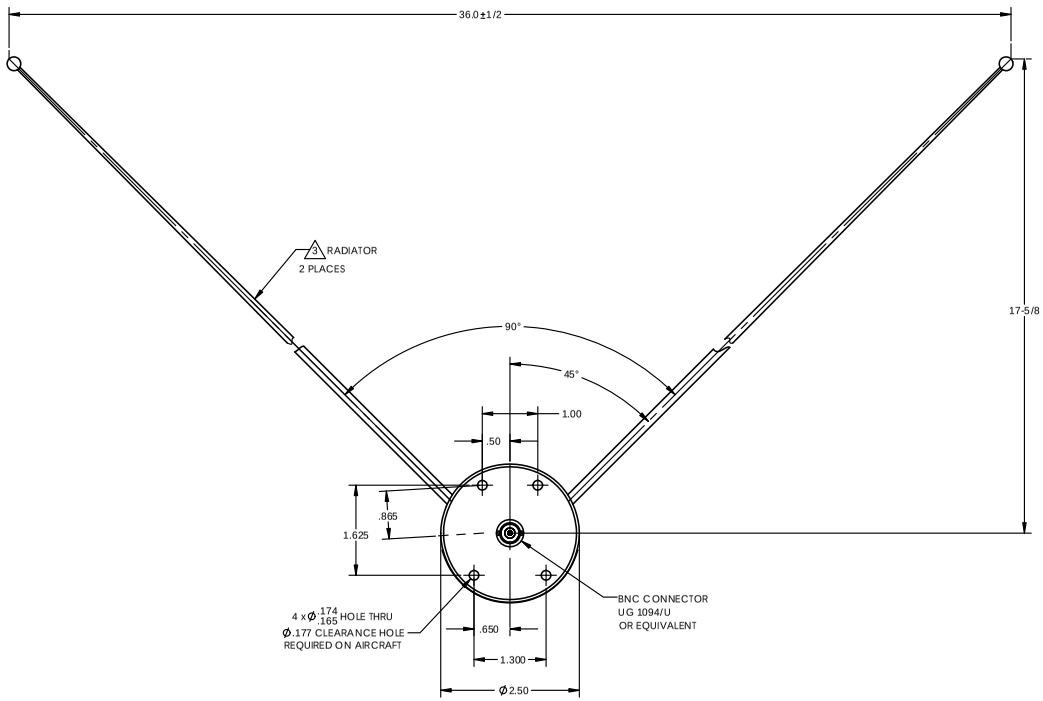
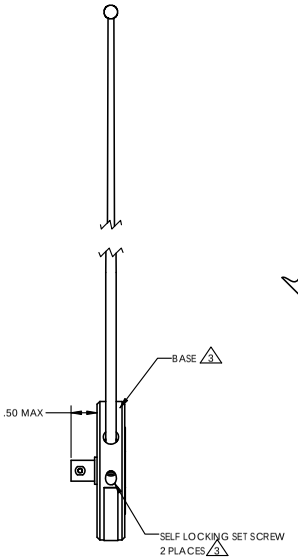
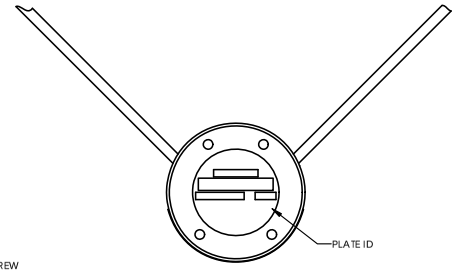
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	DIM. 1.625 WAS: 1.562, DIM .865 WAS: .781		2/15/77	G.R.
B	DWG NO. (PART NO.) WAS CI 158A-2		2/21/81	RES
C	ADDED NOTE 4, 5 & 6 AND ASSY DWG. NO.		1/5/85	RES
D	NOTE 6 ENV CAT. WAS B2AL. 90° WAS 95°, 45° WAS 47-1/2°		10/10/85	RES 10/10/85
E	REF ECN 16-023	MN	5/11/16	DH 5/11/16







NOTES; UNLESS OTHERWISE SPECIFIED.

1. RE CHARACTERISTICS:
   - FREQUENCY _____ 108 TO 118 MHz AND 329 TO 335 MHz
   - VSWR _____ 3.0:1 MAX.
   - IMPEDANCE _____ 50 OHMS NOMINAL
   - POLARIZATION _____ HORIZONTAL
2. ANTENNA BALUN INTERNAL TO MOUNTING BASE.
3. ANTENNA SHIPPED WITH RADIATORS DISASSEMBLED. TO ASSEMBLE, SCREW RADIATORS INTO BASE AND LOCK IN PLACE WITH SELF LOCKING SET SCREWS.
4. WEIGHT: .35 LBS
5. SPEED RATING: 250 KNOTS TAS
6. TSO C34c, C36c, C40a, DO-160 ENV. CAT.: B2ALXXXXXXXXXX

ASSY DRAWING B15801-2

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .X ± .03 .XX ± .01 .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125√ PER ANSI B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : -- DO NOT SCALE DRAWING	CONTRACT NO.	Comant Industries, Inc. ANTENNA - DIPOLE VOR / LOC / GLIDE SLOPE

APPROVALS		DATE
DRAWN	G. WEBBER	02/08/77
CHECK	L. BROWN	02/08/77
ENGR	H. SUMMERS	02/08/77
APPD	H. SUMMERS	02/08/77

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 158C-2	E

SCALE: 1:1 CAD FILE: -- SHEET: 1 OF 1

CI 158C-2 REV. E

Comant CI 159C

VOR/LOC/GS

The most important thing we build is trust

CI 159C VOR/LOC/GS

"V" Dipole VOR/LOC/GS antenna with detachable elements mounts on top of vertical stabilizer for most single engine general aviation aircraft. Integral ferrite balun provides for higher radiation efficiency.

Detachable elements result in a significantly smaller shipping and storage carton than fixed element versions. Fiberglass whips with 2-hole mounting configuration.

Applications

Consult your FBO or installation shop for best application information.

Not approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR/LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	0.45 lbs. Maximum
Height	17 inches Maximum
Material	Delrin Housing / Polyester glass laminate over stainless steel radiators
Finish	Black housing / Stainless steel whips
Connector	BNC
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA Environmental	DO-160

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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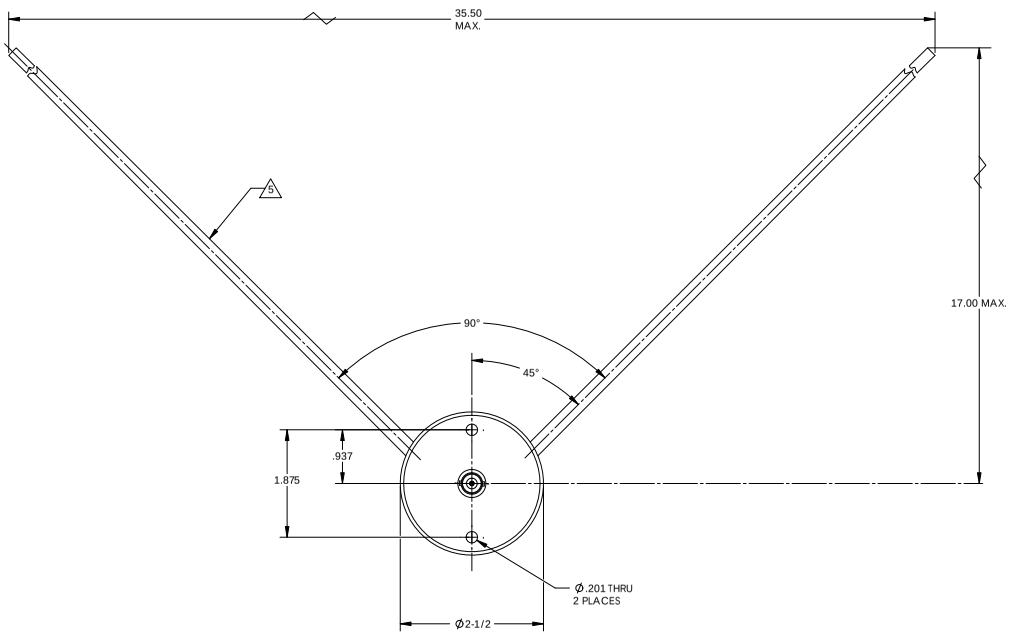
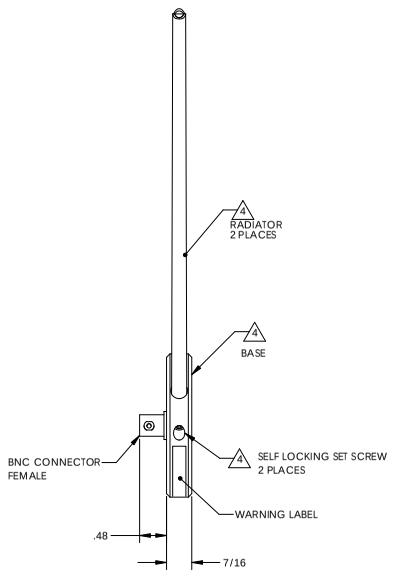
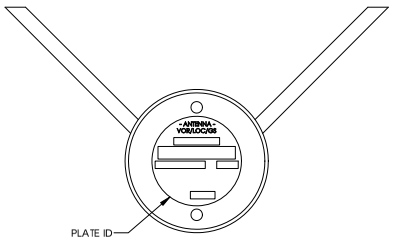
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
K	REF ECN 06-98 MN	9/22/06	AV 9/22/06
L	REF ECN 08-095		







NOTES; UNLESS OTHERWISE SPECIFIED.

1. RE CHARACTERISTICS:
   - FREQUENCY _____ 108 TO 118 MHz
     329 TO 335 MHz
   - VSWR _____ 3.0:1 MAX.
   - RETURN LOSS _____ -6.02 dB
   - POLARIZATION _____ HORIZONTAL
   - IMPEDANCE _____ 50 OHMS NOMINAL
2. ANTENNA BALUN INTERNAL TO MOUNTING BASE.
3. WEIGHT: .45 LB
4. ANTENNA SHIPPED WITH RADIATORS DISASSEMBLED. TO ASSEMBLE, SCREW RADIATORS INTO BASE AND LOCK IN PLACE WITH SELF LOCKING SET SCREWS.
5. POLYESTER GLASS LAMINATE RADIATOR PROVIDES PROTECTION AGAINST PRECIPITATION STATIC.
6. TSO C34c, C36c, C40a, DO-160 ENV. CAT.: B2ALXXXXXXXXXX
7. SPEED RATING: 250 KNOTS TAS
8. TEST PROCEDURE NO. 159C

ASSEMBLY DRAWING B15901

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .X ± .03 .XX ± .01 .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M **MATERIAL :** –	APPROVALS		DATE
	DRAWN	DAVEY	05/05/79
	CHECK	D. MARARAS	08/19/79
	ENGR	J. R. TORRES	08/30/79
	APPD	R. SICCAMA	08/30/79
DO NOT SCALE DRAWING			

Comant Industries, Inc.

ANTENNA - DIPOLE
VOR / LOC / GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 159C	L

SCALE: -- CAD FILE: -- SHEET : 1 OF 1

DWG NO CI 159C REV. L

Comant CI 215

VOR/LOC/GS

The most important thing we build is trust

CI 215 VOR/LOC/GS

"V" Dipole VOR/LOC/GS antenna with detachable elements featuring two integrally molded mounting legs or "spacers" for increased strength. Radiating elements are laminated with polyester glass material for improved precipitation static protection. Interchangeable with the VOR/LOC/GS antennas used on most Cessna single engine aircraft since 1980 including the Cessna 182 and 210 models.

Applications

Consult your FBO or installation shop for best application information.

Not approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

Specifications

Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms
Power RF	Receive Only
Mechanical	
Weight	0.6 lbs. Maximum
Height	23.0 in. Maximum
Material	Delrin mounts / Glass Laminate Whips
Finish	Black housing/ Polyurethane Enamel
Connector	BNC (Female)
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA Environmental	DO-160

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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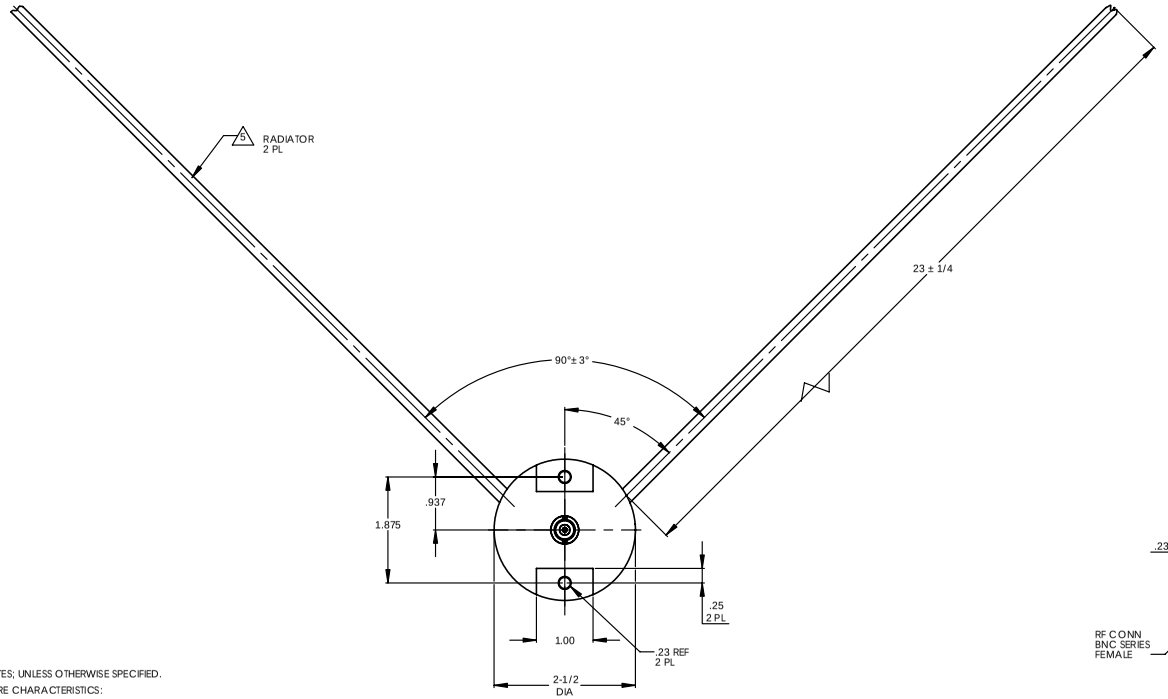
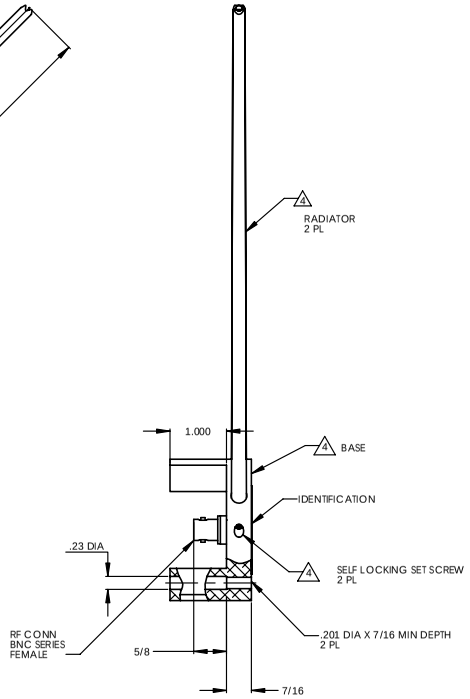
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	NOTE 6 C2AL WAS B2AL		2/7/80	DM
B	ADDED .201 DIA x 7/16 MIN DEPTH, .23 DIA AND 23 RADIATOR DIM : DELETED 35-11/32 AND 15-23/32 MIN		2/19/80	DM
C	REF ECN 99-62	HN	5/19/99	kenrinh 5-20-98
D	REF ECN 03-254	HN	9/26/03	DH 09/26/03





NOTES; UNLESS OTHERWISE SPECIFIED.

1. RE CHARACTERISTICS:
   - FREQUENCY _____ 108 TO 118 MHz
     329 TO 335 MHz
   - VSWR _____ 3.0:1 MAX.
   - POLARIZATION _____ HORIZONTAL
   - IMPEDANCE _____ 50 OHMS NOMINAL
2. ANTENNA BALUN INTERNAL TO MOUNTING BASE.
3. WEIGHT: .6 LB MAX.
4. ANTENNA IS SHIPPED WITH RADIATORS DISASSEMBLED. TO ASSEMBLE, SCREW RADIATORS INTO BASE AND LOCK IN PLACE WITH SELF LOCKING SET SCREWS.
5. POLYESTER GLASS LAMINATE RADIATOR PROVIDES PROTECTION AGAINST PRECIPITATION STATIC.
6. TSO C34c, C36c, C40a, DO-160 ENV. CAT.: C2ALXXXXXXXXXX
7. AIR SPEED RATING: 250 KNOTS TAS WITH AFT- POINTING MOUNT ON VERTICAL STABILIZER.

ASSY DWG. B21501
ENVELOPE DRAWING

PARTS LIST

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125✓ PER MIL-STD-10
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DFTSM	DAVEY	9/26/79
CHECK	D. MARADAS	9/26/79
ENGR	J. R. TORRES	9/26/79
APPD	H. SUMMERS	9/26/79

Comant Industries, Inc.

ANTENNA - DIPOLE
VOR/LOC/GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 215	D

SCALE: 1/1 WT: 3 SHEET : 1 OF 1

CI 215 D

Comant CI 259E

VOR/LOC/GS

The most important thing we build is trust

CI 259E VOR/LOC/GS

"V" dipole VOR/LOC/GS antenna with fixed elements for helicopter aircraft. Features an integral ferrite balun and fixed element construction. Mechanically designed to withstand the severe low frequency vibration environment experienced by typical helicopter installations.

Applications

Consult your FBO or installation shop for best application information.

Approved for helicopter installations.

Frequencies Covered

108-118 MHz (VOR/LOC), 329-335 MHz (GS)

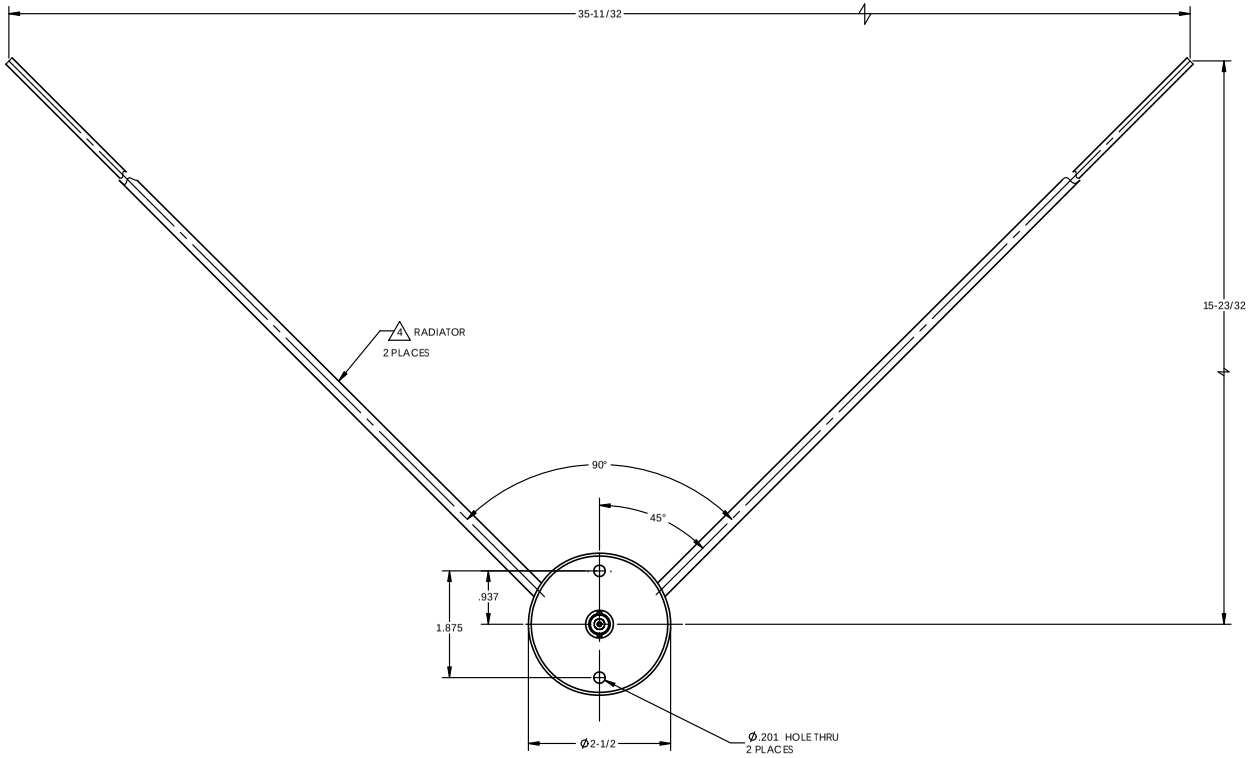
Specifications

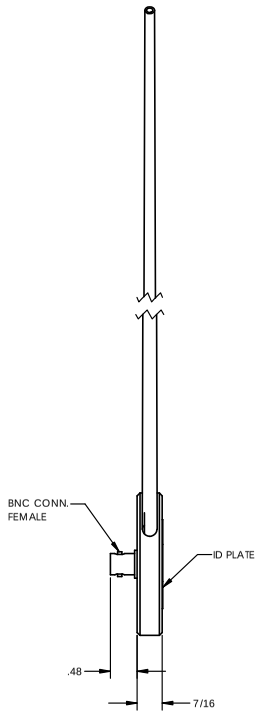
Electrical	
Frequency	108-118 MHz (VOR/LOC) 329-335 MHz (GS)
VSWR	3.0:1 Max. 108-118 MHz (VOR/LOC) 3.0:1 Max. 329-335 MHz (GS)
Polarization	Horizontal
Radiation Pattern	Dipole
Impedance RF	50 Ohms Nominal
Power RF	Receive Only
Mechanical	
Weight	0.35 lbs. Maximum
Height	16.0 inches Maximum
Material	Delrin Housing / Polyester glass laminate over stainless steel radiators
Finish	Black housing / Stainless steel whips
Connector	BNC
Environmental	
Temperature	-55 C to +85 C
Altitude	50,000 ft
Federal Specifications	
FAA TSO	C34c, C36c, C40a
RTCA MOPS	DO-192, DO-195, DO-196
RTCA Environmental	DO-160

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL





NOTES; UNLESS OTHERWISE SPECIFIED.

1. RE CHARACTERISTICS:
   - FREQUENCY _____ 108 TO 118 MHz AND 329 TO 335 MHz
   - VSWR _____ 3.0:1 MAX.
   - POLARIZATION _____ HORIZONTAL
   - IMPEDANCE _____ 50 OHMS NOMINAL
2. ANTENNA BALUN INTERNAL TO MOUNTING BASE
3. WEIGHT: .35 LBS
4. POLYESTER GLASS LAMINATE RADIATOR PROVIDES PROTECTION AGAINST PRECIPITATION STATIC
5. TSO C34c, C36c, C40a, DO-160 ENV. CAT.: D2A/UV/XXXXXXXXX
6. ANTENNA RADIATORS ARE PERMANENTLY INSTALLED (NOT REMOVABLE)
7. QUALIFIED FOR USE ON HELICOPTER AIRCRAFT
8. AIRSPEED RATING: 250 KNOTS

ASSY DRAWING C25901

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .X ± .03 .XX ± .01 XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125✓ PER ANSI-B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : -- DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	APPROVALS	DATE	ANTENNA - DIPOLE VOR / LOC / GLIDE SLOPE
	DRAWN DAVEY	03/05/79	
	CHECK L. BROWN	03/06/79	
	ENGR L. BROWN	03/06/79	
	APPD H. SUMMERS	03/06/79	DWG SIZE D · CODE IDENT 51351 · DWG NO. CI 259E · REV. C SCALE: 1:1 · CAD FILE: -- · SHEET 1 OF 1

CI 259E REV C

Comant CI 401-220

ComDat® GPS

The most important thing we build is trust

CI 401-220 ComDat GPS

Comant's ComDat stand-alone GPS antenna with TNC connector. Matches the standard ARINC 743A footprint found on many twins and business jets.

Meets RTCA DO 160D Environmental Test standards including direct effects lightning. Designed to operate with 26.5 dB panel mount GPS receivers.

Certified FAA TSO-C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 26.5 dB Gain

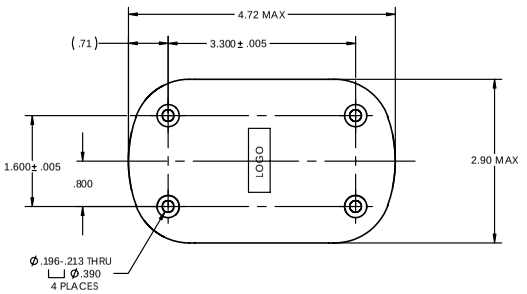
Specifications

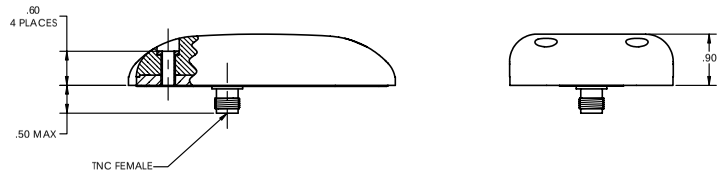
GPS Preamplifier Characteristics	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	26.5 min -31.5 dB max
DC Voltage	4 to 24 Volts
DC Current Min/Max	25mA / 40 mA
Noise Figure	3.8 dB
Selectivity	-40 dB Min. @ Satcom 1626.5 MHz
Mechanical	
Weight	6.2 Ounces
Finish	Glossy White
Connector	TNC (Female)
'O' Ring Gasket	70486
Environmental	
RTCA Env.	DO-160D
Federal Specifications	
TSO	C144

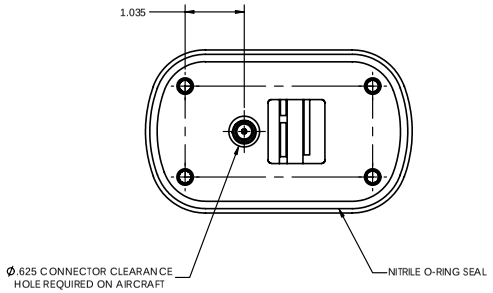
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	08/07/03	DH 08/07/03
B	REF ECN 03-230	JF	09/09/03	DH 09/09/03
C	REF ECN 04-65	HN	04/15/04	DH 04/15/04
D	REF ECN 06-41	HN	05/03/06	DH 05/03/06
E	REF ECN 07-56	AV	03/15/07	AV 03/16/07
F	REF ECN 07-187	AV	10/1/07	AV 10/2/07
G	REF ECN 08-008	AV	01/22/08	AV 01/22/08
H	REF ECN 08-095	MN	11/11/08	DH 11/11/08







ANTENNA NOTES & SPECIFICATIONS

1.0 PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +70° C)

- 1.1 FREQUENCY — 1575.42 ± 3MHz
- 1.2 POLARIZATION — RIGHT HAND CIRCULAR
- 1.3 AXIAL RATIO — 3.0 dB ON BORESIGHT (ZENITH) MAX.
- 1.4 POWER HANDLING — 1.0 WATT
- 1.5 RADIATION GAIN PATTERN MINIMUM

-1.0 dBic	0 < or = θ < 75°
-2.5 dBic	75° < or = θ < 80°
-4.5 dBic	80° < or = θ < or = 85°
-7.5 dBic	θ = 90° (HORIZON)
+5.0 dBic	nominal at θ = 0° (ZENITH)

- 1.6 AZIMUTH GAIN VARIATION — < or = 3.0 dB AT > or = 5° ELEVATION

2.0 PREAMPLIFIER CHARACTERISTICS (T_A= 20° C ± 5° C)

- 2.1 GAIN AT 1575.42 ± 3MHz — 27.0 dB MIN – 30.5 dB MAX.

3.0 PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO + 70° C)

- 3.1 FREQUENCY — 1575.42 ± 3MHz
- 3.2 OUTPUT IMPEDANCE — 50 OHMS (NOMINAL)
- 3.3 OUTPUT VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 3.4 GAIN AT 1575.42 ± 3MHz — 26.5 dB MIN – 31.5 dB MAX.
- 3.5 NOISE FIGURE — 3.8 dB MAX.
- 3.6 SELECTIVITY — - 40 dB MIN. SATCOM BAND (1626.5 MHz)
- 3.7 DC VOLTAGE — 4 TO 24 VDC
- 3.8 DC CURRENT — 25 mA MIN / 40 mA MAX.
- 3.9 STABILITY — UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR
- 3.10 BURNOUT PROTECTION — 30dBm / 1.0 W CW UNMODULATED
- 3.11 DIFFERENTIAL GROUP DELAY — 14 ns TYP. / 17 ns MAX.

4.0 WEIGHT — 6.2 Oz. MAX.

5.0 DELETED.

6.0 CONNECTOR — TNC FEMALE

7.0 TSO — C144, RTCA DO-160D

ENV. CAT.: [F2X]ACB[S(L)T(C,C1,R)]XSFDXSZXXA(CF)[ZC][WW]H[A3J33][1B]CA

8.0 A401101 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

9.0 FINISH: GLOSSY WHITE.

ASSEMBLY DRAWING C40198

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES; TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010; FRACTIONS ± 1/16 ANGLES ± 1°; MACHINE FINISH 125 PER ANSI- B46.1; REMOVE BURRS AND SHARP EDGES .015 MAX; MEET DIMENSIONS BEFORE PLATING; DIMENSIONS ARE PER ASME Y14.5M	CONTRACT NO.		Comant Industries, Inc.
	APPROVALS	DATE	GPS COMDAT® ANTENNA
	DRAWN J FRANKS	08/07/03	
	CHECK J GOMEZ	08/07/03	
	ENGR D HOLLOWAY	08/07/03	
MATERIAL : --	QC J GARCIA	08/07/03	DWG SIZE D; CODE IDENT 51351; DWG. NO. CI 401-220; REV. H
DO NOT SCALE DRAWING	APPD D HOLLOWAY	08/07/03	SCALE: 1:1; CAD FILE: --; SHEET : 1 OF 1

CI 401-220 H

Comant CI 401-221

ComDat® GPS

The most important thing we build is trust

CI 401-221 ComDat GPS

Comant's ComDat stand-alone GPS antenna with TNC connector matches the standard ARINC 743A footprint found on many twins and business jets.

Meets RTCA DO 160D Environmental Test standards including direct effects lightning.

Designed to operate with Garmin 17.0 dB gain panel mount GPS receivers.

Not compatible with most hand-held GPS receiver units.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 17.0 dB Gain

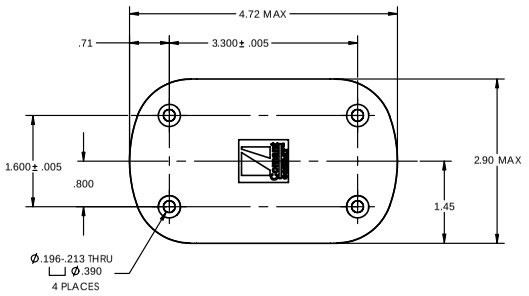
Specifications

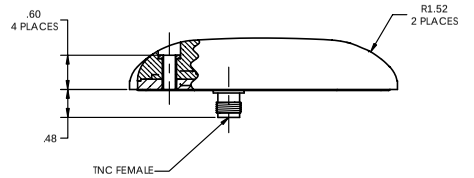
GPS Preamplifier Characteristics	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	17 +/-3 dB
DC Voltage	4 min to 24 max Volts
DC Current Min/Max	40mA Maximum
Noise Figure	3.8 dB
Selectivity	-35 dB Min. @ Satcom 1626.5 MHz
Mechanical	
Weight	6.2 Ounces
Finish	Glossy White
Connector	TNC (Female)
'O' Ring Gasket	70486
Environmental	
RTCA Env.	DO-160D
Federal Specifications	
TSO	C144

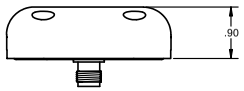
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

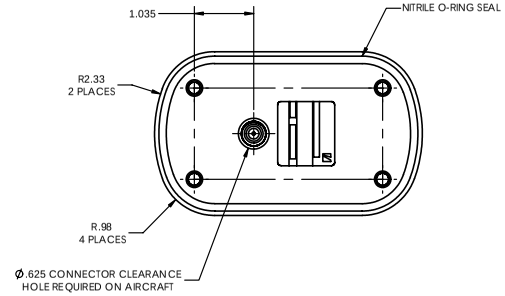
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	12/09/04	JF 12/09/04
B	REF ECN 06-41	HN	05/03/06	DH 05/03/06









WARNING: THIS PRODUCT IS TO BE INSTALLED EXCLUSIVELY WITH GPS RECEIVER EQUIPMENT REQUIRING 17dB GAIN.

NOTICE: THIS PRODUCT IS TSO C144 COMPLIANT WITH AN FAA APPROVED GAIN DEVIATION TO C144 SPECIFICATIONS AND HAS A NOMINAL GAIN OF 17dB.

ANTENNA NOTES & SPECIFICATIONS

1.0 PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +70° C)

- 1.1 FREQUENCY — 1575.42 ± 3MHz
- 1.2 POLARIZATION — RIGHT HAND CIRCULAR
- 1.3 AXIAL RATIO — 3.0 dB ON BORESIGHT (ZENITH) MAX.
- 1.4 POWER HANDLING — 1.0 WATT
- 1.5 RADIATION GAIN PATTERN MINIMUM

  -1.0 dBic 0 < or = θ < 75°
  -2.5 dBic 75° < or = θ < 80°
  -4.5 dBic 80° < or = θ < or = 85°
  -7.5 dBic θ = 90° (HORIZON)
  +5.0 dBic nominal at θ = 0° (ZENITH)

- 1.6 AZIMUTH GAIN VARIATION — < or = 3.0 dB AT > or = 5° ELEVATION

2.0 PREAMPLIFIER CHARACTERISTICS (T_A= 20° C ± 5° C)

- 2.1 GAIN AT 1575.42 ± 3MHz — 17 ± 3 dB.

3.0 PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO + 70° C)

- 3.1 FREQUENCY — 1575.42 ± 3MHz
- 3.2 OUTPUT IMPEDANCE — 50 OHMS (NOMINAL)
- 3.3 OUTPUT VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 3.4 GAIN AT 1575.42 ± 3MHz — 17 ± 3 dB.
- 3.5 NOISE FIGURE — 3.8 dB MAX.
- 3.6 SELECTIVITY — - 35 dB MIN. SATCOM BAND (1626.5 MHz)
- 3.7 DC VOLTAGE — 4 TO 24 VDC
- 3.8 DC CURRENT — 40 mA MAX.
- 3.9 STABILITY — UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR
- 3.10 BURNOUT PROTECTION — 30dBm / 1.0 W CW UNMODULATED

4.0 ANTENNA WEIGHT — 6.2 Oz. MAX.

5.0 ANTENNA SPEED RATING — 330 KIAS AT SEA LEVEL

6.0 CONNECTOR — TNC FEMALE

7.0 TSO — C144 (INCOMPLETE SYSTEM) RTCA DO-160D

ENV. CAT.: [F2X]ACB[S(L)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX][1B]CX

8.0 A401135 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS	DATE				
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN J FRANKS	12/09/04	17dB GPS ANTENNA			
	CHECK R GOMEZ	12/09/04				
MATERIAL : --	ENGR J FRANKS	12/09/04				
	QC S ADAMS	12/09/04	DWG SIZE D	CODE IDENT 51351	DWG. NO. CI 401-221	REV. B
DO NOT SCALE DRAWING	APPD J FRANKS	12/09/04	SCALE: 1:1	CAD FILE: --	SHEET: 1 OF 1	

CI 401-221 REV B

Comant CI 408-20

ComDat® GPS

The most important thing we build is trust

CI 408-20 GPS

Comant's ComDat stand-alone GPS antenna with TNC connector matches the popular circular footprint found on many general aviation aircraft and business jets.
Meets RTCA DO 160D Environmental Test standards including direct effects lightning [2A]. Designed to operate with 26.5 dB panel mount GPS receivers.

Applications

Certified FAA TSO-C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

Antenna Meets The Applicable Portions

RTCA DO-228 SEC. 2.4

TSO C144 DO-160D ENV. CAT.:[F2]-AC[S2] XRFXXSXXXXXXX[2A]C
Not compatible with most hand-held

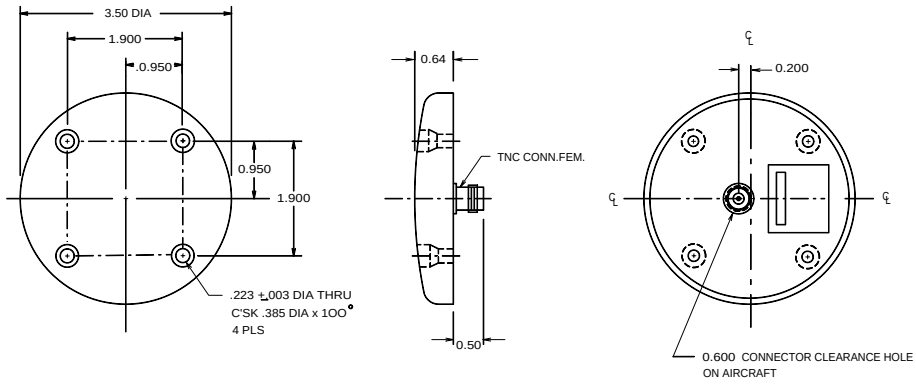
Specifications

RF Characteristics	
Iridium TX / RX	1616-1626.5 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance RF	50 Ohms
Power Handling - TX	6.5 Watts Average
Lightning Protection	DC Grounded
Gain	+3 dBic @ Zenith
Mechanical	
Weight	6.2 Ounces Maximum
Finish	Glossy White
Connector	TNC (female)
Federal Specifications	
FAA TSO	C159a
RTCA Environmental	DO-160G

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL



INSTALLATION DRAWING

NOTES:

1. RF CHARACTERISTICS (AMBIENT TEMPERATURE + 20°C)
   - FREQUENCY _____ 1575.42 +3 MHz
   - VSWR _____ 2.0:1
   - POLARIZATION _____ RHCP
   - IMPEDANCE _____ 50 OHMS
   - GAIN _____ 28 dB +3 dB
   - D.C. VOLTAGE _____ 7.0 TO 24.0 VDC
   - D.C CURRENT _____ 50 mA MAX.
   - NOISE FIGURE _____ 3.8 dB MAX.
2. TYPICAL ANTENNA PATTERN (W/O LNA GAIN)
   - -1.0 dBic Min. $0^\circ \leq \theta \leq 75^\circ$
   - -2.5 dBic Min. $75^\circ \leq \theta \leq 80^\circ$
   - -4.5 dBic Min. $80^\circ \leq \theta \leq 85^\circ$
   - -7.5 dBic Min. $85^\circ \leq \theta \leq 90^\circ$
3. WEIGHT: 0.45 LBS. MAX.
4. SPEED RATING : 600 KNOTS
5. THIS ANTENNA MEETS THE APPLICABLE PORTIONS OF RTCA DO-228 SEC. 2.4
   TSO C144 DO-160D ENV. CAT.:[F2]-AC[S2]XRFXXSXXXXXXX[2A]C

CI 408-20

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ±.010 XXX ±.005
FRACTIONS ±1/16 ANGLES ±1°
MACH.FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE	NOV. 18-97	
DFTSM	H.Nguyen	11/18/97
CHECK	D.J.Holloway	04/22/98
ENGR	D.Steward	04/22/98
APPD	D.J.Holloway	04/22/98

Comant Industries, Inc.

TITLE
GPS ANTENNA

DWG. SIZE	CODE IDENT	DWG. NO.
C	51351	CI 408-20

SCALE:1/1 | WT | SHEET 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL

INSTALLATION CONSIDERATIONS:

IF ANTENNA IS TO BE INSTALLED ON AN AIRCRAFT WITH A SATCOM (INMARSAT, 1625 MHz) ANTENNA 4 FEET MINIMUM SPACING IS RECOMMENDED.
A MAXIMUM TORQUE OF 20 in-lbs. ON FASTENERS IS RECOMMENDED TO AVOID STRESS CRACKING ANTENNA.
THE ANTENNA SHOULD BE MOUNTED ON TOP OF FUSELAGE AND BE LEVEL IN LEVEL FLIGHT. AVOID MOUNTING ANTENNA NEAR ANY PROJECTIONS OR THE PROPELLER, MINIMIZE SHADOWING BY THE WING DURING MANEUVERS

INSTALLATION INSTRUCTIONS

1. DRILL OR PUNCH 0.223 DIA MOUNTING HOLES THROUGH FUSELAGE
2. ATTACH ANTENNA USING CRESS # 10-32 FLAT HEAD, C'SK 100 SCREW
3. APPLY RTV SEALANT AROUND THE PERIPHERY OF ANTENNA BETWEEN ANTENNA AND FUSELAGE SURFACES. APPLY SEALANT UNDER AND OVER SCREW HEADS. (IF EXPOSED)
4. ICING EFFECT
   FUNCTION OF THE GPS NAVIGATION RECEPTION OF THIS ANTENNA HAS BEEN DETERMINED TO BE SATISFACTORY UNDER THE NORMAL EXPECTED ICING CONDITIONS (.050" NOM.)

DATA REQUIREMENTS OF TSO C144

1. MASK ANGLE:
   MASK ANGLE IS A RECEIVER FUNCTION, AND IS DEPENDENT UPON THE TSO EQUIPMENT CLASSES TO WHICH THE RECEIVER IS QUALIFIED. THE MASK ANGLE IS NORMALLY CONTROLLED BY RECEIVER AT SOME ANGLE ABOVE THE HORIZON. THIS ANTENNA DESIGN PROVIDES THE MAXIMUM POSSIBLE FIELD OF VIEW CONSIDERING AIRCRAFT MOUNTING REQUIREMENT
2. COUPLING AND GROUND PLANE REQUIREMENT
   A VHF ANTENNA REQUIRES A GROUND PLANE (2 FT. SQ. MIN.). BOTH GPS AND VHF COAX. SHIELDS MUST BE GROUNDED TO PREVENT SHOCK HAZARD. THIS GROUND COUPLING MAY BE MADE AT THE ANTENNA EXTERNAL INTERFACE OR INTERNALLY THROUGH THE MOUNTING HARDWARE.

SENSOR INTERFACE RESTRICTIONS

THIS ANTENNA IS INTENDED FOR USE WITH A GPS RECEIVER PROVIDING 7.0 TO 24.0 VDC ON THE COAXIAL CENTER CONDUCTOR, AND DESIGNED FOR A NOMINAL 28 dB AMPLIFIED SIGNAL FROM THE ANTENNA. CONSULT THE RECEIVERS SYSTEM CHECKOUT PROCEDURES TO VALIDATE THE COMPLETED INSTALLATION

MAINTENANCE AND CALIBRATION

NO PERIODIC MAINTENANCE AND CALIBRATION IS REQUIRED, NOR CAN BE PERFORMED TO THIS ANTENNA

FAA NOTICE TO INSTALLERS

" THE CONDITIONS AND TEST REQUIRED FOR TSO APPROVAL OF THIS ARTICLE ARE MINIMUM PERFORMANCE STANDARDS. IT IS THE RESPONSIBILITY OF THOSE DESIRING TO INSTALL THIS ARTICLE EITHER ON OR WITHIN A SPECIFIC TYPE OR CLASS OF AIRCRAFT TO DETERMINE THAT THE AIRCRAFT INSTALLATION CONDITIONS ARE WITHIN THE TSO STANDARDS THE ARTICLE MAY BE INSTALLED ONLY IF FURTHER EVALUATION BY THE APPLICANT DOCUMENTS AN ACCEPTABLE INSTALLATION AND IS APPROVED BY THE ADMINISTRATOR."

COMPATIBLE RECEIVERS

COMPATIBLE RECEIVERS THAT THE CI 408-20 ANTENNA MAY BE USED WITH ARE LISTED IN TABLE 1. IDENTIFICATION OF SUITABLE RECEIVERS.

TABLE 1

IDENTIFICATION OF SUITABLE RECEIVERS	
GPS RECEIVERS	ANTENNA SPECIFICATION
COLLINS GNLU-910 P/N 822-1155-100	COAXIAL CENTER CONDUCTOR INPUT OF 7 TO 24 VDC @ 50 mA MAX. 28 dB NOM. GAIN REQUIREMENTS
TBD	COAXIAL CENTER CONDUCTOR INPUT OF 7 TO 24 VDC @ 50 mA MAX. 28 dB NOM. GAIN REQUIREMENTS

CI 408-20

NEXT ASSY	USED ON	DASH NO.	
APPLICATION			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DEC. XX ±.010 XXX ±.005
FRACTIONS ±1/16 ANGLES ±1°
MACH.FINISH 125 PER ASME B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX.
MEET DIM. BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL
DO NOT SCALE DRAWING

CONTRACT NO.

DATE		
DFTSM		
CHECK		
ENGR		
QC		
APPD		

Comant Industries, Inc.

TITLE
GPS ANTENNA

DWG. SIZE	CODE IDENT	DWG. NO.
C	51351	CI 408-20

SCALE | WT | SHEET

Comant CI 419-200

ComDat WAAS GPS

The most important thing we build is trust

CI 419-200 ComDat® WAAS GPS

Comant's first FAA C190 compliant WAAS GPS antenna in our popular "teardrop" footprint. This WAAS GPS will operate with any qualified DO-301 GPS System. Certified FAA TSO C190 for GPS WAAS Class Gamma 2 and 3 applications and LPV.

Meets RTCA DO 160E operating standards including direct effects lightning. Designed to operate with 26.5 dB panel mount GPS receivers.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

WAAS GPS 1575.42 MHz / 26.5 db Gain

Specifications

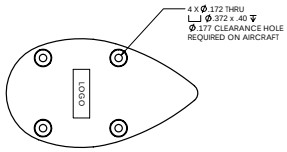
GPS Preamplifier Characteristics	
Frequency	1575.42 +/- 10.23 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	26.5 Min. / 32.5 dB
DC Voltage	4 to 24 Vdc
DC Current	40mA Typical / 60mA Max
Noise Figure	2.5 dB
G/T Ratio @ 5° Elevation	>/= 31.6dBK

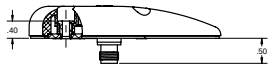
Mechanical	
Weight	5.0 Ounces
Finish	Glossy White
Connector	TNC (Female)
Environmental	
RTCA Env.	DO-160E
Federal Specifications	
TSO	C190

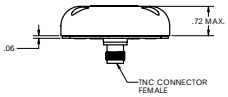
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

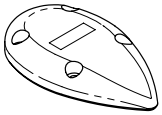
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	6/25/08	DH 6/25/08
B	REF ECN 09-015	MN	3/26/09	DH 3/26/09

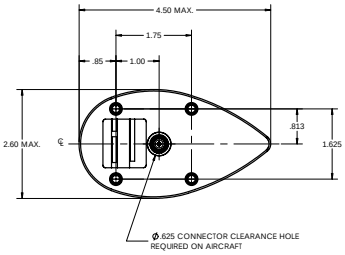








ISOMETRIC VIEW



ANTENNA ASSY D41901

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M.NGUYEN	6/24/08
CHECK	D. HOLLOWAY	6/24/08
ENGR	D. HOLLOWAY	6/24/08
MFG	J. JONES	6/25/08
QC	S. ADAMS	6/25/08

Comant Industries, Inc.

GPS
COMDAT ® ANTENNA

SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 419-200	B

SCALE: 1:1 CAD FILE: -- SHEET - 1 OF 2

CI 419-200 REV. B

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

NOTES: UNLESS OTHERWISE SPECIFIED.

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A= -55º C TO +85º C)

1.1 FREQUENCY 1575.42 ± 10.23 MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 PASSIVE RADIATING ELEMENT GAIN AT 1575.42 MHz AND 5º ELEVATION -5.5 dBic MINIMUM OVER ALL AZIMUTH ANGLES.

1.5 ANTENNA UNIT RELATIVE RADIATION PATTERN

MINIMUM		MAXIMUM	
ELEVATION ANGLE (DEG)	PATTERN RATIO	ELEVATION ANGLE (DEG)	PATTERN RATIO
0	-10	0	-5.0
5	-8.5	5	-2.75
10	-7.0	10	-0.5
20	-4.0	10<ELV ≤75	LINEAR INCREASE TO 0.0
30	-3.73	--	--
30<ELV ≤ 75	LINEAR INCREASE TO -2.5		
>75	-2.5	>75	0.0

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55º C TO +70º C)

2.1 FREQUENCY 1575.42 ± 10.23MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 32.5 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz	≤ f <	1504.42 MHz	---	-50 dB
1504.42 MHz	≤ f <	1555.42 MHz	---	LINEARLY INCREASING FROM -50 dB TO -5 dB
1554.42 MHz	≤ f <	1558.42 MHz	---	" " " " -5 dB TO -0 dB
1558.42 MHz	≤ f ≤	1591.92 MHz	---	0 dB
1591.92 MHz	< f ≤	1605.42 MHz	---	LINEARLY DECREASING TO -25.35 dB
1605.42 MHz	< f ≤	1625.42 MHz	---	" " FROM -25.35 dB TO -50 dB
1625.42 MHz	< f ≤	2000.00 MHz	---	-50 dB

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 -3 dB RELATIVE RESPONSE FREQUENCIES 1567.92 MHz ≤ -3 dB BORESIGHT GAIN ≥ 1582.92 MHz

2.12 BORESIGHT DIFFERENTIAL GROUP DELAY VERSUS FREQUENCY ---1575.42±10.23 MHz < 25 ns

2.13 GROUP DELAY VERSUS ASPECT ANGLE ____ 5º ≤ EL < 45º (2.5 – 0.04625 (EL-5º)) NANOSECONDS
EL ≥ 45º 0.65 NANOSECOND

2.14 1dB COMPRESSION POINT -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO -15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO -10 dBm BETWEEN 1555 MHz AND 1525 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +6 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz
+23dBm BETWEEN 1000 – 1315 MHz

2.15 PULSE POWER SATURATION RECOVERY ___ NORMAL OPERATION WITHIN 10 µS FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 mS AT FREQUENCIES AND PRF LISTED BELOW:

1000.00 MHz	22 PPS
1315.00 MHz	22 PPS
1525.00 MHz	100 PPS
1565.42 MHz	100 PPS
1585.42 MHz	100 PPS
1610.00 MHz	100 PPS
1660.00 MHz	56 PPS
2000.00 MHz	56 PPS

2.16 G/T RATIO @ 5º ELEVATION ____ ≥ 31.6 dB/K

3.0 ANTENNA WEIGHT 5.0 OZ. MAX.

4.0 TSO-C190. RTCA DO-160E, ENV. CAT.: [F2X]ABB[C,L,Y]X5FDXSAXXX[ZC][RR]H[A3J333]2A]CAC

5.0 FINISH: GLOSSY WHITE.

6.0 A41907 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN		
CHECK		
ENGR		
MFG		
QC		

Comant Industries, Inc.

GPS
COMDAT ® ANTENNA

SIZE D | CODE IDENT 51351 | DWG. NO. CI 419-200 | REV. B

SCALE: -- CAD FILE: --

SHEET - 2 OF 2

CI 419-200 REV. B

Comant CI 420-220

ComDat GPS

The most important thing we build is trust

CI 420-220 ComDat® GPS

Comant's ComDat stand-alone GPS antenna with TNC connector. Matches the popular teardrop footprint found on many general aviation aircraft and business jets.

Meets RTCA DO 160D Environmental Test standards including direct effects lightning. Designed to operate with 26.5 dB panel mount GPS receivers.

Certified FAA TSO-C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz - 26.5 db Gain

Specifications

GPS Preamplifier Characteristics	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	27.0 Min - 35.5 Max dB
DC Voltage	4 to 24 Volts
DC Current Min/Max	25mA / 40 mA
Noise Figure	3.8 dB Maximum
Selectivity	-35 dB Min. @ Satcom 1626.5 MHz
Mechanical	
Weight	4.2 Ounces
Finish	Glossy White
Connector	TNC (Female)
Environmental	
RTCA Env.	DO-160D
Federal Specifications	
TSO	C144

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
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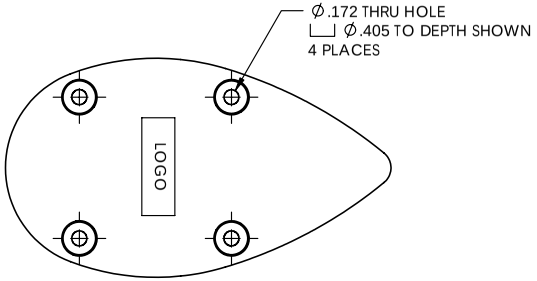
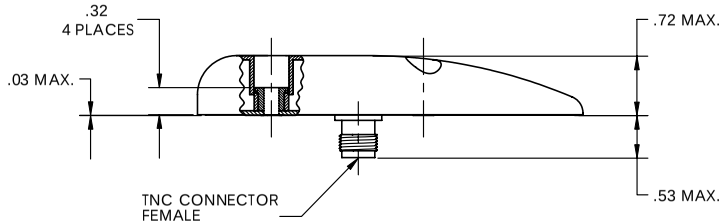
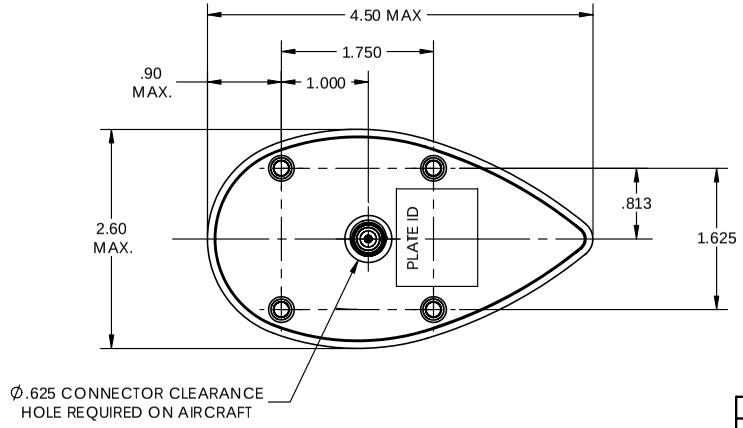
B	REF ECN 08-095	MN	11/18/08	DH 11/19/08







INSTALLATION DRAWING

ASSY DWG NO. C42027

ANTENNA NOTES & SPECIFICATIONS

1.0 PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +70° C)

- 1.1 FREQUENCY — 1575.42 ± 3MHz
- 1.2 POLARIZATION — RIGHT HAND CIRCULAR
- 1.3 AXIAL RATIO — 3.0 dB ON BORESIGHT (ZENITH) MAX.
- 1.4 POWER HANDLING — 1.0 WATT
- 1.5 RADIATION GAIN PATTERN MINIMUM

  -1.0 dBic 0 < or = θ < 75°
  -2.5 dBic 75° < or = θ < 80°
  -4.5 dBic 80° < or = θ < or = 85°
  -7.5 dBic θ = 90° (HORIZON)
  +5.0 dBic nominal at θ = 0° (ZENITH)

- 1.6 AZIMUTH GAIN VARIATION — < or = 3.0 dB AT > or = 5° ELEVATION

2.0 PREAMPLIFIER CHARACTERISTICS (T_A= 20° C ± 5° C)

- 2.1 GAIN AT 1575.42 ± 3MHz — 27.0 dB MIN – 30.5 dB MAX.

3.0 PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO + 70° C)

- 3.1 FREQUENCY — 1575.42 ± 3MHz
- 3.2 OUTPUT IMPEDANCE — 50 OHMS (NOMINAL)
- 3.3 OUTPUT VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 3.4 GAIN AT 1575.42 ± 3MHz — 26.5 dB MIN – 31.5 dB MAX.
- 3.5 NOISE FIGURE — 3.8 dB MAX.
- 3.6 SELECTIVITY — - 35 dB MIN. SATCOM BAND (1626.5 MHz)
- 3.7 DC VOLTAGE — 4 TO 24 VDC
- 3.8 DC CURRENT — 25 mA MIN / 40 mA MAX.
- 3.9 STABILITY — UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR
- 3.10 BURNOUT PROTECTION — 30dBm / 1.0 W CW UNMODULATED

4.0 WEIGHT — 4.2 Oz. MAX.

5.0 SPEED RATING — 330 KIAS AT SEA LEVEL

6.0 CONNECTOR — TNC FEMALE

7.0 TSO — C144 (INCOMPLETE SYSTEM)

RTCA DO-160D ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX][1B]CA

8.0 A42017 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

9.0 RADOME MATERIAL: WHITE NYLON WITH UV INHIBITOR.

DWG NO CI 420-220 REV B

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANKS	8/26/04
CHECK	J. GOMEZ	8/26/04
ENGR	W. STIERHOFF	8/27/04
QC	S. ADAMS	8/26/04
APPD	W. STIERHOFF	8/27/04

Comant Industries, inc.

GPS ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-220	B

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

Comant CI 420-221

ComDat GPS

The most important thing we build is trust

CI 420-221 ComDat® GPS

Comant's ComDat stand-alone GPS antenna with TNC connector. Matches the popular teardrop footprint found on many general aviation aircraft and business jets.

Meets RTCA DO 160D Environmental Test standards including direct effects lightning. Designed to operate with Garmin 17.0 dB panel mount GPS receivers.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz - 17.0 db Gain

Specifications

GPS Preamplifier Characteristics	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	17 +/-3 dB
DC Voltage	4 to 24 Volts
DC Current Min/Max	20mA Maximum
Noise Figure	3.8 dB Maximum
Selectivity	-35 dB Min. @ Satcom 1626.5 MHz

Mechanical	
Weight	4.2 Ounces
Finish	Glossy White
Connector	TNC (Female)

Environmental	
RTCA Env.	DO-160D

Federal Specifications	
TSO	C144

specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

INSTALLATION DRAWING

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
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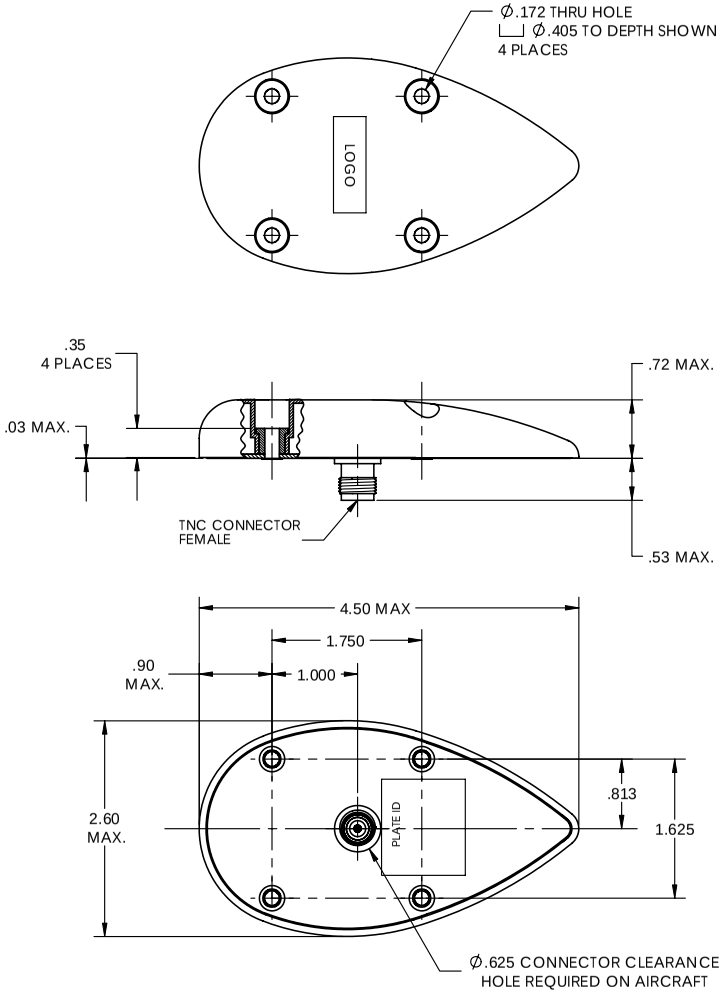
B	REF ECN 08-095	MN	12/03/08	DH 12/03/08



ANTENNA NOTES & SPECIFICATIONS

1.0 PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +70° C)

- 1.1 FREQUENCY — 1575.42 ± 3MHz
- 1.2 POLARIZATION — RIGHT HAND CIRCULAR
- 1.3 AXIAL RATIO — 3.0 dB ON BORESIGHT (ZENITH) MAX.
- 1.4 POWER HANDLING — 1.0 WATT
- 1.5 RADIATION GAIN PATTERN MINIMUM
  - -1.0 dBic 0 < or = θ < 75°
  - -2.5 dBic 75° < or = θ < 80°
  - -4.5 dBic 80° < or = θ < or = 85°
  - -7.5 dBic θ = 90° (HORIZON)
  - +5.0 dBic nominal at θ = 0° (ZENITH)
- 1.6 AZIMUTH GAIN VARIATION — < or = 3.0 dB AT > or = 5° ELEVATION

2.0 PREAMPLIFIER CHARACTERISTICS (T_A= 20° C ± 5° C)

- 2.1 GAIN AT 1575.42 ± 3MHz — 17 ± 3 dB

3.0 PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO + 70° C)

- 3.1 FREQUENCY — 1575.42 ± 3MHz
- 3.2 OUTPUT IMPEDANCE — 50 OHMS (NOMINAL)
- 3.3 OUTPUT VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 3.4 GAIN AT 1575.42 ± 3MHz — 17 ± 3 dB
- 3.5 NOISE FIGURE — 3.8 dB MAX.
- 3.6 SELECTIVITY — - 35 dB MIN. SATCOM BAND (1626.5 MHz)
- 3.7 DC VOLTAGE — 4 TO 24 VDC
- 3.8 DC CURRENT — 20 mA MAX.
- 3.9 STABILITY — UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR
- 3.10 BURNOUT PROTECTION — 30dBm / 1.0 W CW UNMODULATED

4.0 WEIGHT — 4.2 Oz. MAX.

5.0 SPEED RATING — 330 KIAS AT SEA LEVEL

6.0 CONNECTOR — TNC FEMALE

7.0 TSO — C144 (INCOMPLETE SYSTEM)

RTCA DO-160D ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX][1B]CA

8.0 A42020 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

9.0 RADOME MATERIAL: WHITE NYLON WITH UV INHIBITOR.

WARNING: THIS PRODUCT IS TO BE INSTALLED EXCLUSIVELY WITH GPS RECEIVER EQUIPMENT REQUIRING 17dB GAIN.

NOTICE: THIS PRODUCT IS TSO C144 COMPLIANT WITH AN FAA APPROVED GAIN DEVIATION TO C144 SPECIFICATIONS AND HAS A NOMINAL GAIN OF 17dB.

ASSY DWG C42028

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANKS	08/26/04
CHECK	J. GOMEZ	08/26/04
ENGR	W. STIERHOFF	08/27/04
QC	S. ADAMS	08/26/04
APPD	W. STIERHOFF	08/27/04

Comant Industries, inc.

17dB GPS ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-221	B

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 420-221 REV. B

Comant CI 420-230

ComDat Passive GPS

The most important thing we build is trust

CI 420-230 ComDat® Passive GPS

Comant's stand-alone passive GPS antenna with TNC connector. Matches the standard teardrop footprint found on many twins and business jets.

Meets RTCA DO 160-D Environmental Test standards including direct effects lightning.

This is a passive antenna and is not compatible with most hand-held GPS receiver units.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 +/-3 MHz

Specifications

Antenna Notes and Specifications	
Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Azimuth Gain Variation	<= 3 dB @ >= 5 degrees elevation
Power Handling	1 Watt

Mechanical	
Weight	4.2 Ounces
Finish	Glossy White
Connector	TNC (Female)

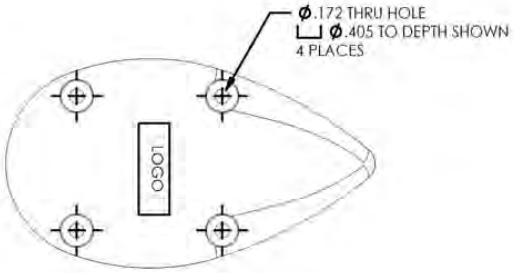
Environmental	
RTCA Env.	DO-160D

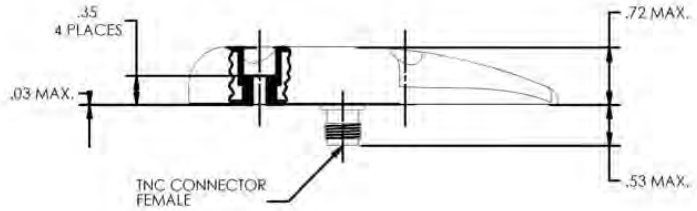
Federal Specifications	
TSO	C144

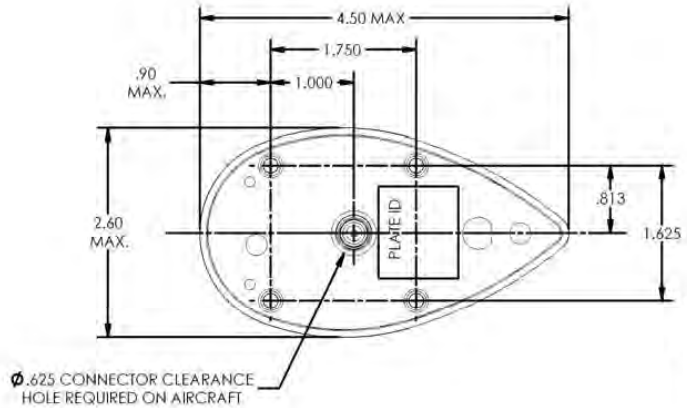
specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	11/19/04	JF 11/19/04
B	REF ECN 08-095	MN	12/08/08	DH 12/09/08







ASSY DWG C42058

ANTENNA NOTES & SPECIFICATIONS

1.0 PASSIVE ANTENNA CHARACTERISTICS (T_A = -55° C TO +70° C)

1.1 FREQUENCY _____ 1575.42 ± 3MHz

1.2 POLARIZATION _____ RIGHT HAND CIRCULAR

1.3 AXIAL RATIO _____ 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 POWER HANDLING _____ 1.0 WATT

1.5 RADIATION GAIN PATTERN MINIMUM

-1.0 dBic	0 < or = θ < 75°
-2.5 dBic	75° < or = θ < 80°
-4.5 dBic	80° < or = θ < or = 85°
-7.5 dBic	θ = 90° (HORIZON)
+5.0 dBic	nominal at θ = 0° (ZENITH)

1.6 AZIMUTH GAIN VARIATION _____ < or = 3.0 dB AT > or = 5° ELEVATION

1.7 OUTPUT VSWR _____ 1.5 : 1 MAX.
R/L _____ -13.98 dB

2.0 WEIGHT _____ 4.2 Oz. MAX.

3.0 SPEED RATING _____ 330 KIAS AT SEA LEVEL

4.0 CONNECTOR _____ TNC FEMALE

5.0 TSO _____ C144 (INCOMPLETE SYSTEM)

RTCA DO-160D ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXXX[XX]X[XXXX][1B]CA

6.0 A42039 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

7.0 RADOME MATERIAL: WHITE NYLON WITH UV INHIBITOR.

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX. MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M. MATERIAL : DO NOT SCALE DRAWING	CONTRACT NO.		Comant Industries, Inc.
	APPROVALS	DATE	PASSIVE GPS ANTENNA
	DRAWN J FRANKS	11/16/04	
	CHECK R GOMEZ	11/19/04	
	ENGR D HOLLOWAY	11/18/04	
	QC S ADAMS	11/18/04	DWG SIZE C · CODE IDENT 51351 · DWG. NO. CI 420-230 · REV B
	APPD D HOLLOWAY	11/18/04	SCALE: 1:1 · CAD FILE: -- · SHEET 1 OF 1

CI 420-230 REV B

Comant CI 428-200

ComDat GPS WAAS

The most important thing we build is trust

CI 428-200 ComDat® GPS WAAS

Comant's newest ComDat GPS WAAS antenna designed specifically to meet the GPS WAAS Gamma 3 specificatons required by the Garmin G1000 system.

Matches the standard ARINC footprint found on many twins and business jets.

Meets RTCA DO 160D operating standards including direct effects lightning.

Gamma 3 WAAS allows for primary navigation using GPS for all phases of flight including precision LPV approaches.

Not compatible with hand-held GPS receiver units.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 26.5 - 30.1 dB Gain

Specifications

GPS Preaplifier Characteristics

Frequency	1575.42 +/-3 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Output Impedance	50 Ohms
Gain @ 1575.42 MHz	26.5-30.1 dB
DC Voltage	4 to 24 Volts
DC Current	40mA Typical / 60mA Maximum
Noise Figure	2.5 dB Maximum
Selectivity	-50 dB Min. @ Satcom 1626.5 MHz

Mechanical

Weight	6 .2 Ounces
Finish	Glossy White
Connector	TNC (Female)
'O' Ring Gasket	70486

Environmental

RTCA Env.	DO-160D

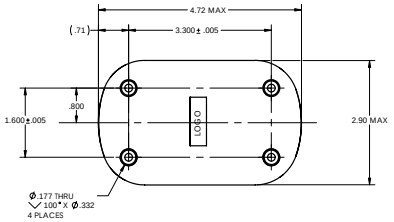
Federal Specifications

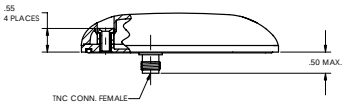
TSO	C144

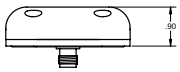
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

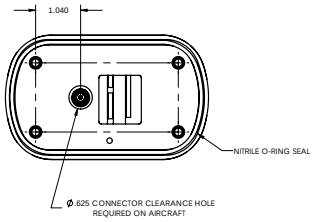
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING	12/01/06	DH 12/04/06
B	REF ECN 07-52	3/15/07	AV 3/15/07
C	REF ECN 08-095	11/11/08	DH 11/11/08









INSTALLATION DRAWING

ASSEMBLY DRAWING C42807

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE	GPS COMDAT ® ANTENNA		
MACHINE FINISH 125 ✓ PER ANSI B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	H. NGUYEN	12/01/06			
	CHECK	D.HOLLOWAY	12/04/06			
	ENGR	D.HOLLOWAY	12/04/06			
MATERIAL : –	MFG	L.VELASQUEZ	12/04/06	SIZE D	CODE IDENT 51351	DWG. NO. CI 428-200 REV. C
DO NOT SCALE DRAWING	QC	S. ADAMS	12/04/06	SCALE: 1:1	CAD FILE: –	SHEET : 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +85° C)

1.1 FREQUENCY 1575.42 ± 3MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 RADIATION GAIN PATTERN MINIMUM

-2.0 dBic	> 15° ELEVATION
-3.0 dBic	10° ELEVATION
-3.5 dBic	5° ELEVATION
-7.5 dBic	0° ELEVATION
+5.0 dBic (ZENITH)	90° ELEVATION

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO +85° C)

2.1 FREQUENCY 1575.42 ± 3MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
RL 13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 30.1 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz	≤ f <	1365.42 MHz	-60 dB		
1365.42 MHz	≤ f <	1504.42 MHz	LINEARLY INCREASING FROM	-60 dB TO	-50 dB
1504.42 MHz	≤ f <	1555.42 MHz	" " "	-50 dB TO	-5 dB
1554.42 MHz	≤ f <	1558.42 MHz	" " "	-5 dB TO	-0 dB
1558.42 MHz	≤ f <	1591.92 MHz	0 dB		
1591.92 MHz	≤ f <	1605.42 MHz	LINEARLY DECREASING TO	-25.35 dB	
1605.42 MHz	≤ f <	1625.42 MHz	" " FROM	-25.35 dB TO	-50 dB
1625.42 MHz	≤ f <	1685.42 MHz	" " FROM	-50 dB TO	-60 dB
1685.42 MHz	≤ f ≤	2000.00 MHz	-60 dB		

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 PASS BAND GAIN VARIATION ± 3 MHz 1.0 dB MAX.
± 2 MHz 1.0 dB MAX.

2.12 DIFFERENTIAL GROUP DELAY (3 dB BAND WIDTH) < 25 ns 10 ns TYPICAL

2.13 1dB COMPRESSION POINT -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +8 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz

2.14 PULSE POWER SATURATION RECOVERY NORMAL OPERATION WITHIN 10 µs FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 ms AT FREQUENCIES AND PRF LISTED BELOW:

1315.00 MHz	22 PPS
1325.00 MHz	100 PPS
1565.42 MHz	100 PPS
1575.42 MHz	100 PPS
1585.42 MHz	100 PPS
1610.00 MHz	100 PPS
1626.50 MHz	100 PPS
2000.00 MHz	56 PPS

2.15 RATIO @ 5° ELEVATION ≥ 31.6 dB/K

3.0 ANTENNA WEIGHT 6.2 Oz. MAX.

4.0 TSO C144. RTCA DO-160D
ENV. CAT.. [F2X]ACBS[L]T(C,C1,R)[XRFDXSZXXA(CF)ZC][WW]H[A3J33][1B]CA

5.0 FINISH: GLOSSY WHITE

6.0 DELETED..

7.0 A42809 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ANTENNA NOTES AND SPECIFICATIONS

Comant Industries, Inc.		
GPS COMDAT ® ANTENNA		
SIZE D	CODE IDENT 51351	DWG. NO. CI 428-200 REV. C
SCALE: –	CAD FILE: –	SHEET : 2 OF 2

Comant CI 429-200

ComDat WAAS GPS

The most important thing we build is trust

CI 429-200 ComDat® WAAS GPS

Comant's first FAA TSO'd GPS antenna qualified under new, stringent C190 WAAS requirements. Using the popular ARINC 743A footprint, this WAAS GPS will operate with any DO-301 qualified WAAS GPS system providing full Gamma 2 & 3 and LPV capabilities.

Environmentally tested under RTCA DO-160E standards, the CI 429-200 offers an extensive test pedigree that will meet many GPS system and aircraft requirements.

Manufactured with a tough, Skydrol resistant radome and nickel plated Aluminium base plate, the CI 429-200 comes standard with a Nitrile 'O' ring for positive sealing to the aircraft skin.

Not compatible with most hand-held GPS systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 26.5 - 32.5 dB Gain

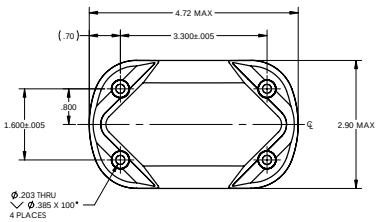
Specifications

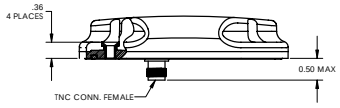
GPS Preamplifier Characteristics	
Frequency	1575.42 +/- 10.23MHz
VSWR	1.5:1
Polarization	RHCP
Radiation Pattern	Omnidirectional
Impedance	50 Ohms (Nominal)
Gain @ 1575.42 MHz	26.5dB MIN - 32.5dB MAX
DC Voltage	4 to 24 VDC
DC Current Min/Max	40 mA TYP / 60 mA MAX
Noise Figure	2.5dB MAX
Stability	Unconditional
Mechanical	
Weight	7.73 Oz. MAX
Finish	Glossy White
Connector	TNC (Female)
Environmental	
RTCA Env.	DO-160E
Federal Specifications	
TSO	C190

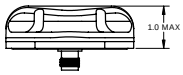
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

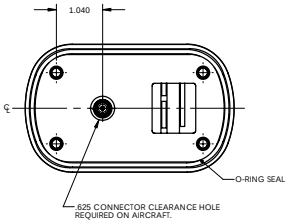
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING	2/25/08	AV DH 2/27/08
B	REF ECN 08-095	12/03/08	MN DH 12/03/08









INSTALLATION DRAWING

ASSEMBLY DRAWING NO. D42904

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/32 ANGLES ± 1°	APPROVALS	DATE	GPS COMDAT ® ANTENNA
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN A. VENEZIANO	2/25/08	
	CHECK D. HOLLOWAY	2/26/08	
	ENGR D. HOLLOWAY	2/26/08	
MATERIAL : --	MFG J. JONES	2/25/08	DWG SIZE D · CODE IDENT 51351 · DWG. NO. CI 429-200 · REV. B
DO NOT SCALE DRAWING	QC S. ADAMS	2/27/08	SCALE: 1/1 · CAD FILE: -- · SHEET : 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +85° C)

1.1 FREQUENCY 1575.42 ± 10.23 MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 PASSIVE RADIATING ELEMENT GAIN AT 1575.42 MHz AND 5° ELEVATION -5.5 dBic MINIMUM OVER ALL AZIMUTH ANGLES.

1.5 ANTENNA UNIT RELATIVE RADIATION PATTERN

MINIMUM		MAXIMUM	
ELEVATION ANGLE (DEG)	PATTERN RATIO	ELEVATION ANGLE (DEG)	PATTERN RATIO
0	-10	0	-5.0
5	-8.5	5	-2.75
10	-7.0	10	-0.5
20	-4.0	10<ELV ≤75	LINEAR INCREASE TO 0.0
30	-3.73		
30<ELV ≤75	LINEAR INCREASE TO -2.5		
>75	-2.5	>75	0.0

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO +70° C)

2.1 FREQUENCY 1575.42 ± 10.23MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 32.5 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz ≤ f < 1504.42 MHz ___ -50 dB
1504.42 MHz ≤ f < 1555.42 MHz ___ LINEARLY INCREASING FROM -50 dB TO -5 dB
1554.42 MHz ≤ f < 1558.42 MHz ___ " " " -5 dB TO -0 dB
1558.42 MHz ≤ f ≤ 1591.92 MHz ___ 0 dB
1591.92 MHz < f ≤ 1605.42 MHz ___ LINEARLY DECREASING TO -25.35 dB
1605.42 MHz < f ≤ 1625.42 MHz ___ " " FROM -25.35 dB TO -50 dB
1625.42 MHz < f ≤ 2000.00 MHz ___ -50 dB

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 -3 dB RELATIVE RESPONSE FREQUENCIES 1567.92 MHz ≤ -3 dB BORESIGHT GAIN ≥ 1582.92 MHz

2.12 BORESIGHT DIFFERENTIAL GROUP DELAY VERSUS FREQUENCY ___ 1575.42±10.23 MHz < 25 ns

2.13 GROUP DELAY VERSUS ASPECT ANGLE ____ 5° ≤ EL < 45° (2.5 – 0.04625 (EL-5°)) NANOSECONDS
EL ≥ 45° 0.65 NANOSECOND

2.14 1dB COMPRESSION POINT ____ -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO - 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO - 10 dBm BETWEEN 1555 MHz AND 1525 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +8 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz
+23dBm BETWEEN 1000 – 1315 MHz

2.15 PULSE POWER SATURATION RECOVERY ___ NORMAL OPERATION WITHIN 10 µS FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 mS AT FREQUENCIES AND PRF LISTED BELOW:

1000.00 MHz ____ 22 PPS
1315.00 MHz ____ 22 PPS
1525.00 MHz ____ 100 PPS
1565.42 MHz ____ 100 PPS
1585.42 MHz ____ 100 PPS
1610.00 MHz ____ 100 PPS
1660.00 MHz ____ 56 PPS
2000.00 MHz ____ 56 PPS

2.16 G/T RATIO @ 5° ELEVATION ____ ≥ 31.6 dB/K

3.0 ANTENNA WEIGHT 7.73 Oz. MAX.

4.0 TSO-C190. RTCA DO-160E, ENV. CAT.: [FZX]ABB[C,L,Y]XSFDXSAXXX[ZC][RR]H-[A3J33][2A]CAC

5.0 FINISH: GLOSSY WHITE.

6.0 A42906 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ANTENNA NOTES AND SPECIFICATIONS

Comant Industries, inc.			
GPS COMDAT ® ANTENNA			
DWG SIZE D	CODE IDENT 51351	DWG. NO. CI 429-200	REV. B
SCALE: --	CAD FILE: --		SHEET : 2 OF 2

Comant CI 401-460

ComDat GPS/XM

The most important thing we build is trust

CI 401-460 ComDat GPS/XM

ComDat® multifunction GPS and XM Weather antenna. Designed for compatibility with panel mount 26.5 dB gain GPS receivers.

Add XM to an existing GPS antenna location without the need for a completely new installation location.

Conforms to the popular ARINC 743A footprint, standard on many twin turbocraft and business jets.

Certified FAA TSO C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

The CI 401-460 replaces the CI 401-420.

Not compatible with most hand-held receiver systems

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 +/- 3 MHz / 26.5 - 31.5dB Gain
XM 2332.5-2345.0 /26-30 dB Gain

Specifications

GPS Preamplifier Characteristics

Frequency	1575.42 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain @ 1575.42 MHz	27.0-30.5 dB
DC Voltage	4-24 Volts
DC Current Min/Max	25mA Min. / 40mA Max.
Noise Figure	3.8 dB
Selectivity	-35 dB Min @ Satcom Frequency

XM Weather Data Specification

Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26-30 dB
DC Voltage	4 V min. / 4.7 Typical / 5.5 V Max.
DC Current Min/Max	25mA Min. / 45 mA Typ / 55 mA Max.
Noise Figure	2.7 dB Maximum

Mechanical

Weight	6.5 Ounces
Finish	Glossy White
Connector	GPS - TNC / XM - TNC
'O' Ring Gasket	70486

Environmental

RTCA Env.	DO-160D

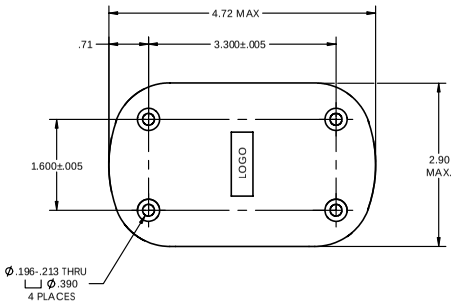
Federal Specifications

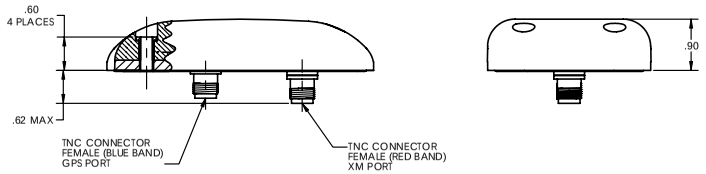
TSO	C144

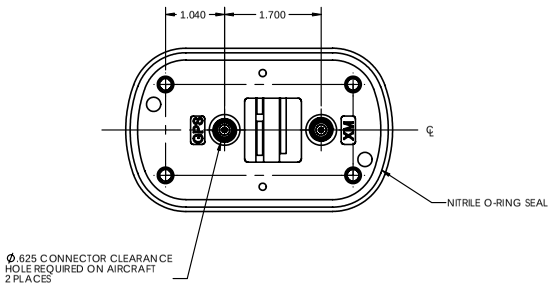
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	06/12/06	DH 06/12/06
B	REF ECN 07-187	AV	10/1/07	AV 10/2/07
C	REF ECN 08-008	AV	01/22/08	AV 01/22/08
D	REF ECN 08-095	MN	11/11/08	DH 11/11/08







ANTENNA NOTES & SPECIFICATIONS

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A = -55° C TO +70° C)

1.1 FREQUENCY ____ 1575.42 ± 3MHz

1.2 POLARIZATION ____ RIGHT HAND CIRCULAR

1.3 AXIAL RATIO ____ 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 POWER HANDLING ____ 1.0 WATT

1.5 RADIATION GAIN PATTERN MINIMUM

-1.0 dBic	0 < or = θ < 75°
-2.5 dBic	75° < or = θ < 80°
-4.5 dBic	80° < or = θ < or = 85°
-7.5 dBic	θ = 90° (HORIZON)
+5.0 dBic	nominal at θ = 0° (ZENITH)

1.6 AZIMUTH GAIN VARIATION ____ < or = 3.0 dB AT > or = 5° ELEVATION

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A = 20° C ± 5° C)

2.1 GAIN AT 1575.42 ± 3MHz ____ 27.0 dB MIN – 30.5 dB MAX.

3.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A = -55° C TO + 70° C)

3.1 FREQUENCY ____ 1575.42 ± 3MHz

3.2 OUTPUT IMPEDANCE ____ 50 OHMS (NOMINAL)

3.3 OUTPUT VSWR ____ 1.5 : 1 MAX.
R/L ____ -13.98 dB

3.4 GAIN AT 1575.42 ± 3MHz ____ 26.5 dB MIN – 31.5 dB MAX.

3.5 NOISE FIGURE ____ 3.8 dB MAX.

3.6 SELECTIVITY ____ - 35 dB MIN. SATCOM BAND (1626.5 MHz)

3.7 DC VOLTAGE ____ 4 TO 24 VDC

3.8 DC CURRENT ____ 25 mA MIN / 40 mA MAX.

3.9 STABILITY ____ UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

3.10 BURNOUT PROTECTION ____ 30dBm / 1.0 W CW UNMODULATED

3.11 DIFFERENTIAL GROUP DELAY ____ 14 ns TYP. / 17 ns MAX.

4.0 XM SPECIFICATION

4.1 ACTIVE AND PASSIVE ANTENNA CHARACTERISTICS

4.2 FREQUENCY ____ 2332.5 TO 2345.0 MHz

4.3 VSWR ____ 1.5 : 1 MAX.
R/L ____ -13.98 dB

4.4 POLARIZATION ____ LEFT HAND CIRCULAR

4.5 RADIATION PATTERN ____ HEMISPHERICAL

4.6 IMPEDANCE ____ 50 OHMS OUTPUT (NOMINAL)

4.7 GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): ____ 4 dBic ± 1 dB NOM. ZENITH

4.8 AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA

4.9 GAIN ____ 26 TO 30 dB

4.10 DC VOLTAGE ____ 4.0 VOLTS MIN. / 4.7 VOLTS TYP. / 5.5 VOLTS MAX.

4.11 DC CURRENT ____ 25 mA MIN. / 45 mA TYP. / 55 mA MAX.

4.12 NOISE FIGURE ____ 2.7 dB (MAX.)

4.13 OUT OF BAND ATTENUATION: 25 dB MIN. @ FC ± 230 MHz

5.0 ANTENNA WEIGHT ____ 6.5 Oz. MAX.

6.0 GPS CONNECTOR ____ TNC FEMALE (BLUE BAND)

XM CONNECTOR ____ TNC FEMALE (RED BAND)

7.0 TSO ____ C144 RTCA DO-160D (XM IS NOT A TSO FUNCTION)

ENV. CAT.: [F2X]ACB[S(L)T](C,C1,R)[XSFDXSZXXA(CF)[ZC][WW]H[A3J33][1B]CA

8.0 A401176 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA

ASSEMBLY DRAWING C401177

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 ✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : --	APPROVALS		DATE	GPS / XM COMDAT® ANTENNA
	DRAWN	H. NGUYEN	06/12/06	
	CHECK	D.HOLLOWAY	06/12/06	
	ENGR	D.HOLLOWAY	06/12/06	
	MFG	L. VELASQUEZ	06/12/06	DWG SIZE D · CODEIDENT 51351 · DWG. NO CI 401-460 · REV. D
DO NOT SCALE DRAWING	QC	S. ADAMS	06/12/06	SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1

CI 401-460 REV D

Comant CI 420-420

ComDat GPS/XM

The most important thing we build is trust

CI 420-420 ComDat® GPS/XM

ComDat® multifunction GPS and XM Weather antenna. Designed for compatibility with panel mount 26.5 dB gain GPS receivers.

Add XM to an existing GPS antenna location without the need for a completely new installation location.

Conforms to the popular teardrop footprint standard on many general aviation aircraft and business jets.

Certified FAA TSO-C144 for GPS and GPS WAAS Class Gamma 1 equipment. Not compliant for GPS WAAS Class Gamma 2 and 3 applications.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 26.5 - 31.5 dB Gain
XM 2332.5-2345.0 /30-34 dB Gain

Specifications

GPS Preamplifier Characteristics	
Frequency	1575.42 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain @ 1575.42 MHz	26.5-31.5 dB
DC Voltage	4-24 Volts
DC Current Min/Max	25mA Min. / 40mA Maximum
Noise Figure	3.8 dB Maximum
Selectivity	-35 dB Min @ Satcom Frequency

XM Weather Data Specification	
Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	30-34 dB
DC Voltage	4 - 24 Volts
DC Current Min/Max	25mA Min. / 55 mA Max.
Noise Figure	2.7 dB Maximum

Mechanical	
Weight	4.2 Ounces
Finish	Glossy White
Connector	GPS - TNC / XM - SMA

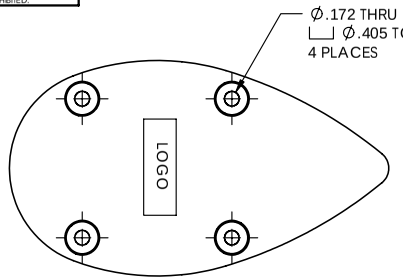
Environmental	
RTCA Env.	DO-160D

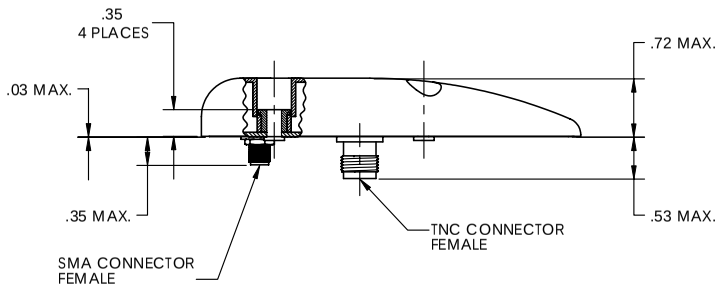
Federal Specifications	
TSO	C144

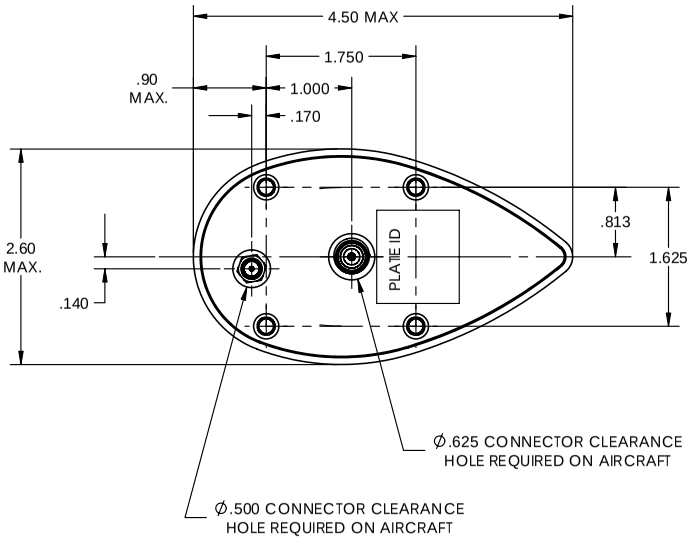
specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	8/25/04	DH 8/25/04
B	REF ECN 08-095	MN	12/05/08	DH 12/09/08







INSTALLATION DRAWING

ANTENNA NOTES & SPECIFICATIONS

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A = -55° C TO +70° C)
- 1.1 FREQUENCY — 1575.42 ± 3MHz
- 1.2 POLARIZATION — RIGHT HAND CIRCULAR
- 1.3 AXIAL RATIO — 3.0 dB ON BORESIGHT (ZENITH) MAX.
- 1.4 POWER HANDLING — 1.0 WATT
- 1.5 RADIATION GAIN PATTERN MINIMUM
  - -1.0 dBic 0 < or = θ < 75°
  - -2.5 dBic 75° < or = θ < 80°
  - -4.5 dBic 80° < or = θ < or = 85°
  - -7.5 dBic θ = 90° (HORIZON)
  - +5.0 dBic nominal at θ = 0° (ZENITH)
- 1.6 AZIMUTH GAIN VARIATION — < or = 3.0 dB AT > or = 5° ELEVATION

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A = 20° C ± 5° C)
- 2.1 GAIN AT 1575.42 ± 3MHz — 27.0 dB MIN – 30.5 dB MAX.

3.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A = -55° C TO + 70° C)
- 3.1 FREQUENCY — 1575.42 ± 3 MHz
- 3.2 OUTPUT IMPEDANCE — 50 OHMS (NOMINAL)
- 3.3 OUTPUT VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 3.4 GAIN AT 1575.42 ± 3MHz — 26.5 dB MIN – 31.5 dB MAX.
- 3.5 NOISE FIGURE — 3.8 dB MAX.
- 3.6 SELECTIVITY — - 35 dB MIN. SATCOM BAND (1626.5 MHz)
- 3.7 DC VOLTAGE — 4 TO 24 VDC
- 3.8 DC CURRENT — 25 mA MIN / 40 mA MAX.
- 3.9 STABILITY — UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR
- 3.10 BURNOUT PROTECTION — 30dBm / 1.0 W CW UNMODULATED

4.0 WEATHER DATA SPECIFICATION
- 4.1 ACTIVE AND PASSIVE ANTENNA CHARACTERISTICS
- 4.2 FREQUENCY — 2332.5 TO 2345.0 MHz
- 4.3 VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 4.4 POLARIZATION — LEFT HAND CIRCULAR
- 4.5 RADIATION PATTERN — HEMISPHERICAL
- 4.6 IMPEDANCE — 50 OHMS OUTPUT (NOMINAL)
- 4.7 GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): — 4 dBic ± 1 dB NOM. ZENITH
- 4.8 AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA
- 4.9 GAIN — 30 TO 34 dB
- 4.10 DC VOLTAGE — 4 TO 24 VDC
- 4.11 DC CURRENT — 25 mA (MIN.) / 55 mA (MAX.)
- 4.12 NOISE FIGURE — 2.7 dB (MAX.)
- 4.13 OUT OF BAND ATTENUATION: 25 dB MIN. @ FC ± 230 MHz

5.0 ANTENNA WEIGHT — 4.2 Oz. MAX.

6.0 ANTENNA SPEED RATING — 330 KIAS AT SEA LEVEL

7.0 GPS CONNECTOR — TNC FEMALE

SATELLITE CONNECTOR — SMA FEMALE

8.0 TSO — C144 (INCOMPLETE SYSTEM) RTCA DO-160D

ENV. CAT.: [F2X]ACB[S(L)U(F,F1)T(C,C1,R)]XRFDXSXXXX[XX]X[XXXX][1B]CA

9.0 A42018 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA

10.0 RADOME MATERIAL: WHITE NYLON WITH UV INHIBITOR

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL :

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	J. FRANKS	8/25/04
CHECK	J. GOMEZ	8/25/04
ENGR	D. HOLLOWAY	8/25/04
QC	S. ADAMS	8/25/04
APPD	D. HOLLOWAY	8/25/04

Comant Industries, Inc.

GPS / WEATHER DATA COMBINATION ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-420	B

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 420-420 REV. B

Comant CI 428-410

ComDat GPS WAAS/XM

The most important thing we build is trust

CI 428-410 ComDat® GPS WAAS/XM

Comant's newest ComDat GPS WAAS/XM antenna designed specifically to meet the GPS WAAS Gamma 3 specificatons required by the Garmin G1000 system.

Enables primary navigation using GPS WAAS, including terminal navigation and approach to landing.

XM Weather antenna is designed for low gain systems such as the Garmin GDL-69/69A or Heads Up systems with shorter coax runs.

Conforms to the popular ARINC 743A footprint, standard on many twin turbocraft and business jets.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz / 26.5 - 30.1 dB Gain
XM 2332.5-2345.0 /25 dB Gain

Specifications

GPS Preamplifier Characteristics

Frequency	1575.42 MHz +/- 3 Mhz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain @ 1575.42 MHz	26.5-30.1 dB
DC Voltage	4-24 Volts
DC Current Min/Max	40mA Min. / 60mA Maximum
Noise Figure	2.5 dB Maximum
Selectivity	-50 dB Min @ Satcom Frequency

XM Weather Data Specification

Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	25 +/-2 dB
DC Voltage	3.6 - 24 Volts
DC Current Min/Max	35mA - 55 mA
Noise Figure	2.7 dB Maximum

Mechanical

Weight	6.5 Ounces
Finish	Glossy White
Connector	GPS - TNC Blue / XM - TNC Red
'O' Ring Gasket	70486

Environmental

RTCA Env.	DO-160D

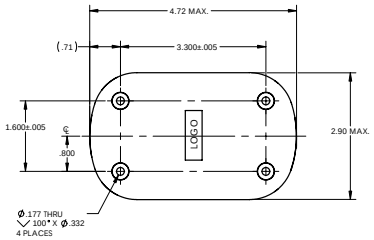
Federal Specifications

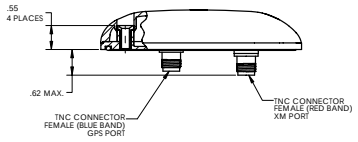
TSO	C144

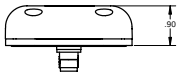
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

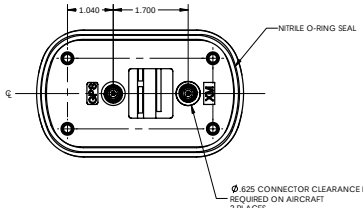
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	12/01/06	DH 12/04/06
B	REF ECN 07-52	HN	3/15/07	AV 3/15/07
C	REF ECN 08-095	MN	11/11/08	DH 11/11/08









INSTALLATION DRAWING

ASSEMBLY DRAWING NO. C42801

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		Comant Industries, Inc.
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/32 ANGLES ± 1°	APPROVALS	DATE	GPS / XM COMDAT ® ANTENNA
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN H. NGUYEN	12/01/06	
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK D.HOLLOWAY	12/04/06	
MATERIAL : --	ENGR D.HOLLOWAY	12/04/06	
	MFG L.LEVASQUEZ	12/04/06	SIZE D · CODE IDENT 51351 · DWG. NO. CI 428-410 · REV. C
DO NOT SCALE DRAWING	QC S. ADAMS	12/04/06	SCALE: 1/1 · CAD FILE: -- · SHEET 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A=- 55° C TO +85° C)

1.1 FREQUENCY 1575.42 ± 3MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 RADIATION GAIN PATTERN MINIMUM

-2.0 dBic	> 15° ELEVATION
-3.0 dBic	10° ELEVATION
-3.5 dBic	5° ELEVATION
-7.5 dBic	0° ELEVATION
+5.0 dBic (ZENITH)	90° ELEVATION

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO +85° C)

2.1 FREQUENCY 1575.42 ± 3MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 30.1 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz	≤ f <	1365.42 MHz	___	-60 dB		
1365.42 MHz	≤ f ≤	1504.42 MHz	___	LINEARLY INCREASING FROM	-60 dB TO	-50 dB
1504.42 MHz	≤ f ≤	1555.42 MHz	___	" " "	-50 dB TO	-5 dB
1554.42 MHz	≤ f ≤	1558.42 MHz	___	" " "	-5 dB TO	-0 dB
1558.42 MHz	≤ f ≤	1591.92 MHz	___	0 dB		
1591.92 MHz	≤ f ≤	1605.42 MHz	___	LINEARLY DECREASING TO	-25.35 dB	
1605.42 MHz	≤ f ≤	1625.42 MHz	___	" " FROM	-25.35 dB TO	-50 dB
1625.42 MHz	≤ f ≤	1685.42 MHz	___	" " FROM	-50 dB TO	-60 dB
1685.42 MHz	≤ f ≤	2000.00 MHz	___	-60 dB		

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 PASS BAND GAIN VARIATION ± 3 MHz 1.0 dB MAX.
± 2 MHz 1.0 dB MAX.

2.12 DIFFERENTIAL GROUP DELAY (3 dB BAND WIDTH) < 25 ns ____10 ns TYPICAL

2.13 1dB COMPRESSION POINT -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO – 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +8 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz

2.14 PULSE POWER SATURATION RECOVERY ___ NORMAL OPERATION WITHIN 10 µS FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 mS AT FREQUENCIES AND PRF LISTED BELOW:

1315.00 MHz	22 PPS
1325.00 MHz	100 PPS
1565.42 MHz	100 PPS
1575.42 MHz	100 PPS
1585.42 MHz	100 PPS
1610.00 MHz	100 PPS
1626.50 MHz	100 PPS
2000.00 MHz	56 PPS

2.15 G/T RATIO @ ELEVATION ____ ≥ 31.6 dB/K

3.0 XM SPECIFICATION

3.1 FREQUENCY 2332.5 TO 2345.0 MHz

3.2 POLARIZATION LEFT HAND CIRCULAR

3.3 RADIATION GAIN PATTERN HEMISPHERICAL

3.4 PASSIVE RADIATION GAIN 4 dBic +/- 1 dB NOM. (ZENITH)

3.5 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

3.6 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

3.7 AMPLIFIER GAIN 25 ± 2 dB

3.8 NOISE FIGURE 2.7 dB MAX.

3.9 OUT OF BAND FILTER ATTENUATION ____ 25 dB MIN. @ FC ± 230 MHz

3.10 DC VOLTAGE 3.6 TO 24 VDC

3.11 DC CURRENT 35 TO 55 mA

4.0 ANTENNA WEIGHT 6.5 Oz. MAX.

5.0 TSO C144. XM FUNCTION NOT CERTIFIED BY TSO.
RTCA DO-160D, ENV. CAT.: [FZX]ACB[S(L)T(C,C1,R)]XRFDXSZXXA(CF)[ZC][WW]HA3J33[1B]CA

6.0 FINISH: GLOSSY WHITE.

7.0 DELETED.

8.0 A42803 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ANTENNA NOTES AND SPECIFICATIONS

Comant Industries, inc.			
GPS / XM COMDAT ® ANTENNA			
SIZE D	CODE IDENT 51351	DWG. NO. CI 428-410	REV. C
SCALE: --	CAD FILE: --	SHEET 2 OF 2	

Comant CI 429-410

ComDat WAAS GPS/XM

The most important thing we build is trust

CI 429-410 ComDat® WAAS GPS/XM

Comant has developed the first and only FAA TSO'd GPS/XM antenna qualified under new, stringent C190 WAAS requirements. Using the popular ARINC 743A footprint, this WAAS GPS will operate with any DO-301 qualified WAAS GPS system providing full Gamma 2 & 3 and LPV capabilities.

The XM portion of the antenna will operate with popular panel mounted systems from Garmin and Heads Up.

Manufactured with a tough, Skydrol resistant radome and nickel plated Aluminium base plate, the CI 429-410 comes standard with a Nitrile 'O' ring for positive sealing to the aircraft skin.

Not compatible with most hand-held GPS receiver systems.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

GPS 1575.42 MHz/ 26.5 - 32.5 dB gain

XM 2332.5 - 2345.0 MHz/ 25.0 +/- 2 dB gain

Specifications

GPS Preamplifier Characteristics

Frequency	1575.42 +/- 10.23MHz
VSWR	1.5:1
Polarization	RHCP
Radiation Pattern	Omnidirectional
Impedance	50 Ohms (Nominal)
Gain @ 1575.42 MHz	26.5dB MIN - 32.5dB MAX
DC Voltage	4 to 24 VDC
DC Current Min/Max	40mA TYP / 60mA MAX
Noise Figure	2.5dB MAX
Stability	Unconditional

XM Weather Data Specification

Frequency	2332.5 to 2345.0MHz
VSWR	1.5:1
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms (Nominal)
Gain	25 +/- 2dB
DC Voltage	3.6 to 24 VDC
DC Current Min/Max	35 to 55mA
Noise Figure	2.7dB MAX

Mechanical

Weight	8.5 Oz. MAX
Finish	Glossy White
Connector	GPS TNC (Blue) / XM TNC (Red)
'O' Ring Gasket	70486

Environmental

RTCA Env.	DO-160D

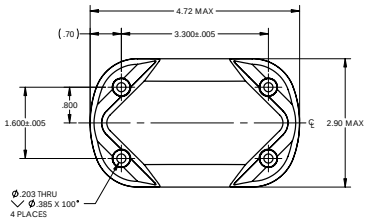
Federal Specifications

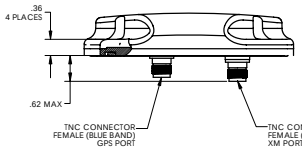
TSO	C190

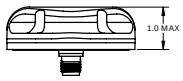
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

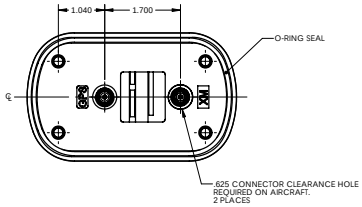
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING	2/25/08	AV DH 2/27/08
B	REF ECN 08-095	12/08/08	MN DH 12/09/08









INSTALLATION DRAWING

ASSEMBLY DRAWING NO. D42901

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/32 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CONTRACT NO.		Comant Industries, inc.
MATERIAL : --	APPROVALS	DATE	GPS / XM COMDAT ® ANTENNA
DO NOT SCALE DRAWING	DRAWN A.VENEZIANO	2/25/08	
	CHECK D. HOLLOWAY	2/26/08	
	ENGR D. HOLLOWAY	2/26/08	
	MFG J. JONES	2/25/08	SIZE D / CODE IDENT 51351 / DWG. NO. CI 429-410 / REV. B
	QC S. ADAMS	2/27/08	SCALE: 1/1 / CAD FILE: -- / SHEET : 1 OF 2

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
	SEE SHEET 1		

1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (T_A= -55° C TO +85° C)

1.1 FREQUENCY 1575.42 ± 10.23 MHz

1.2 POLARIZATION RIGHT HAND CIRCULAR

1.3 AXIAL RATIO 3.0 dB ON BORESIGHT (ZENITH) MAX.

1.4 PASSIVE RADIATING ELEMENT GAIN AT 1575.42 MHz AND 5° ELEVATION -5.5 dBic MINIMUM OVER ALL AZIMUTH ANGLES.

1.5 ANTENNA UNIT RELATIVE RADIATION PATTERN

MINIMUM		MAXIMUM	
ELEVATION ANGLE (DEG)	PATTERN RATIO	ELEVATION ANGLE (DEG)	PATTERN RATIO
0	-10	0	-5.0
5	-8.5	5	-2.75
10	-7.0	10	-0.5
20	-4.0	10<EL.V ≤75	LINEAR INCREASE TO 0.0
30	-3.73		
30<EL.V ≤ 75	LINEAR INCREASE TO -2.5		
>75	-2.5	>75	0.0

GAIN PATTERN MEASURED ON 4' CIRCULAR ROUND PLANE WITH 1.5" RADIUS EDGES.

2.0 GPS PREAMPLIFIER CHARACTERISTICS (T_A= -55° C TO +70° C)

2.1 FREQUENCY 1575.42 ± 10.23MHz

2.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

2.3 OUTPUT VSWR 1.5: 1 MAX.
R/L 13.98 dB

2.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN – 32.5 dB MAX.

2.5 NOISE FIGURE 2.5 dB MAX.

2.6 SELECTIVITY MAXIMUM BORESIGHT RELATIVE FREQUENCY RESPONSE

1315 MHz	≤ f <	1504.42 MHz	___	-50 dB
1504.42 MHz	≤ f <	1555.42 MHz	___	LINEARLY INCREASING FROM -50 dB TO -5 dB
1554.42 MHz	≤ f <	1558.42 MHz	___	" " " " -5 dB TO -0 dB
1558.42 MHz	≤ f ≤	1591.92 MHz	___	0 dB
1591.92 MHz	< f ≤	1605.42 MHz	___	LINEARLY DECREASING TO -25.35 dB
1605.42 MHz	< f ≤	1625.42 MHz	___	" " FROM -25.35 dB TO -50 dB
1625.42 MHz	< f ≤	2000.00 MHz	___	-50 dB

2.7 DC VOLTAGE 4 TO 24 VDC

2.8 DC CURRENT 40 mA TYP / 60 mA MAX.

2.9 STABILITY UNCONDITIONALLY STABLE FOR ANY LOAD IMPEDANCE ON TNC CONNECTOR

2.10 BURNOUT PROTECTION 30dBm / 1.0 W CW UNMODULATED / 5 MINUTES

2.11 -3 dB RELATIVE RESPONSE FREQUENCIES 1567.92 MHz ≤ -3 dB BORESIGHT GAIN ≥ 1582.92 MHz

2.12 BORESIGHT DIFFERENTIAL GROUP DELAY VERSUS FREQUENCY 1575.42±10.23 MHz < 25 ns

2.13 GROUP DELAY VERSUS ASPECT ANGLE 5° ≤ EL < 45° (2.5 – 0.04625 (EL-5°)) NANOSECONDS
EL ≥ 45° 0.65 NANOSECOND

2.14 1dB COMPRESSION POINT -25 dBm BETWEEN 1557 MHz AND 1593 MHz
-LINEARLY INCREASING FROM -25 dBm TO - 15 dBm BETWEEN 1593 MHz AND 1610 MHz
-LINEARLY INCREASING FROM -15 dBm TO + 8 dBm BETWEEN 1610 MHz AND 1625 MHz
+ 8dBm ABOVE 1625 MHz
-LINEARLY INCREASING FROM -25 dBm TO - 10 dBm BETWEEN 1555 MHz AND 1525 MHz
-LINEARLY INCREASING FROM -10 dBm TO + 23 dBm BETWEEN 1525 MHz AND 1315 MHz
-LINEARLY INCREASING FROM +8 dBm TO + 20 dBm BETWEEN 1660 MHz AND 2000 MHz
+23dBm BETWEEN 1000 – 1315 MHz

2.15 PULSE POWER SATURATION RECOVERY NORMAL OPERATION WITHIN 10 µS FROM TRAILING EDGE OF + 30 dBm PEAK POWER PULSES WITH PULSE WIDTH OF 1 mS AT FREQUENCIES AND PRF LISTED BELOW:

1000.00 MHz	22 PPS
1315.00 MHz	22 PPS
1525.00 MHz	100 PPS
1565.42 MHz	100 PPS
1585.42 MHz	100 PPS
1610.00 MHz	100 PPS
1660.00 MHz	56 PPS
2000.00 MHz	56 PPS

2.16 G/T RATIO @ 5° ELEVATION ≥ 31.6 dB/K

3.0 XM SPECIFICATION

3.1 FREQUENCY 2332.5 TO 2345.0 MHz

3.2 POLARIZATION LEFT HAND CIRCULAR

3.3 RADIATION GAIN PATTERN HEMISPHERICAL

3.4 PASSIVE RADIATION GAIN 4 dBic +/- 1 dB NOM. (ZENITH)

3.5 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)

3.6 OUTPUT VSWR 1.5: 1 MAX.
R/L -13.98 dB

3.7 AMPLIFIER GAIN 25 ± 2 dB

3.8 NOISE FIGURE 2.7 dB MAX.

3.9 OUT OF BAND FILTER ATTENUATION 25 dB MIN. @ FC ± 230 MHz

3.10 DC VOLTAGE 3.6 TO 24 VDC

3.11 DC CURRENT 35 TO 55 mA

4.0 ANTENNA WEIGHT 8.5 Oz. MAX.

5.0 TSO-C190. XM FUNCTION NOT CERTIFIED BY TSO.
RTCA DO-160E, ENV. CAT.: [F2X]ABB[C,L,Y]XSFDXSAXXX[ZC][RR]H[A3J33][2A]CAC

6.0 FINISH: GLOSSY WHITE.

7.0 A42903 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

ANTENNA NOTES AND SPECIFICATIONS

Comant Industries, inc.	
GPS / XM COMDAT ® ANTENNA	
SIZE D / CODE IDENT 51351 / DWG. NO. CI 429-410 / REV. B	
SCALE: -- / CAD FILE: -- / SHEET : 2 OF 2	

Comant CI 420-1

ComDat XM

The most important thing we build is trust

CI 420-1 ComDat® XM

Comant's ComDat XM Weather antenna with SMA connector. Designed to operate with popular Heads Up XM Weather Data Systems.

Conforms to the popular teardrop footprint, standard on many general aviation aircraft and business jets.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

XM 2332.5-2345.0MHz

Specifications

XM Weather Data Specification

Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26-30 dB
DC Voltage	4.7 Typical / 5.5 V Maximum
DC Current Min/Max	45 mA Typ / 55 mA Maximum
Noise Figure	1.1dB Typical

Mechanical

Weight	4.2 Ounces
Finish	Glossy White
Connector	XM-SMA (Female)

Environmental

RTCA Env.	DO-160D

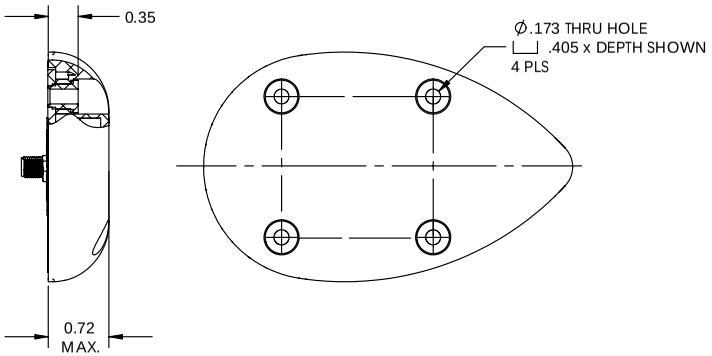
Federal Specifications

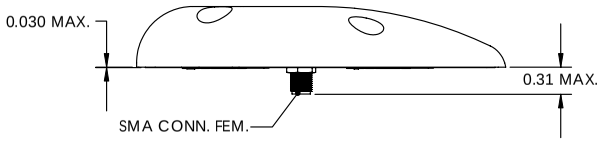
TSO	PMA

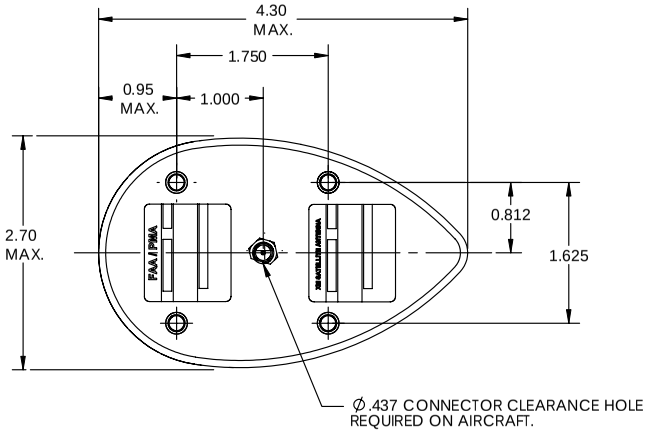
specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	11/21/02	DH 11/21/02
B	REF ECN 02-355	HN	12/13/02	DH 12/13/02
C	REF ECN 02-359	HN	12/16/02	DH 12/17/02
D	REF ECN 05-41	HN	02/18/05	JF 02/18/05
E	REF ECN 05-176	HN	08/09/05	JF 08/09/05
F	REF ECN 08-095	MN	11/11/08	DH 11/11/08







NOTES :

1.0 ACTIVE & PASSIVE ANTENNA CHARACTERISTICS

- 1.1 FREQUENCY — 2332.5 TO 2345.0 MHz
- 1.2 VSWR — 1.5:1 MAX.
- 1.3 POLARIZATION — LEFT HAND CIRCULAR
- 1.4 RADIATION PATTERN — HEMISPHERICAL
- 1.5 IMPEDANCE — 50 OHMS OUTPUT (NOMINAL)
- 1.6 GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): 4 dBic +/- 1 dB NOM. ZENITH.

2.0 AMPLIFIER CHARACTERISTICS ACTIVE ANTENNA

- 2.1 GAIN — 26 TO 30 dB
- 2.2 D.C. VOLTAGE — 4.7 VOLTS TYP. / 5.5 VOLTS MAX.
- 2.3 D.C. CURRENT — 45 mA TYPICAL. / 55 mA MAX.
- 2.4 NOISE FIGURE — 1.1 dB (TYP.)
- 2.5 OUT OF BAND FILTER ATTENUATION: 25 dB MIN. @ FC +/- 230 MHz

3.0 WEIGHT: 4.2 OZ MAX.

4.0 SPEED RATING : 600 KNOTS

5.0 RTCA DO-160D ENV. CAT.: [F2X]ACB[T(C1,R)]XRFXXSZXXXZ[UUU]M[XXE2][1B]CA

6.0 HOUSING: VALOX DR-48, 15% GLASS.

7.0 A42042 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL :

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. Nguyen	10/21/02
CHECK	J. GOMEZ	10/21/02
ENGR	D. HOLLOWAY	10/21/02
QC	P. BOSNEANU	10/21/02
APPD	D. HOLLOWAY	10/21/02

Comant Industries, inc.

ANTENNA-XM SATELLITE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-1	F

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 420-1 REV. F

Comant CI 420-10

ComDat XM Antenna

The most important thing we build is trust

CI 420-10 ComDat® XM

Comant's ComDat XM Weather antenna designed for Garmin GDL 69/69A receivers and Heads Up Technologies (HUT) receivers with short coaxial cable runs. Features robust TNC female connector.

Conforms to the popular teardrop footprint standard on many general aviation aircraft and business jets.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

XM 2332.5-2345.0MHz / 25dB +/- 2dB gain

Specifications

XM Weather Data Specifications

Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	25 +/- 2 dB
DC Voltage	3.6-24 Volts
DC Current Min/Max	35mA / 55 mA
Noise Figure	2.7 dB Maximum

Mechanical

Weight	4.2 Ounces
Finish	Glossy White
Connector	XM - TNC (Female)

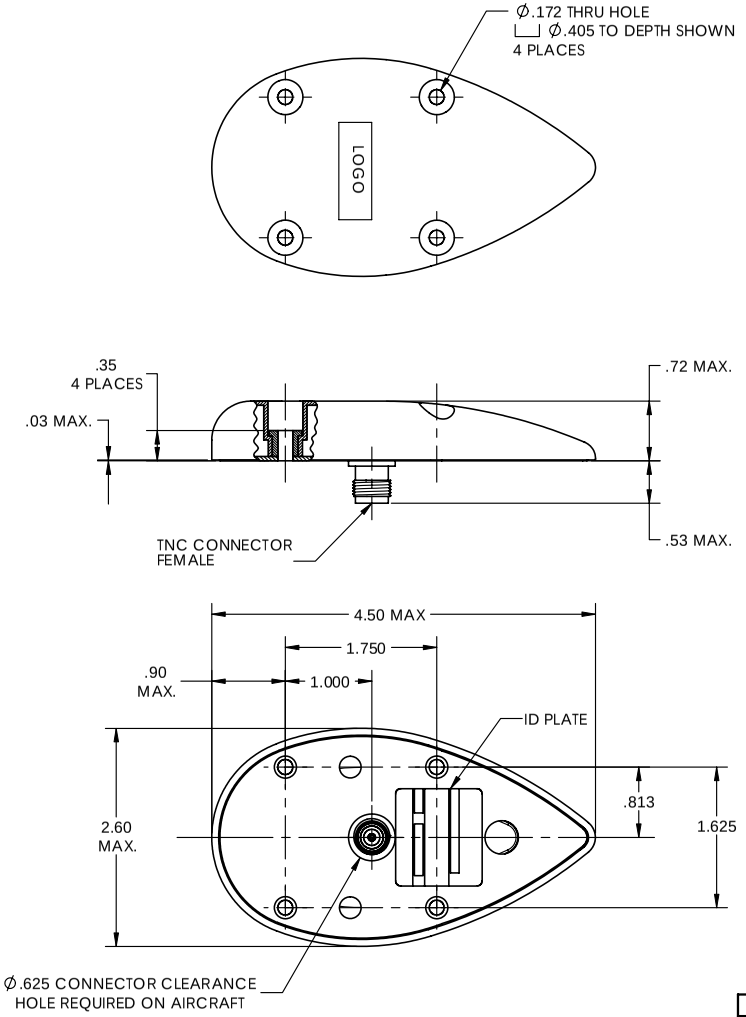
Environmental

RTCA Env.	DO-160D

specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	HN	07/24/06	DH 07/24/06
B	REF ECN 08-095	MN	11/11/08	DH 11/11/08



ANTENNA NOTES & SPECIFICATIONS

1.0	XM SPECIFICATION	
1.1	ACTIVE AND PASSIVE ANTENNA CHARACTERISTICS	
1.2	FREQUENCY	2332.5 TO 2345.0 MHz
1.3	VSWR R/L	1.5 : 1 MAX. -13.98 dB
1.4	POLARIZATION	LEFT HAND CIRCULAR
1.5	RADIATION PATTERN	HEMISPHERICAL
1.6	IMPEDANCE	50 OHMS OUTPUT (NOMINAL)
1.7	GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE):	4 dBic ± 1 dB NOM. ZENITH
1.8	AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA	
1.9	GAIN	25 ± 2 dB
1.10	DC VOLTAGE	3.6 TO 24 VDC
1.11	DC CURRENT	35 mA TO 55 mA
1.12	NOISE FIGURE	2.7 dB (MAX.)
1.13	OUT OF BAND ATTENUATION: 25 dB MIN. @ FC ± 230 MHz	
2.0	ANTENNA WEIGHT	4.2 Oz. MAX.
3.0	XM CONNECTOR	TNC FEMALE
4.0	RTCA DO-160D ENV. CAT.: [F2X]ACB[T(C1,R)]XRFXXSZXXXZ[UUU]M[XXE2][1B]CA	
5.0	A42097 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA	

INSTALLATION DRAWING

ASSY DRAWING C420102

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 ✓ PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : DO NOT SCALE DRAWING	CONTRACT NO. APPROVALS		DATE
	DRAWN	H. NGUYEN	07/24/06
	CHECK	R. GOMEZ	07/24/06
	ENGR	D. HOLLOWAY	07/24/06
	MFG	M. EAVENSON	07/24/06
	QC	S. ADAMS	07/24/06

Comant Industries, Inc.

XM COMDAT ® ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-10	B

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 420-10 REV B

Comant CI 420-16

ComDat XM Antenna

The most important thing we build is trust

CI 420-16 ComDat® XM

Comant's ComDat XM Weather antenna designed for Heads Up Technologies (HUT) receivers with longer coaxial cable runs . Features robust TNC female connector.

Conforms to the popular teardrop footprint standard on many general aviation aircraft and business jets.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

XM 2332.5-2345.0 /26-30 dB Gain

Specifications

XM Weather Data Specifications

Frequency	2332.5-2345.0 MHz
VSWR	1.5:1 Maximum
Polarization	LHCP
Radiation Pattern	Hemispherical
Impedance	50 Ohms
Gain	26-30 dB
DC Voltage	4 V Min. / 4.7 V Typical / 5.5 V Maximum
DC Current	25mA Min/45mA Typical / 55mA Maximum
Noise Figure	2.7 dB Maximum

Mechanical

Weight	4.2 Ounces
Finish	Glossy White
Connector	TNC (Female)

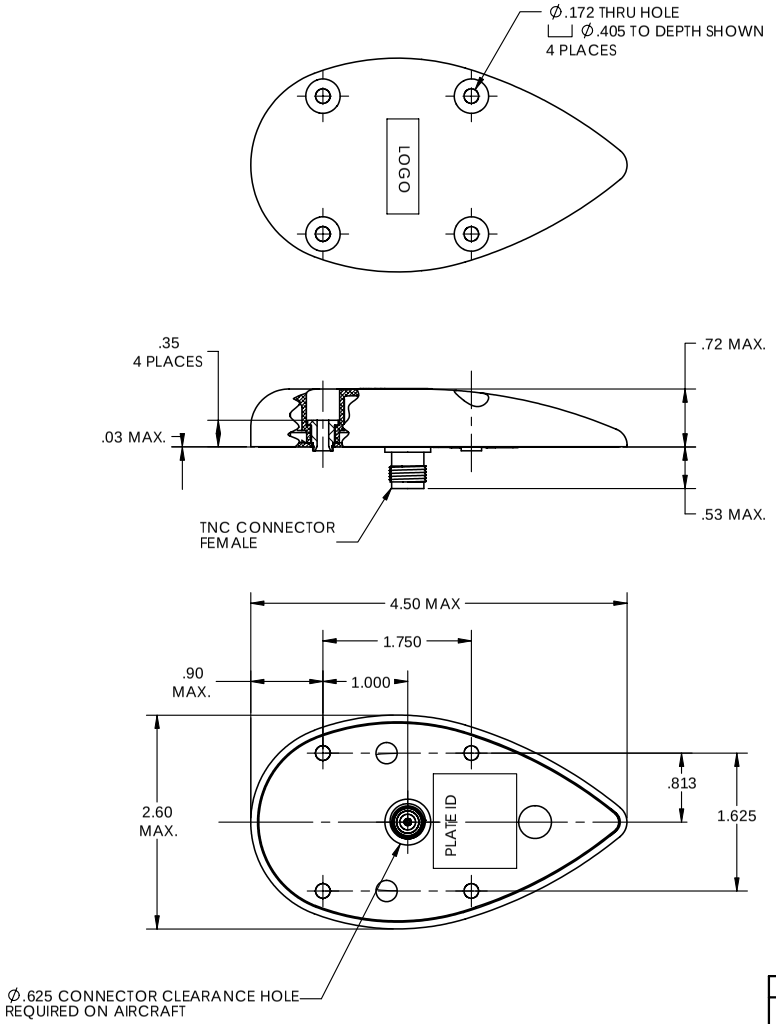
Environmental

RTCA Env.	DO-160D

specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	07/24/06	DH 07/24/06
B	REF ECN 07-35	MN	02/27/07	AV 02/27/07
C	REF ECN 08-095	MN	12/10/08	DH 12/16/08



ASSY DRAWING C42095

ANTENNA NOTES & SPECIFICATIONS

1.0 XM SPECIFICATION
- 1.1 ACTIVE AND PASSIVE ANTENNA CHARACTERISTICS
- 1.2 FREQUENCY — 2332.5 TO 2345.0 MHz
- 1.3 VSWR — 1.5 : 1 MAX.
  R/L — -13.98 dB
- 1.4 POLARIZATION — LEFT HAND CIRCULAR
- 1.5 RADIATION PATTERN — HEMISPHERICAL
- 1.6 IMPEDANCE — 50 OHMS OUTPUT (NOMINAL)
- 1.7 GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): — 4 dBic ±1 dB NOM. ZENITH
- 1.8 AMPLIFIER CHARACTERISTICS – ACTIVE ANTENNA
- 1.9 GAIN — 26 TO 30 dB
- 1.10 DC VOLTAGE — 4.0 VOLTS MIN. /4.7 VOLTS TYP. /5.5 VOLTS MAX.
- 1.11 DC CURRENT — 25 mA MIN. /45 mA TYP. /55 mA MAX.
- 1.12 NOISE FIGURE — 2.7 dB (MAX.)
- 1.13 OUT OF BAND ATTENUATION: 25 dB MIN. @ FC ± 230 MHz

2.0 ANTENNA WEIGHT — 4.2 Oz. MAX.

3.0 XM CONNECTOR — TNC FEMALE

4.0 RTCA DO-160D ENV. CAT.: [F2X]ACB[T(C1,R)]XRFXXSZXXZ[UUU]M[XXE2][1B]CA

5.0 A42099 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA

INSTALLATION DRAWING

DWG NO CI 420-16 REV. C

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN	H. NGUYEN	07/24/06
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK	R. GOMEZ	07/24/06
	ENGR	D. HOLLOWAY	07/24/06
MATERIAL :	MFG	M. EAVENSON	07/24/06
DO NOT SCALE DRAWING	QC	S. ADAMS	07/24/06

Comant Industries, Inc.

XM COMDAT ® ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 420-16	C

SCALE: 1:1 | CAD FILE: -- | SHEET: 1 OF 1

Comant CI 401-490

Single Channel Iridium™ SATCOM

COBHAM

The most important thing we build is trust

CI 401-490 Iridium SATCOM

Comant has developed the first Iridium band antenna that meets the FAA's tough, new TSO standard C159a. Newly designed narrow band patches provide efficiency.

The ComDat CI 401-490 is a high performance communications antenna specifically designed for Iridium systems, and is the only Iridium antenna on the market in the popular ARINC 743A mounting footprint.

Through a constellation of 66 low-earth orbiting (LEO) satellites, Iridium™ delivers essential communications services to and from areas where terrestrial communication are not available.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Used for airborne Iridium based telephony, email, asset tracking or safety services.

Frequencies Covered

Iridium 1616.0-1626.5 MHz

Specifications

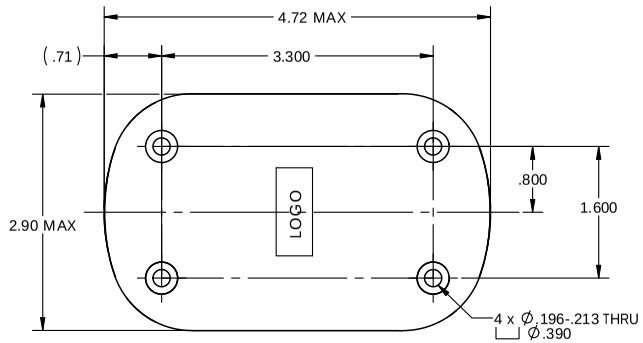
RF Characteristics	
Iridium TX / RX	1616.0-1626.5 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance RF	50 Ohms
Power Handling - TX	6.5 Watts Average
Lightning Protection	DC Grounded
Gain	+3 dBic @ Zenith
Mechanical	
Weight	6.2 Ounces Maximum
Finish	Glossy White
Connector	TNC (Female)
Federal Specifications	
FAA TSO	C159a
RTCA Environmental	DO-160G

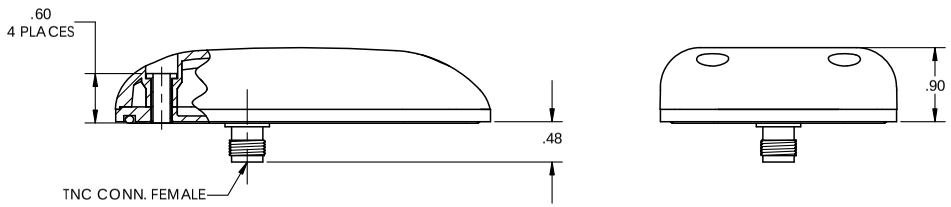
Comant Iridium Antennas are available in these three popular footprints.

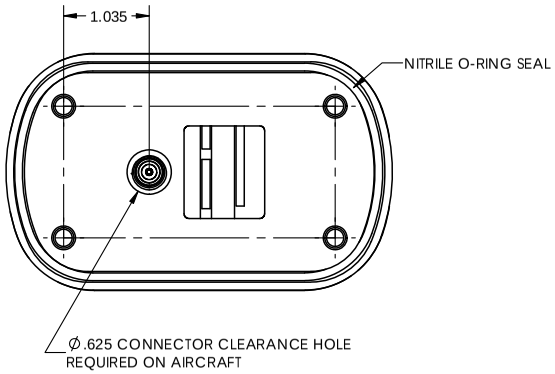
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING MN	03/29/12	DH 03/29/12







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY: 1616.0 TO 1626.5 MHz
   - VSWR: 1.5:1 MAX.
   - R/L:-13.98dB
   - POLARIZATION: RIGHT HAND POLARIZATION
   - RADIATION PATTERN: HEMISPHERICAL
   - IMPEDANCE: 50 OHMS OUTPUT (NOMINAL)
   - GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): +3.0 dBic @ ZENITH
   - POWER HANDLING: 6.5 WATTS AVG.
   - LIGHTNING PROTECTION: DC GROUND
2. WEIGHT: 6.2 oz MAX.
3. TSO-C159a (INCOMPLETE SYSTEM), RTCA/DO-160G ENV. CAT.: [F2X]ACB[S(L)R(C,C1)H(R)]XSFDXSZXXX[XXX][XX]X[XXXXXX][1B]CXX
4. A401188 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

DWG NO CI 401-490 REV. A

INSTALLATION DRAWING

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M.NGUYEN	3/29/12
CHECK	D. HOLLOWAY	3/29/12
ENGR	D. HOLLOWAY	3/29/12
MFG	J. JONES	3/29/12
QC	S. ADAMS	3/29/12

Comant Industries, inc.

COMDAT® IRIDIUM ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 401-490	A

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

ASSY DWG. No. D401187

Comant CI 420-490

Single Channel Iridium™ SATCOM

The most important thing we build is trust

CI 420-490 Iridium SATCOM

Comant has developed the first Iridium band antenna that meets the FAA's tough, new TSO standard C159a. Newly designed narrow band patches provide efficiency.

The ComDat CI 420-490 is a high performance communications antenna specifically designed for Iridium systems, and is the only Iridium antenna on the market in the popular teardrop mounting footprint.

Through a constellation of 66 low-earth orbiting (LEO) satellites, Iridium™ delivers essential communications services to and from areas where terrestrial communication are not available.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Used for airborne Iridium based telephony, email, asset tracking or safety services.

Frequencies Covered

Iridium 1616.0-1626.5 MHz

Specifications

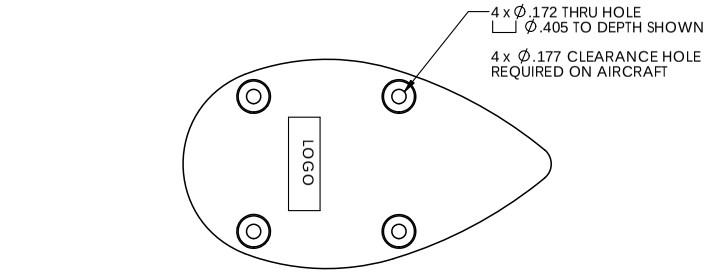
RF Characteristics	
Iridium TX / RX	1616.0-1626.5 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance RF	50 Ohms
Power Handling - TX	6.5 Watts Average
Lightning Protection	DC Grounded
Gain	+3 dBic @ Zenith
Mechanical	
Weight	5.0 Ounces Maximum
Finish	Glossy White
Connector	TNC (Female)
Federal Specifications	
FAA TSO	C159a
RTCA Environmental	DO-160G

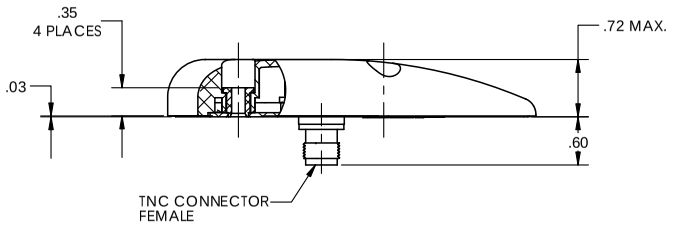
Comant Iridium Antennas are available in these three popular footprints.

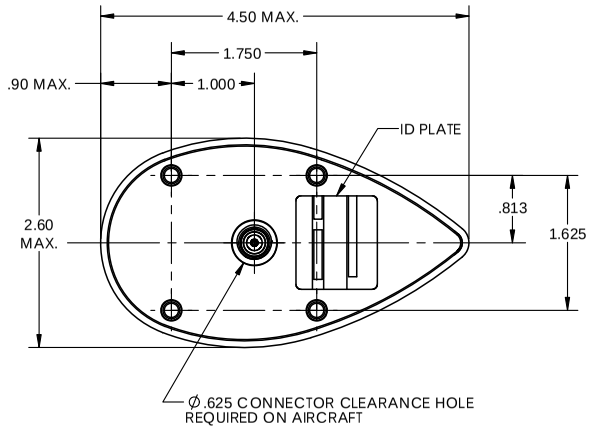
specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
A	RELEASED DRAWING MN	03/29/12	DH 03/29/12







NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS
   - FREQUENCY: 1616.0 TO 1626.5 MHz
   - VSWR: 1.5:1 MAX.
   - R/L:-13.98dB
   - POLARIZATION: RIGHT HAND POLARIZATION
   - RADIATION PATTERN: HEMISPHERICAL
   - IMPEDANCE: 50 OHMS OUTPUT (NOMINAL)
   - GAIN (MEASURED ON 4' CIRCULAR GROUND PLANE): +3.0 dBic @ ZENITH
   - POWER HANDLING: 6.5 WATTS AVG.
   - LIGHTNING PROTECTION: DC GROUND
2. WEIGHT: 5.0 Oz MAX.
3. TSO-C159a (INCOMPLETE SYSTEM), RTCA/DO-160G, ENV. CAT.: [F2X]ACB[S(L)R(C,C1)H(R)] XRFDXSXXXX[XXX][XX]X[XXXXXX][1B]CXX
4. A420127 INSTALLATION INSTRUCTION SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

ANTENNA ASSY D420129

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M MATERIAL : DO NOT SCALE DRAWING	CONTRACT NO. APPROVALS	DATE	Comant Industries, Inc. COMDAT ® IRIDIUM ANTENNA
	DRAWN M. NGUYEN	03/29/12	
	CHECK D. HOLLOWAY	03/29/12	
	ENGR D. HOLLOWAY	03/29/12	
	MFG J. JONES	03/29/12	DWG SIZE C · CODE IDENT 51351 · DWG. NO. CI 420-490 · REV. A
	QC S. ADAMS	03/29/12	SCALE: 1:1 · CAD FILE: -- · SHEET : 1 OF 1

DWG NO CI 420-490 REV. A

Comant CI 490-490

Single Channel Iridium™ SATCOM

The most important thing we build is trust

CI 490-490 Iridium SATCOM

Comant has developed the first Iridium band antenna that meets the FAA's tough, new TSO standard C159a. Newly designed narrow band patches provide unmatched efficiency.

The ComDat CI 490-490 is a high performance communications antenna specifically designed for Iridium systems, and features our standard round-format footprint and mounting.

Through a constellation of 66 low-earth orbiting (LEO) satellites, Iridium™ delivers essential communications services to and from areas where terrestrial communication are not available.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Used for airborne Iridium based telephony, email, asset tracking or safety services. Replaces the C! 490-1, CI 490-22

Frequencies Covered

Iridium 1616.0-1626.5 MHz

Specifications

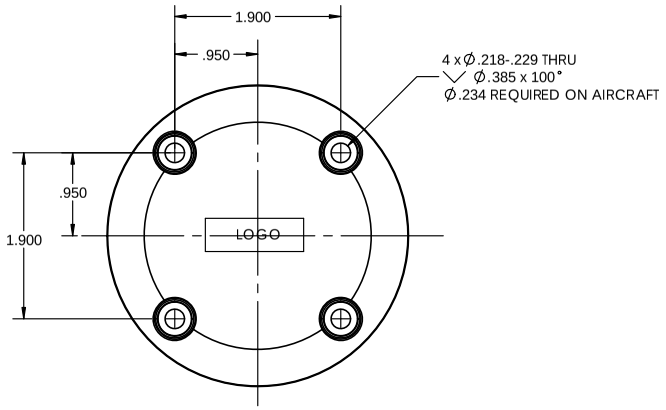
RF Characteristics	
Iridium TX / RX	1616-1626.5 MHz
VSWR	1.5:1 Maximum
Polarization	RHCP
Radiation Pattern	Hemispherical
Impedance RF	50 Ohms
Power Handling - TX	6.5 Watts Average
Lightning Protection	DC Grounded
Gain	+3 dBic @ Zenith
Mechanical	
Weight	5.0 Ounces Maximum
Finish	Glossy White
Connector	TNC (female)
Federal Specifications	
FAA TSO	C159a
RTCA Environmental	DO-160G

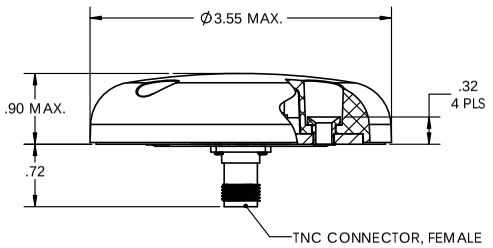
Comant Iridium Antennas are available in these three popular footprints.

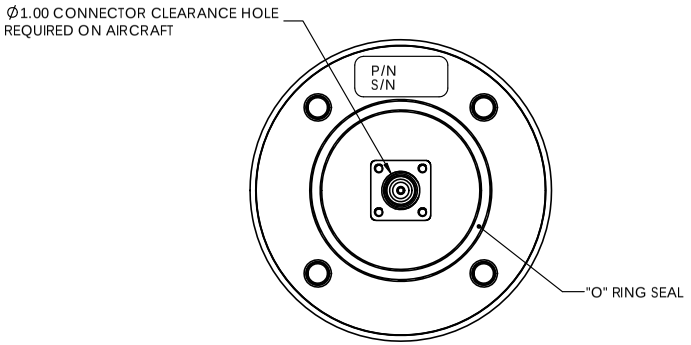
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL







ASSY DWG. D49035

NOTES: UNLESS OTHERWISE SPECIFIED

1. RF CHARACTERISTICS:

FREQUENCY	1616.0 TO 1626.5 MHz
VSWR	1.5:1 MAX.
R/L	-13.98 dB
POLARIZATION	RIGHT HAND CIRCULAR POLARIZATION
RADIATION PATTERN	HEMISPHERICAL
IMPEDANCE	50 OHMS OUTPUT (NOMINAL)
GAIN	+ 3.0 dBic @ ZENITH (MEASURED ON 4' CIRCULAR GROUND PLANE)
POWER HANDLING	6.5 WATTS AVG.
LIGHTNING PROTECTION	DC GROUNDED

2. WEIGHT : 5.0 oz MAX.
3. TSO C159a (INCOMPLETE SYSTEM), RTCA/DO-160G ENV. CAT.: [F2X]ACE[R(C,C1)H(R)]XSFSXSXXXX[XXX][XX]X[XXXXXX][2A]AXX
5. A49042 INSTALLATION INSTRUCTIONS SUPPLIED WITH ANTENNA.

INSTALLATION DRAWING

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M. NGUYEN	09/24/13
CHECK	D. HOLLOWAY	09/24/13
ENGR	D. HOLLOWAY	09/24/13
MFG	J. JONES	09/24/13
QC	S. ADAMS	09/24/13

Comant Industries, Inc.

COMDAT ®
IRIDIUM ANTENNA

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 490-490	A

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 490-490 REV A

Comant CI 150 Series

WiFi Datalink

The most important thing we build is trust

CI 150 Series Wifi Datalink

The Comant CI 150-32-L is intended for Wifi applications using 11.802 data protocol.

Applications include the ability to receive wireless intranet and data transfer while the aircraft is parked on the ramp.

CI 150-32-L
CI 150-250-L

Applications

CI 150-32-L PMA PQ2316NM

AIRBUS A320-200 Series
A319-111, A319-112
A319-113, A319-114
A319-131, A319-132

Frequencies Covered

2400-2500 MHz

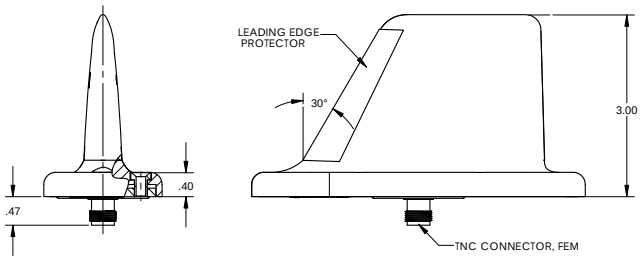
Specifications

Electrical Specifications	
Frequency	2400-2500 MHz
VSWR	1.6:1 Maximum
Polarization	Vertical
Radiation Pattern	Equivalent of 1/4 wave stub
Impedance RF	50 Ohms
Efficiency	90% Minimum
Power RF	100 Watts Maximum
Mechanical	
Weight	0.5 Lbs. MAX
Height	3.00 inches
Finish	Polyurethane Paint White
Connector	TNC (Female)
Federal Specifications	
FAA TSO	Not Applicable
RTCA Environmental	DO-160C

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 00-17	VI	01/27/00	DH 101/27/00
B	REF ECN 02-215	HN	07/11/02	DH 07/11/02
C	REF ECN 06-159	HN	12/11/06	DH 12/11/06
D	REF ECN 08-095	MN	01/15/09	DH 01/15/09
E	REF ECN 12-037	MN	03/20/12	DH 03/20/12
F	REF ECN 16-044	MN	05/20/16	DH 05/20/16
G	REF ECN 17-094	MN	07/11/17	DH 07/11/17



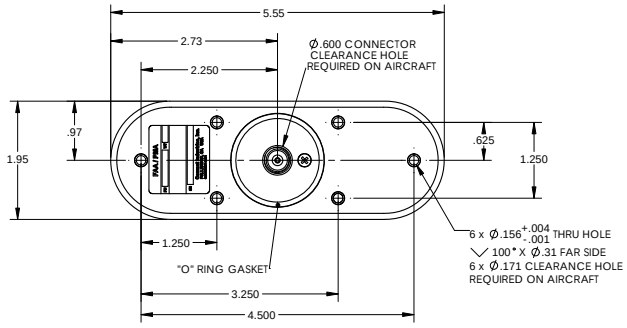


TABLE 1

DASH NO.	CONN. TYPE
-30	BNC
-31	RESERVED
-32	TNC
-33	C
-34	HN
-35	N

NOTE: -L MEANS LEADING EDGE PROTECTION

EX: CI 150-32-L MEANS
CI 150 WITH TNC CONNECTOR AND
LEADING EDGE PROTECTION

CI 150-32-L SHOWN
ASSY DWG. C15001-32-L

INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.
1. RF CHARACTERISTICS
   - FREQUENCY _____ 2400-2500 MHz
   - VSWR _____ 1.6 : 1 MAX.
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN _____ EQUIVALENT OF A QUARTER WAVE STUB
   - RF POWER _____ 100 WATTS MAX. AVERAGE
   - IMPEDANCE _____ 50 OHMS
   - EFFICIENCY _____ 90% MIN.
2. FINISH: POLYURETHANE PAINT WHITE.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. RTCA DO-160D. ENV. CAT.: [E1]-AC[C,C1,F,F1,R]XRFDXSXX[XX][XX]X[XXXX][X]X
5. WEIGHT: .3 LBS. NOMINAL
6. AIRSPEED: 600 KNOTS TAS @ 25,000 FT

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN	H. NGUYEN	05/13/96
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK	D. HOLLOWAY	05/20/96
MATERIAL :	ENGR	S. CASLOW	05/20/96
	APPD	R. SICCAMA	05/21/96
DO NOT SCALE DRAWING			

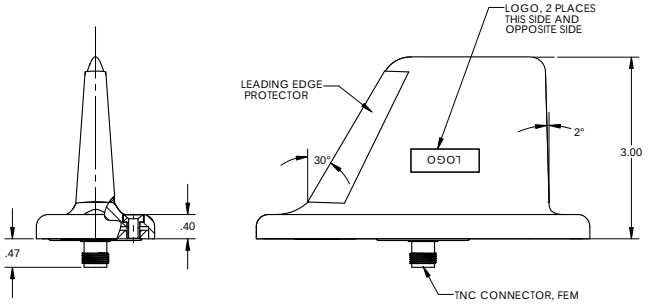
Comant Industries, Inc.

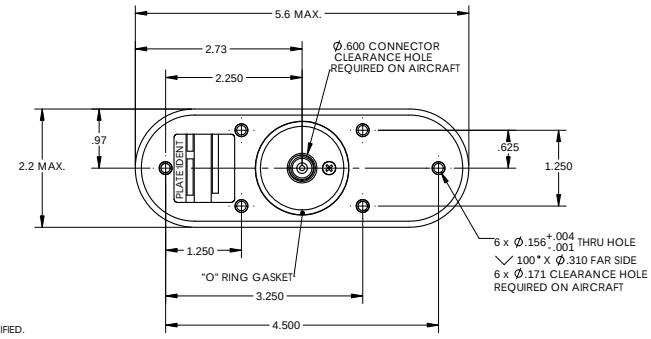
S-BAND ANTENNA

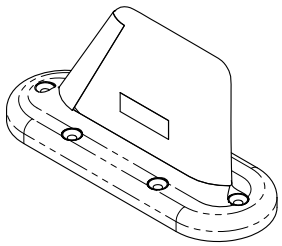
DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 150-*-*	G

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL







INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.
1. RF CHARACTERISTICS
   - FREQUENCY _____ 2400-2500 MHz
   - VSWR _____ 1.6 : 1 MAX.
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN _____ EQUIVALENT OF A QUARTER WAVE STUB
   - RF POWER _____ 100 WATTS MAX. AVERAGE
   - IMPEDANCE _____ 50 OHMS
   - EFFICIENCY _____ 90% MIN.
2. FINISH: POLYURETHANE PAINT WHITE.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. RTCA DO-160D. ENV. CAT.: [E1]-AC[C,C1,F,F1,R]XRFDXSXX[XX][XX]X[XXXX][X]X
5. WEIGHT: .5 LB MAX.
6. AIRSPEED: 375 KIAS @ SEA LEVEL

ASSY DWG. C15007

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX	DRAWN	H. NGUYEN	11/21/05
MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	CHECK	J. FRANKS	11/21/05
MATERIAL :	ENGR	D. HOLLOWAY	11/21/05
	MFG	M.EAVENSON	11/21/05
DO NOT SCALE DRAWING	QC	S. ADAMS	11/21/05

Comant Industries, Inc.

S-BAND ANTENNA-
Wi-Fi

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 150-250-L	E

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

Comant CI 150-500-L

WiFi Datalink

The most important thing we build is trust

CI 150-500-L Wifi Datalink

The Comant CI 150-500-L is intended for WiFi download applications on the ramp.

Applications include the ability to receive wireless intranet and data transfer while the aircraft is parked on the ramp.

Applications

Most aircraft up to and including business jets. Consult your FBO or installation shop for best application information.

Frequencies Covered

2400-2500 MHz
5170 to 5820 MHz

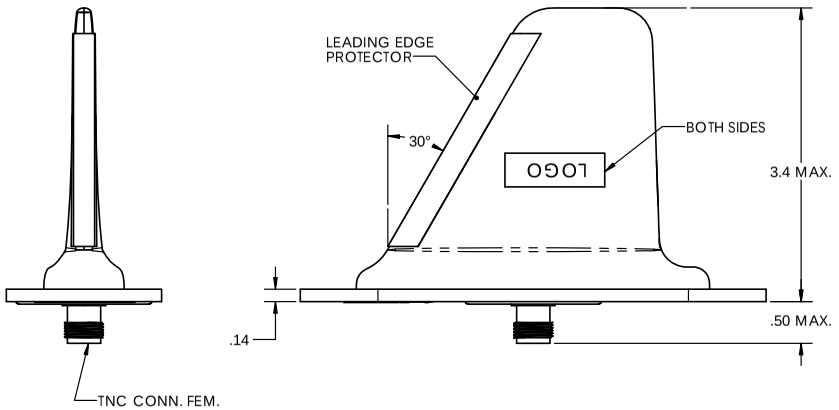
Specifications

Electrical Specifications	
Frequency	2400-2500 MHz and 5172-5820MHz
VSWR	1.6:1 Maximum
Polarization	Vertical
Radiation Pattern	Equivalent of 1/4 wave stub
Impedance RF	50 Ohms
Efficiency	90% Minimum
Power RF	100 Watts Maximum
Mechanical	
Weight	0.5 Lbs. MAX
Height	3.4 inches
Finish	Polyurethane Paint White
Connector	TNC (Female)
Federal Specifications	
FAA TSO	Not Applicable
RTCA Environmental	DO-160C

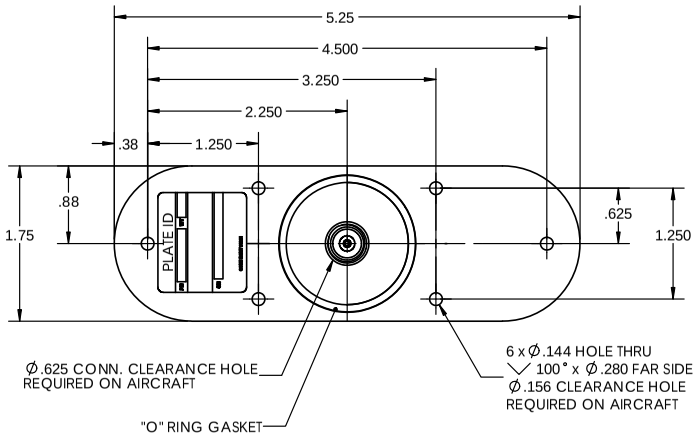
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	07/13/15	DH 07/13/15
B	REF ECN 17-248	MN	11/29/17	DH 11/29/17



INSTALLATION DRAWING



NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS
   - FREQUENCY _____ 2.400-2.475 GHz AND 5.170-5.820 GHz
   - VSWR _____ 1.6 : 1 MAX. AND 1.92:1 MAX.
   - RETURN LOSS _____ -12.7 dB MAX. AND -10.0 dB MAX.
   - POLARIZATION _____ VERTICAL
   - RADIATION PATTERN _____ EQUIVALENT OF A QUARTER WAVE STUB
   - RF POWER _____ 100 WATTS MAX.
   - IMPEDANCE _____ 50 OHMS
2. FINISH: POLYURETHANE PAINT WHITE.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. RTCA DO-160G, ENV. CAT.:
   [F2X]ACE[R(C,C1)H(R)U2(F,F1)S(L)]XSFSXSXXXX[XXX][XX]X[XXXXXX][XX]AXX
5. WEIGHT: .3 LB MAX.
6. INSTALLATION INSTRUCTIONS A15017 SUPPLIED WITH ANTENNA.
7. TEST TO ATP CI 150-500-L FT.

ASSY DWG C15014

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, Inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/32 ANGLES ± 1°	APPROVALS		DATE	ANTENNA- DUAL BAND WiFi			
MACHINE FINISH 125 PER ANSI-B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	M. NGUYEN	07/13/15				
	CHECK	D. HOLLOWAY	07/13/15				
	ENGR	D. HOLLOWAY	07/13/15				
MATERIAL :	MFG	J. JONES	07/13/15	DWG SIZE: C	CODE IDENT: 51351	DWG. NO.: CI 150-500-L	REV.: B
	QC	S. ADAMS	07/13/15	SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	
DO NOT SCALE DRAWING							

DWG NO CI 150-500-L REV. B

Comant CI 5500

Air to Ground Antenna

The most important thing we build is trust

CI 5500 Air to Ground Antenna

Comant's ATG CI 5500 is designed for use with Gogo Broadband Systems (ABS). The CI 5500 communicates with Gogo's ground station antennas providing high-speed data transmission from ground to air, making cabin internet and email access available for aircraft passengers.

Contact Gogo for price, availability and installation guidelines.

Applications

Light turbine, light jets and commercial aircraft. Consult your FBO or installation shop for best application information.

Frequencies Covered

TX	894-895.5MHz
RX	849-850.5MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

Comant CI 5800 / 5900 Series

Directional Air to Ground Antennas

The most important thing we build is trust

CI 5800 Air to Ground Antenna

Comant's ATG CI 5800 is designed for use with Gogo Broadband Systems (ABS). The CI 5800 communicates with Gogo's ground station antennas providing high-speed data transmission from ground to air, making cabin internet and email access available for aircraft passengers. The CI 5800 is designed with a forward looking directional RF pattern that enhances throughput of the Gogo System.

CI 5900 Air to Ground Antenna

The CI 5900 ATG Antenna is exactly like the Comant CI 5800 above except its directional beam is pointed aft.

Applications

Light turbine, light jets and commercial aircraft. Consult Gogo or your FBO for best application information.

Frequencies Covered

TX	894-895.5MHz
RX	849-850.5MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

Comant CI 2680-1

PCS/Timing Antenna

The most important thing we build is trust

CI-2680-1 PCS/Timing Antenna

Comant's PCS/Timing CI 2680-1 is designed for use with Gogo Broadband Systems (ABS).

Contact Gogo for price, availability and installation guidelines.

Applications

Light turbine, light jets and commercial aircraft. Consult your FBO or installation shop for best application information.

Frequencies Covered

Timing	1575.42MHz
PCS	
TX	1850-1910MHz
RX	1930-1990MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

Comant CI 5888 ATG

Air to Ground Antennas

The most important thing we build is trust

CI 5888 Air to Ground Antenna

Comant's ATG CI 5888 is designed for use with Broadband Systems (ABS). The CI 5888 communicates with ground station antennas providing high-speed data transmission from ground to air, making cabin internet and email access available for aircraft passengers. The CI 5888 is designed with an omni directional RF pattern.

Applications

Light turbine, light jets and commercial aircraft. Consult Aircell or your FBO for best application information.

Frequencies Covered

TX	703-748 MHz
RX	758-803 MHz

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

Comant CI 317

ELT Antennas / Tri-Band

The most important thing we build is trust

CI 317 Dual Connector Tri-Band ELT

Covers standard Emergency Locator Transmitter bands. Is standard equipment with ACR Artex ELT beacons with many years of proven safety service associated with these great life saving devices.

CI 317-1 Single Connector Tri-Band ELT

Our most popular ELT Antenna, the single connector tri-band device is as easy to install as it is though. Service technicians and installers like this version because all three ELT frequencies are covered with one BNC connector. That means only one RF cable needs to be run through the fuselage, saving time during the install.

Applications

Consult ACR Artex, your FBO or installation shop for best application information.

Frequencies Covered

121.5, 243 & 406 MHz
Emergency Locator Transmitter bands

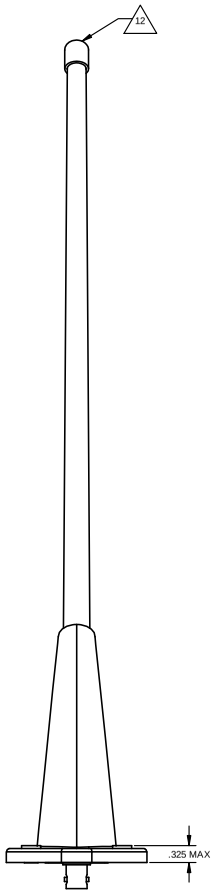
Specifications

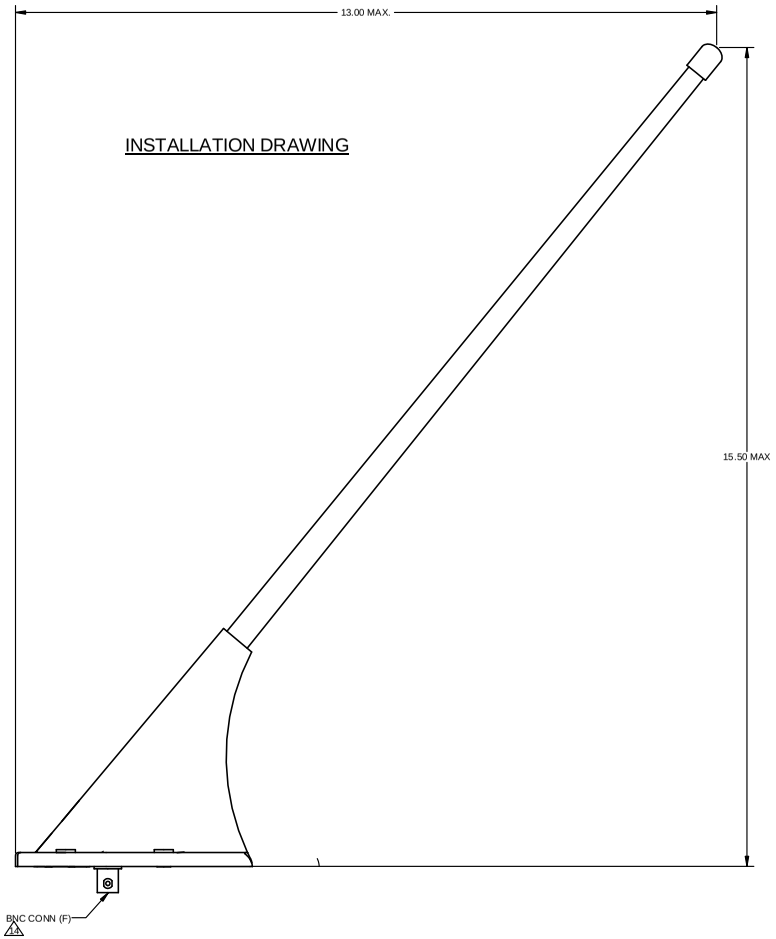
Electrical	
Frequency	121.5, 243 and 406 MHz
VSWR 121.5 & 243MHz VSWR 406 MHz	2.0:1 Maximum 1.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight CI 317 CI 317-1	0.50 Lbs Maximum 0.45 Lbs Maximum
Height	15.50 Inches Maximum
Finish	Polyurethane Enamel
Connector	CI 317 TNC (Female) CI 317-1 BNC (Female)
Environmental	
Temperature	-55 to +85 Celcius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	Consult with ACR

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL

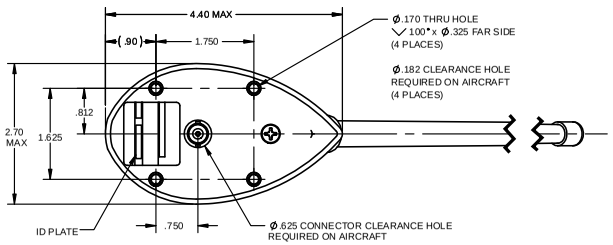




INSTALLATION DRAWING

NOTES:

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 121.5 / 243 MHz AND 406 MHz
   - 1.2 VSWR _____ 2.0 : 1 MAX FOR 121.5/243 MHz
     1.5 : 1 MAX FOR 406 MHz
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 POWER RATING _____ 25 WATTS
   - 1.5 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: WHITE GLOSS NON-YELLOWING PAINT OVER INTUMESCENT BASE COAT.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. DESIGNED TO MEET TSO C91a & C126.
5. WEIGHT: 0.45 LB.
6. AIR SPEED RATING 350 KNOTS TAS.
7. MAXIMUM TORQUE ON MOUNTING FASTENER, 20 IN-LBS.
8. CONNECTOR: BNC (F) FOR 121.5, 243 AND 406 MHz.
9. DRAG: 2.9 LBS MAX. AT 350 KNOTS @ 25,000 FT.
10. RECESSED FOAM HOLES FILLED WITH B-LAM SEALING FLUSH WITH THE BASE OF THE ANTENNA.
11. DELETED
12. VINYL TIP AFFIXED WITH ADHESIVE.
13. ROD MATERIAL, EPOXY RESIN IMPREGNATED REINFORCED FIBER GLASS.
14. PLACE PROTECTIVE CAP ON CONNECTOR.



ASSEMBLY DRAWING D31738

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	W. CROSBY	12/26/02
CHECK	J. GOMEZ	12/26/02
ENGR	P. BOSNEANU	12/26/02
APPD	P. BOSNEANU	12/26/02
QC	J. GARCIA	12/26/02

Comant Industries, Inc.

ANTENNA - ELT TRI-BAND

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 317-1	C

SCALE: 1 / 1 CAD FILE: -- SHEET 1 OF 1

CI 317-1 REV. C

Comant CI 317-1

ELT Antennas / Tri-Band

The most important thing we build is trust

CI 317 Dual Connector Tri-Band ELT

Covers standard Emergency Locator Transmitter bands. Is standard equipment with ACR Artex ELT beacons with many years of proven safety service associated with these great life saving devices.

CI 317-1 Single Connector Tri-Band ELT

Our most popular ELT Antenna, the single connector tri-band device is as easy to install as it is though. Service technicians and installers like this version because all three ELT frequencies are covered with one BNC connector. That means only one RF cable needs to be run through the fuselage, saving time during the install.

Applications

Consult ACR Artex, your FBO or installation shop for best application information.

Frequencies Covered

121.5, 243 & 406 MHz
Emergency Locator Transmitter bands

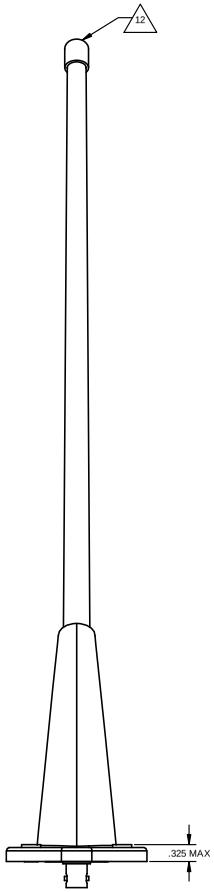
Specifications

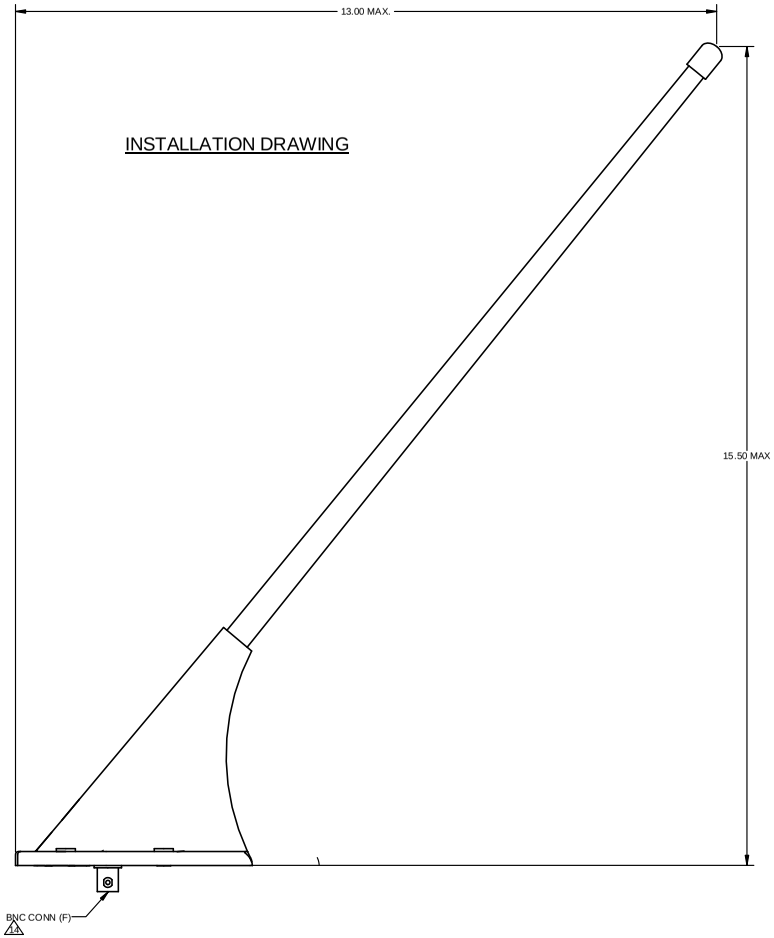
Electrical	
Frequency	121.5, 243 and 406 MHz
VSWR 121.5 & 243MHz VSWR 406 MHz	2.0:1 Maximum 1.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	25 Watts
Mechanical	
Weight CI 317 CI 317-1	0.50 Lbs Maximum 0.45 Lbs Maximum
Height	15.50 Inches Maximum
Finish	Polyurethane Enamel
Connector	CI 317 TNC (Female) CI 317-1 BNC (Female)
Environmental	
Temperature	-55 to +85 Celcius
Altitude	50,000 ft.
Federal Specifications	
FAA TSO	Consult with ACR

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL

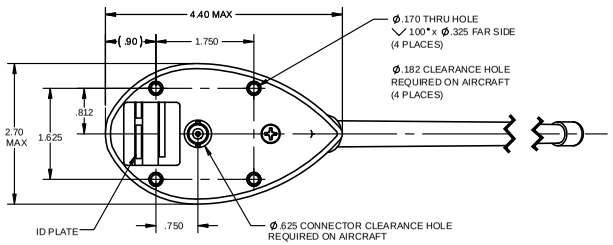




INSTALLATION DRAWING

NOTES:

1. RF CHARACTERISTICS
   - 1.1 FREQUENCY _____ 121.5 / 243 MHz AND 406 MHz
   - 1.2 VSWR _____ 2.0 : 1 MAX FOR 121.5/243 MHz
     1.5 : 1 MAX FOR 406 MHz
   - 1.3 POLARIZATION _____ VERTICAL
   - 1.4 POWER RATING _____ 25 WATTS
   - 1.5 RADIATION PATTERN _____ OMNI DIRECTIONAL
   - 1.6 IMPEDANCE _____ 50 OHMS NOMINAL
2. FINISH: WHITE GLOSS NON-YELLOWING PAINT OVER INTUMESCENT BASE COAT.
3. MOUNTING SURFACE, CONNECTOR AND MOUNTING HOLES ARE FREE OF PAINT.
4. DESIGNED TO MEET TSO C91a & C126.
5. WEIGHT: 0.45 LB.
6. AIR SPEED RATING 350 KNOTS TAS.
7. MAXIMUM TORQUE ON MOUNTING FASTENER, 20 IN-LBS.
8. CONNECTOR: BNC (F) FOR 121.5, 243 AND 406 MHz.
9. DRAG: 2.9 LBS MAX. AT 350 KNOTS @ 25,000 FT.
10. RECESSED FOAM HOLES FILLED WITH B-LAM SEALING FLUSH WITH THE BASE OF THE ANTENNA.
11. DELETED
12. VINYL TIP AFFIXED WITH ADHESIVE.
13. ROD MATERIAL, EPOXY RESIN IMPREGNATED REINFORCED FIBER GLASS.
14. PLACE PROTECTIVE CAP ON CONNECTOR.



ASSEMBLY DRAWING D31738

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

Comant Industries, Inc.

APPROVALS		DATE
DRAWN	W. CROSBY	12/26/02
CHECK	J. GOMEZ	12/26/02
ENGR	P. BOSNEANU	12/26/02
APPD	P. BOSNEANU	12/26/02
QC	J. GARCIA	12/26/02

ANTENNA - ELT TRI-BAND

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 317-1	C

SCALE: 1 / 1 CAD FILE: -- SHEET 1 OF 1

REV. C
CI 317-1

Comant CI 319 Series

ELT Antennas / Tri-Band / Dual Connectors

The most important thing we build is trust

CI 319 Dual Connector Tri-Band ELT

This tough, high speed blade covers standard Emergency Locator Transmitter bands. It is standard equipment with ACR Artex ELT beacons with many years of proven safety service associated with these great life saving devices.

CI 319-11-L Dual Connector Tri-Band ELT

This tough, high speed blade covers standard Emergency Locator Transmitter bands. Designed specifically to meet Boeing aircraft requirements, this model is sold by ACR Artex with their Boeing approved beacons.

Among many things required to meet these requirements, the unit is equipped with conductive inserts at the screw mounts for an easier mount.

Applications

Light twins and most business jets. Consult ACR Artex, your FBO or installation shop for best application information.

Frequencies Covered

121.5, 243 & 406 MHz
Emergency Locator Transmitter bands

Specifications

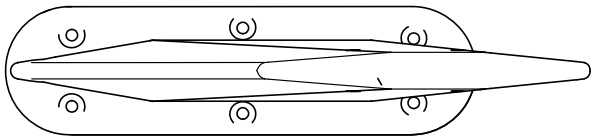
Electrical	
Frequency	121.5, 243 and 406 MHz
VSWR 121.5 & 243MHz VSWR 406 MHz	2.0:1 Maximum 1.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts Maximum
Mechanical	
Weight	1.4 Lbs Maximum
Height	7.85 Inches Maximum
Finish	Polyurethane Enamel
Connectors CI 319	121.5, 243 MHz MHz BNC 406 HMz TNC
Connector CI 319-1	BNC All Frequencies
Environmental	Consult with ACR
FAA TSO	Consult with ACR

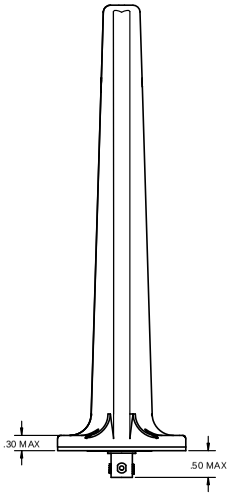
Shown with Lightning Strip groove and leading edge protection. Not all versions equipped as shown.

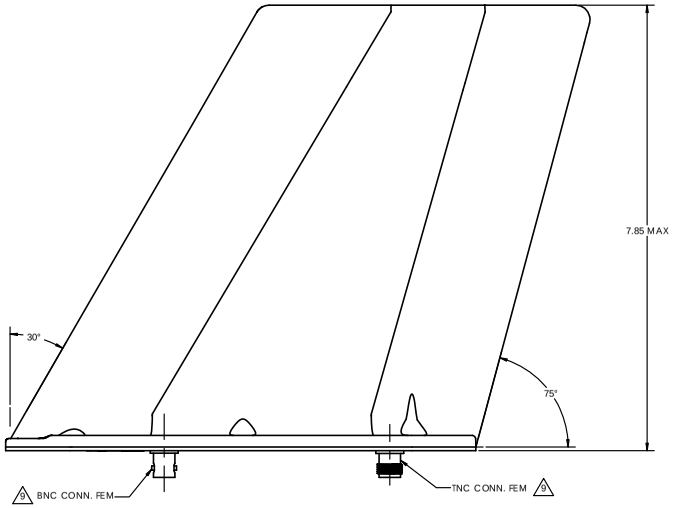
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

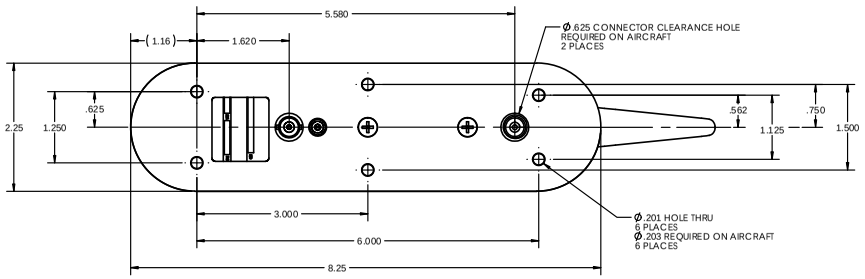
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	REF ECN 99-102	HN	08/23/99	DH 08/24/99
B	REF ECN 01-85	HN	07/26/01	DH 07/26/01
C	REF ECN 01-124	DL	10/01/01	DH 10/09/01
D	REF ECN 02-356	HN	03/13/03	DH 03/13/03
E	REF ECN 10-053	MN	09/02/10	DH 09/07/10









NOTES

1. RF CHARACTERISTICS:
   FREQUENCY _____ 121.5 MHz 243 MHZ 406 MHz
   VSWR _____ 2.0:1 MAX 2.01 MAX 1.5:1 MAX
   POLARIZATION _____ VERTICAL
   RADIATION PATTERN _____ OMNI-DIRECTIONAL
   IMPEDANCE _____ 50 OHMS
   RF POWER _____ 50 WATTS MAX
2. CONNECTOR FOR 121.5 AND 243 MHz: BNC (F)
   CONNECTOR FOR 406 MHz: TNC (F)
3. FINISH: POLYURETHANE WHITE PAINT.
4. WEIGHT: 1.4 LBS MAX.
5. INSTALLATION HARDWARE:
   (6) #10-32-UNF SCREWSTO A MAXIMUM TORQUE OF 20 IN-LBS ON SCREWS IS RECOMMENDED.
6. AIRSPEED RATING: 600 KNOTS @ 25,000 FT.
7. GASKET P/N C31914 SOLD SEPARATELY.
8. RECESS TUNING SCREW WITH B-LAM SEALING NOT TO EXCEED FLUSH WITH THE BASE PLATE OF THE ANTENNA. B-LAM APPLICATION MAY BE CONCAVE BUT 100% SEALING OF TUNING SCREW HOLE IS REQUIRED.
9. PLACE PROTECTIVE CAPS ON CONNECTORS.

ASSEMBLY DWG. D31901

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS	QTY REQD

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125✓ PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL : --
DO NOT SCALE DRAWING

CONTRACT NO.
ARTEX P/N 870-1319

APPROVALS		DATE
DRAWN	H. NGUYEN	3/13/03
CHECK	J.GOMEZ	3/13/03
ENGR	D. HOLLOWAY	3/13/03
QC	J.GARCIA	3/13/03
APPD	D. HOLLOWAY	3/13/03

Comant Industries, Inc.

ANTENNA-
ELT TRI-BAND

DWG SIZE	CODE IDENT	DWG. NO.	REV.
D	51351	CI 319	E

SCALE: 1:1 CAD FILE: -- SHEET: 1 OF 1

REV. E
CI 319

Comant CI 319-1 Series

ELT Antenna / Tri-Band / Single Connector

The most important thing we build is trust

CI 319-1 Single Connector Tri-Band ELT

This single connector tri-band blade is as easy to install as it is tough. Service technicians and installers like this version because all three ELT frequencies are covered with one BNC connector. That means only one RF cable needs to be run through the fuselage, saving time during the install.

Applications

Consult ACR Artex, your FBO or installation shop for best application information.

Frequencies Covered

121.5, 243 & 406 MHz
Emergency Locator Transmitter bands

Specifications

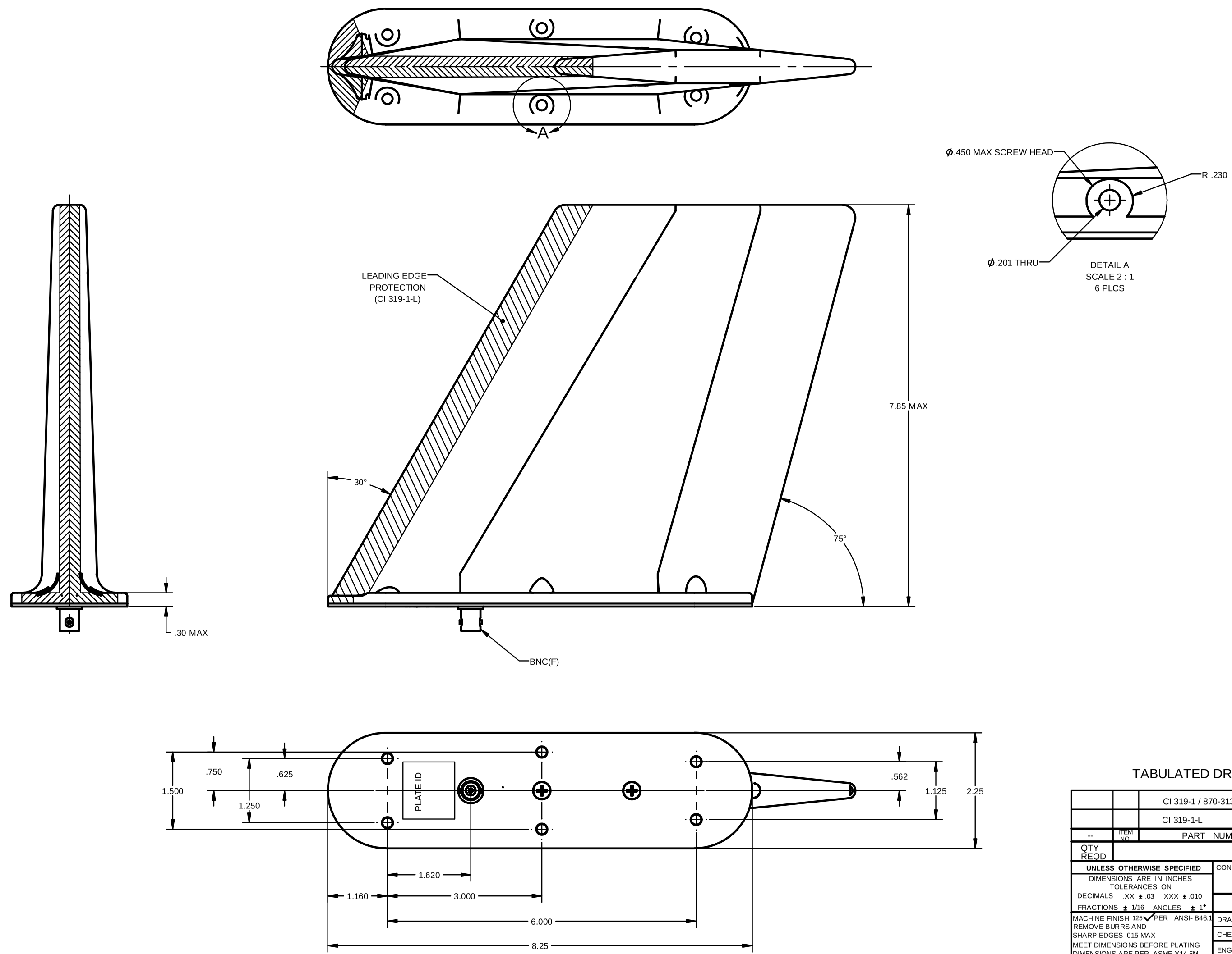
Electrical	
Frequency	121.5, 243 and 406 MHz
VSWR 121.5 & 243MHz VSWR 406 MHz	2.0:1 Maximum 1.5:1 Maximum
Polarization	Vertical
Radiation Pattern	Omnidirectional
Impedance RF	50 Ohms
Power RF	50 Watts Maximum
Mechanical	
Weight	1.4 Lbs Maximum
Height	7.85 Inches Maximum
Finish	Polyurethane Enamel
Connectors	121.5, 243 MHz MHz BNC 406 HMz TNC
Environmental	Consult with ACR
FAA TSO	Consult with ACR

Shown with Lightning Strip groove and leading edge protection. Not all versions equipped as shown.

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL



INSTALLATION DRAWING

NOTES

1. RF CHARACTERISTICS:
   - FREQUENCY: 121.5 MHz, 243 MHZ, 406 MHz
   - VSWR: 2.0:1 MAX, 2.01 MAX, 1.5:1 MAX
   - POLARIZATION: VERTICAL
   - RADIATION PATTERN: OMNI-DIRECTIONAL
   - IMPEDANCE: 50 OHMS
   - RF POWER: 50 WATTS MAX
2. MATING CONNECTOR: BNC(F).
3. AIRSPEED RATING: 600 KTS @ 25,000 FT.
4. TEMPERATURE SPECIFICATION: STORAGE -55°C TO +65°C
   OPERATING -20°C TO +55°C
5. FINISH: POLYURETHANE WHITE PAINT.
6. WEIGHT: 1.4 LBS MAX.
7. INSTALLATION HARDWARE:
   (6) #10-32-UNF SCREWS; 20 IN-LBS MAXIMUM TORQUE RECOMMENDED.
8. PLACE PROTECTIVE CAP ON CONNECTOR.

TABULATED DRAWING

QTY REQD	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
		CI 319-1 / 870-3137	NO LEADING EDGE PROTECTION	TOP ASSY DRAWING D31927
		CI 319-1-L	WITH LEADING EDGE PROTECTION	
--				

PARTS LIST

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125✓ PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	C. FLOCK	07/19/01
CHECK	M. KASHANPOUR	07/19/01
ENGR	D. HOLLOWAY	07/17/01
APPD	D. HOLLOWAY	07/17/01
QC	P. BOSNEANU	07/19/01

NEXT ASSY	USED ON	NEXT ASSY	FINAL ASSY
APPLICATION		QTY REQD	

Comant Industries, inc.

ANTENNA, ELT/TRI-BAND

DWG SIZE D | CODE IDENT 51351 | DWG. NO. CI 319-1 | REV. D

SCALE: 1 : 1 | CAD FILE: -- | SHEET 1 OF 1

DWG NO CI 319-1 REV D

Comant CI 120-3

Power Combiner

The most important thing we build is trust

CI 120-3 Power Combiner

Two input - one output Power Combiner is standard equipment with Comant's CI 120G/S blade set. Combines VOR/LOC and GS signals from individual blades. Typically used with single coaxial cable runs to flight deck avionics.

Applications

Internal mount.

Frequencies Covered

108-118 MHz & 329-335 MHz

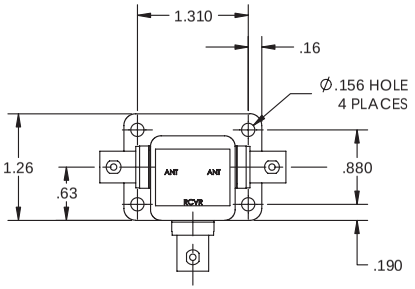
Specifications

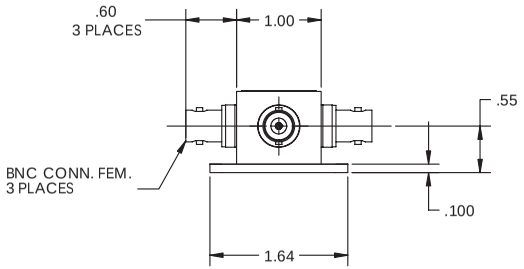
Electrical		
Frequency	108 -118 MHz	329-335 MHz
VSWR	1.5:1 Max.	1.5:1 Max.
Power Split	3 dB	3 dB
Isolation (btwn Ports)	20 dB	20 dB
Insertion Loss	1.0 dB	1.0 dB
Amplitude Balance	±0.5 dB	±0.5 dB
Impedance	50 Ohms	50 Ohms
Phase (btwn Ports)	∓180 ±5	∓180 ±5
Mechanical		
Weight	0.1 lbs	
Height	0.97 inches	
Construction	Die Cast Aluminium	
Finish	Aluminium	
Connector	BNC (female)	
Environmental		
	Internal Mounting / DO 160	
Federal Specifications		
FAA TSO	Part of an approved TSO System	

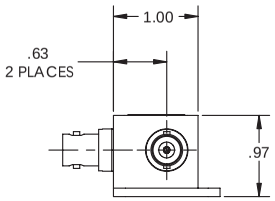
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REF ECN 05-116	HN	05/05/05	JF 05/05/05
F	REF ECN 05-119	HN	05/13/05	JF 05/13/05







NOTES: UNLESS OTHERWISE SPECIFIED

1. FREQUENCY RANGE_____ 108-118 MHz AND 329-335 MHz
2. POWER SPLIT_____ 3 dB 3 dB
3. INSERTION LOSS_____ 1.0 dB MAX. 1.0 dB MAX.
   (NOT INCLUDING 3dB POWER SPLIT)
4. ISOLATION_____ 20 dB MIN. 20 dB MIN.
   (BETWEEN ADJACENT ANT. PORTS)
5. AMPLITUDE BALANCE_____ ±0.5 dB ± 0.5 dB
6. IMPEDANCE _____ 50 OHMS NOM. 50 OHMS NOM.
7. VSWR_____ 1.5:1 MAX. 1.5:1 MAX.
   R/L_____ -13.98 dB -13.98 dB
8. PHASE_____ ± 180° -/+ 5° ±180° -/+ 5°
   (BETWEEN ANT. PORTS) (BETWEEN ANT. PORTS)
9. CONNECTORS AND MOUNTING HOLES ARE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING.
10. TSO FOR THIS COMPONENT (CI 120-3) APPROVED UNDER CI 120 G/S TSO C34e, C36e, C40c AND RTCA DO-160C, ENV. CAT. [A2F2]AC[CLMY)]XRXXXSXXXXXXC

DWG NO CI 5120 REV F

UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°			
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M			
MATERIAL :			
DO NOT SCALE DRAWING			

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	10/29/77
CHECK	D. MARADAS	08/78
ENGR	H. SUMMER	08/78
APPD	L. BROWN	08/78

Comant Industries, inc.

POWER COMBINER 2 INPUT / 1 OUTPUT

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 120-3	F

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

Comant CI 120-4

Power Combiner

The most important thing we build is trust

CI 120-4 Power Combiner

Two input - two output Power Combiner is standard equipment with Comant's CI 120-200G/S blade set. Combines VOR/LOC and GS signals from individual blades. Ideal for applications where dual coaxial cable runs to the avionics installation for NAV1 and NAV2 receivers.

Applications

Internal mount.

Frequencies Covered

108-118 MHz & 329-335 MHz

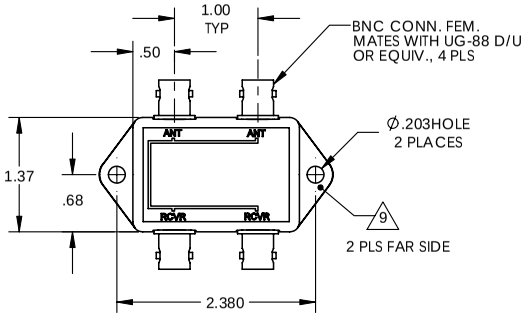
Specifications

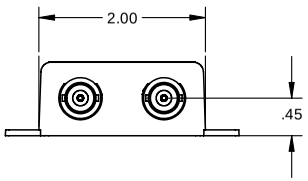
Electrical		
Frequency	108 -118 MHz	329-335 MHz
VSWR	1.5:1 Max.	1.5:1 Max.
Power Split	6 dB	6 dB
Isolation (btwn Ports)	20 dB	20 dB
Insertion Loss	1.5 dB	1.5 dB
Amplitude Balance	±0.5 dB	±0.5 dB
Impedance	50 Ohms	50 Ohms
Phase (btwn Ports)	∓180° ±5	∓180° ±5
Mechanical		
Weight	0.25 lbs	
Height	0.90 inches	
Construction	Die Cast Aluminium	
Finish	Aluminium	
Connector	BNC (female)	
Environmental		
	Internal Mounting / DO 160	
Federal Specifications		
FAA TSO	Part of an approved TSO System	

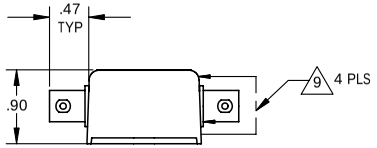
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
H	REF ECN 06-35	HN	05/19/06	JF 05/19/06
J	REF ECN 08-095	MN	12/09/08	DH 12/09/08







NOTES: UNLESS OTHERWISE SPECIFIED

1. FREQUENCY _____ 108-118 MHz AND 329-335 MHz
2. POWER SPLIT_____ 6 dB 6 dB
3. INSERTION LOSS_____ 1.5 dB MAX. 1.5 dB MAX.
   (NOT INCLUDING 3dB POWER SPLIT)
4. ISOLATION_____ 20 dB MIN. 20 dB MIN.
   (BETWEEN ADJACENT ANT. PORTS)
5. AMPLITUDE BALANCE_____ ±0.5 dB ± 0.5 dB
6. IMPEDANCE _____ 50 OHMS 50 OHMS
7. VSWR_____ 1.5:1 MAX. 1.5:1 MAX.
   R/L_____ -13.98 dB -13.98 dB
8. PHASE_____ ± 180° -/+ 5° ±180° -/+ 5°
   (BETWEEN RCVR PORTS) (BETWEEN RCVR PORTS)

9. THESE SURFACES ARE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING PER MIL-B-5087

10. WEIGHT: 0.14 LB

ASSY DWG. C12041

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M

MATERIAL :

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	04/20/95
CHECK	S. CASLOW	05/17/95
ENGR	D. HOLLOWAY	05/16/95
MFG	R. N.ALEXANDER	05/17/95

Comant Industries, inc.

POWER COMBINER-
2 INPUT / 2 OUTPUT

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 120-4	J

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

DWG NO CI 120-4 REV. J

Comant CI 120-5

Power Combiner

The most important thing we build is trust

CI 120-5 Power Combiner

Two input - two output Power Combiner is standard equipment with Comant's CI 120-200G/S-L as supplied to Cessna. The CI 120-5 allows for 2 separate coaxial cable runs to the avionics installation for NAV1 and NAV2 receivers.

Applications

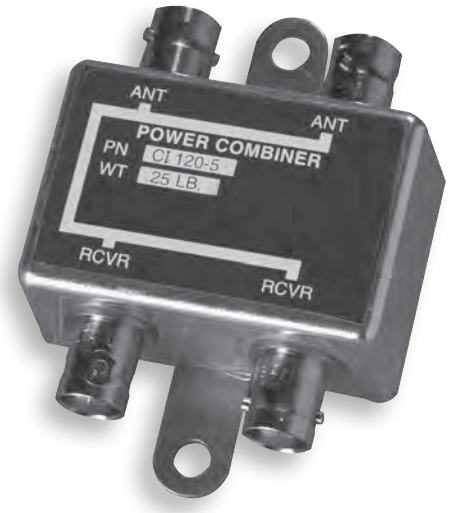
Internal mount.

Frequencies Covered

108-118 MHz & 329-335 MHz

Specifications

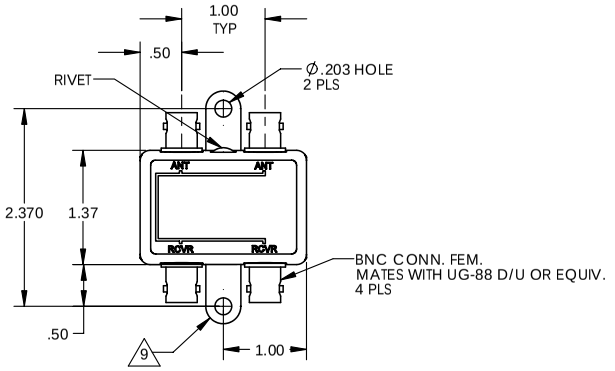
Electrical		
Frequency	108-118 MHz	329-335 MHz
VSWR	1.5:1 Maximum	1.5:1 Max.
Power Split	6 dB	6 dB
Isolation (btwn Ports)	20 dB Min.	20 dB Min.
Insertion Loss	1.5 dB Max.	1.5 dB Max.
Amplitude Balance	±0.5 dB	±0.5 dB
Impedance	50 Ohms	50 Ohms
Phase (btwn Ports)	∓180° ±5	∓180° ±5
Mechanical		
Weight	0.25 lbs	
Height	0.88 inches max.	
Construction	Die Cast Aluminium	
Finish	Aluminium	
Connector	BNC (female)	
Environmental		
	Internal Mounting / DO 160	
Federal Specifications		
FAA TSO	Part of an approved TSO System	

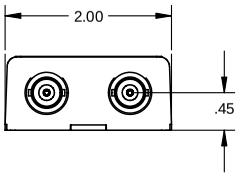


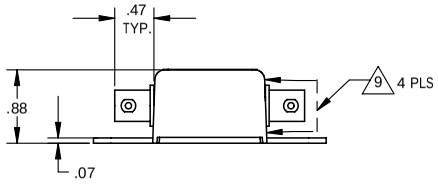
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVAL
D	REF ECN 06-36 HN	05/19/06	JF 05/19/06







NOTES: UNLESS OTHERWISE SPECIFIED

1. FREQUENCY _____ 108-118 MHz AND 329-335 MHz
2. POWER SPLIT_____ 6 dB 6 dB
3. INSERTION LOSS_____ 1.5 dB MAX. 1.5 dB MAX.
   (NOT INCLUDING 3dB POWER SPLIT)
4. ISOLATION_____ 20 dB MIN. 20 dB MIN.
   (BETWEEN ADJACENT ANT. PORTS)
5. AMPLITUDE BALANCE_____ ± 0.5 dB ± 0.5 dB
6. IMPEDANCE _____ 50 OHMS 50 OHMS
7. VSWR_____ 1.5:1 MAX. 1.5:1 MAX.
   R/L_____ -13.98 dB -13.98 dB
8. PHASE_____ ± 180° -/+ 5° (BETWEEN ANT. PORTS) ±180° -/+ 5° (BETWEEN ANT. PORTS)

9. THESE SURFACES ARE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING PER MIL-B-5087
10. WEIGHT: 0.25 LB
11. TSO FOR THIS COMPONENT (CI 120-5) APPROVED UNDER CI 120 ( ) SERIES SYSTEM
    TSO C34e, C36e, C40c RTCA DO-160D ENV. CAT.: [F2X]ACB[T(E1,P)]XRFDXSXXXXX[XX]X[XXXX]XCX

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	05/11/95
CHECK	S. CASLOW	05/12/95
ENGR	D. HOLLOWAY	05/12/95
MFG	J. STITES	05/12/95

Comant Industries, inc.

POWER COMBINER-
2 INPUT / 2 OUTPUT

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 120-5	D

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

REV. D
DWG NO. CI 120-5

Comant CI 120-7

Power Combiner

The most important thing we build is trust

CI 120-7 Power Combiner

Two input - two output Power Combiner is standard equipment with Comant's CI 120-200G/S-L as supplied to Cessna. The CI 120-5 allows for 2 separate coaxial cable runs to the avionics installation for NAV1 and NAV2 receivers.

Applications

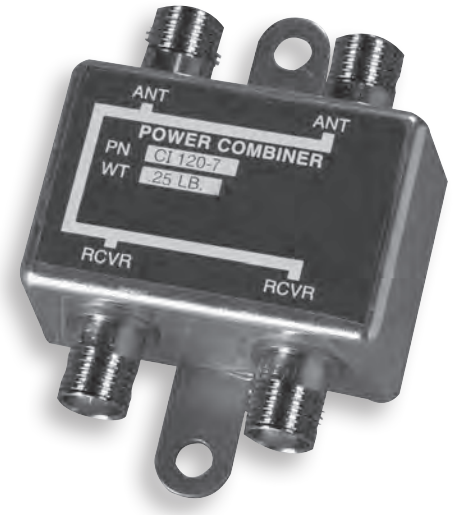
Internal mount.

Frequencies Covered

108-118 MHz & 329-335 MHz

Specifications

Electrical		
Frequency	108-118 MHz	329-335 MHz
VSWR	1.5:1 Maximum	1.5:1 Max.
Power Split	6 dB	6 dB
Isolation (btwn Ports)	20 dB Min.	20 dB Min.
Insertion Loss	1.5 dB Max.	1.5 dB Max.
Amplitude Balance	±0.5 dB	±0.5 dB
Impedance	50 Ohms	50 Ohms
Phase (btwn Ports)	∓180° ±5	∓180° ±5
Mechanical		
Weight	0.25 lbs	
Height	0.88 inches max.	
Construction	Die Cast Aluminium	
Finish	Aluminium	
Connector	BNC (female)	
Environmental		
	Internal Mounting / DO 160	
Federal Specifications		
FAA TSO	Part of an approved TSO System	



WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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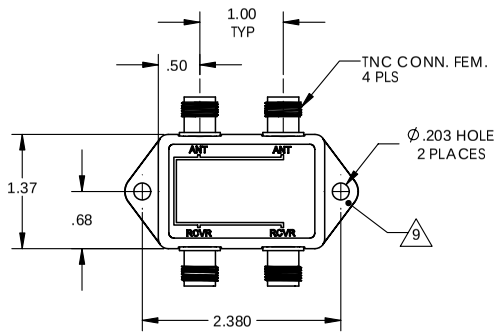
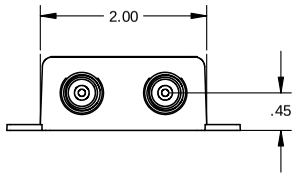
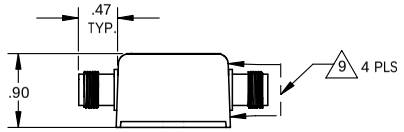
Email: comantorders@cobham.com

REVISIONS

LTR	DESCRIPTION	DATE	APPROVAL
A	REF ECN 06-37 HN	05/19/06	JF 05/19/06







NOTES: UNLESS OTHERWISE SPECIFIED

1. FREQUENCY _____ 108-118 MHz AND 329-335 MHz
2. POWER SPLIT_____ 6 dB 6 dB
3. INSERTION LOSS_____ 1.5 dB MAX. 1.5 dB MAX.
   (NOT INCLUDING 3dB POWER SPLIT)
4. ISOLATION_____ 20 dB MIN. 20 dB MIN.
   (BETWEEN ADJACENT ANT. PORTS)
5. AMPLITUDE BALANCE_____ ± 0.5 dB ± 0.5 dB
6. IMPEDANCE _____ 50 OHMS 50 OHMS
7. VSWR_____ 1.5:1 MAX. 1.5:1 MAX.
   R/L_____ -13.98 dB -13.98 dB
8. PHASE_____ ± 180° -/+ 5° ±180° -/+ 5°
   (BETWEEN ANT. PORTS) (BETWEEN ANT. PORTS)

9 THESE SURFACES ARE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING PER MIL-B-5087

10. WEIGHT: 0.2 LB

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		**PARTS LIST**		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	10/26/00
CHECK	M.KASHANPOUR	11/02/00
ENGR	D. HOLLOWAY	11/02/00
MFG	P.BOSNEANU	11/02/00

Comant Industries, inc.

POWER COMBINER-
2 INPUT / 2 OUTPUT

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 120-7	A

SCALE: 1/1 CAD FILE: -- SHEET : 1 OF 1

DWG NO CI 120-7 REV. A

Comant CI 502

Coupler

The most important thing we build is trust

CI 502 Coupler

Dual VOR coupler allows the simultaneous use of two VOR receivers from one VOR antenna. Compact design makes for easy installation.

Applications

Internal mounting location.

Frequencies Covered

108-118 MHz

Specifications

Electrical	
Frequency	108-118 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Minimum
Insertion Loss	3.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.25 lbs
Height	0.88 inches
Construction	Die Cast Aluminium
Finish	Aluminium
Connector	BNC (female)
Environmental	
N/A	Internal Mounting
Federal Specifications	
FAA TSO	C34c, C36c, C40a

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

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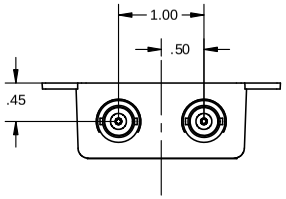
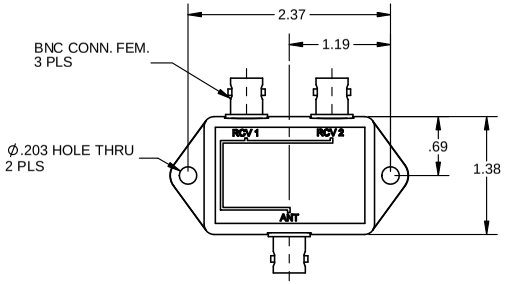
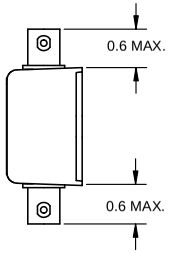
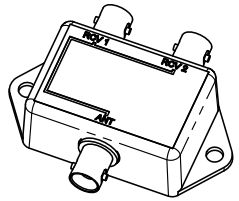
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
E	REDRAWN. REF ECN 04-76	HN	04/26/04	DH 05/07/04
F	REF ECN 07-46	MN	03/22/07	AV 03/22/07
G	REF ECN 08-095	MN	12/09/08	DH 12/09/08
H	REF ECN 10-067	MN	09/09/10	DH 09/09/10
J	REF ECN 15-068	MN	08/28/15	DH 08/27/15

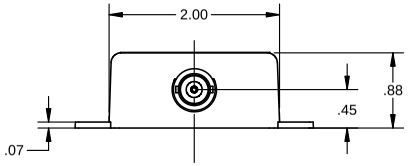








ISO VIEW



INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS
   - FREQUENCY _____ 108 TO 118 MHz
   - VSWR _____ 1.5:1 MAXIMUM
   - R/L _____ -13.98 dB
   - INSERTION LOSS _____ 3.5 dB MAXIMUM
   - ISOLATION _____ 20 dB MINIMUM
   - IMPEDANCE _____ 50 OHMS
2. WEIGHT : .25 LB. MAX.
3. TSO C34c, C36c, C40a

ASSY DWG. C50208

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	04/20/04
CHECK	J. GOMEZ	05/05/04
ENGR	R. GOMEZ	05/16/04
QC	C. DARABAN	05/06/04
APPD	D. HOLLOWAY	05/06/04

Comant Industries, Inc.

COUPLER - ANTENNA, VOR

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 502	J

SCALE: 1/1 | CAD FILE: -- | SHEET : 1 OF 1

REV. J
DWG NO CI 502

Comant CI 503

Coupler

The most important thing we build is trust

CI 503 Coupler

Dual glide slope coupler designed to allow the operation of two glide slope receivers from one glide slope antenna. Compact design makes installation easy.

Applications

Internal mounting location.

Frequencies Covered

329-335 MHz

Specifications

Electrical	
Frequency	329 to 335 MHz
VSWR	1.5:1 Maximum
Isolation	18 dB Minimum
Insertion Loss	3.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.20 lbs
Height	0.88 inches
Construction	Die Cast Aluminium
Finish	Aluminium
Connector	BNC (female)
Environmental	
N/A	Internal Mounting
Federal Specifications	
FAA TSO	C34c, C36c, C40a

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
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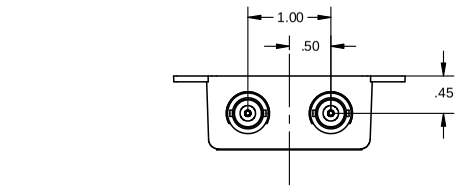
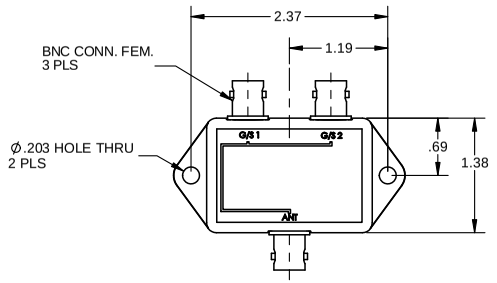
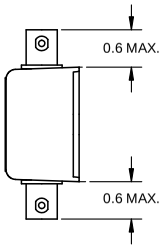
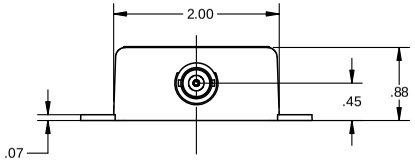
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	WEIGHT WAS .15 lb. INSOLATION WAS 25 dB MIN. INSOLATION LOSS WAS .3dB MAX. IMPEDANCE ADDED. WAS: ENVELOPE DRAWING.		5/87	DH 5/87
B	REF ECN 87-46	MN	10/5/87	RES 10/8/87
C	REF ECN 91-14	MN	3/05/91	DH 03/27/91
D	REF ECN 07-46	MN	3/22/07	AV 03/22/07
E	REF ECN 07-143	MN	8/22/07	AV 08/22/07
F	REF ECN 08-095	MN	1/26/09	DH 1/26/09
G	REF ECN 10-065	MN	9/08/10	DH 09/08/10
H	REF ECN 15-069	MN	08/28/15	DH 09/01/15









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.
1. RF CHARACTERISTICS
   - FREQUENCY _____ 329 TO 335 MHz
   - VSWR _____ 1.5:1 MAXIMUM
   - R/L _____ -13.98 dB
   - INSERTION LOSS _____ 3.5 dB MAXIMUM
   - ISOLATION _____ 18 dB MINIMUM
   - IMPEDANCE _____ 50 OHMS
2. WEIGHT: 0.2 LB MAX
3. TSO C34c, C36c, C40a

ASSY DWG. C50308

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	9/31/78
CHECK	L. BROWN	10/17/78
ENGR	BIGGS	10/17/78
APPD	H. SUMMERA	10/17/78

Comant Industries, Inc.

COUPLER - ANTENNA, GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 503	H

SCALE: 1/1 | CAD FILE: -- | SHEET: 1 OF 1

DWG NO CI 503 REV. H

Comant CI 505

Diplexer Dual VOR G/S

The most important thing we build is trust

CI-505 Diplexer Dual VOR G/S

Dual VOR coupler/single glide slope diplexer allows the operation of two VOR receivers and one glide slope receiver from one VOR/GS antenna. Compact design makes installation easy.

Order CI 505-TNC for TNC Female connector on Antenna port.

Applications

Internal mounting location.

Frequencies Covered

108-118 MHz & 329-335 MHz

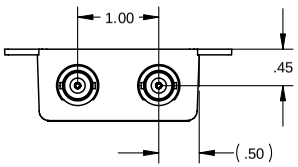
Specifications

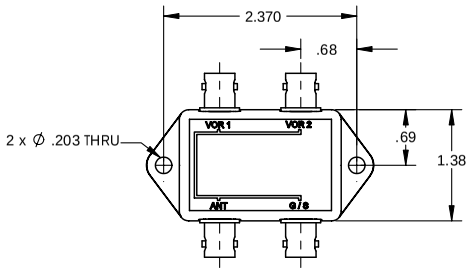
Electrical	
Frequency	108-118 MHz & 329-335 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Min between any receiver port
Insertion Loss	0.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.20 lbs. Maximum
Height	0.88 in. Maximum
Material	Die Cast Aluminium
Finish	Aluminium
Connectors	BNC (female)
Environmental	
N/A	Internal Mount
Federal Specifications	
FAA TSO	C34c, C36c, C40a

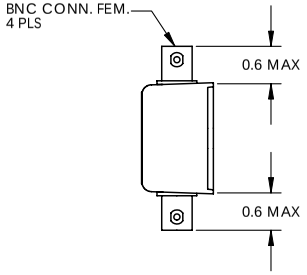
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

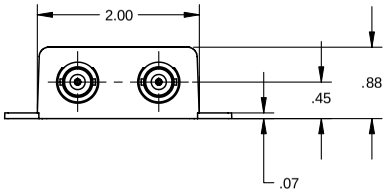
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
D	REDRAWN. REF ECN 03-271	MN	10/28/03	JF 11/04/03
E	REF ECN 07-46	MN	03/22/07	AV 03/22/07
F	REF ECN 08-095	MN	11/20/08	DH 11/20/08









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS

FREQUENCY	:	108 TO 118 MHz
	:	329 TO 335 MHz
VSWR	:	1.5 : 1MAXIMUM
R/L	:	-13.98 dB
INSERTION LOSS	:	0.5 dB MAXIMUM
ISOLATION	:	20 dB MIN BETWEEN ANY RECEIVER PORT
IMPEDANCE	:	50 OHMS

2. WEIGHT : .2 LB MAX
3. TSO C34c, C36c, C40a

ASSY DWG. D50506

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	H. NGUYEN	10/28/03
CHECK	J. GOMEZ	11/04/03
ENGR	J. FRANKS	11/04/03
QC	J. GARCIA	11/04/03
APPD	D. HOLLOWAY	11/04/03

Comant Industries, Inc.

COUPLER-
ANT. DUAL VOR / GS

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 505	F

SCALE: 1/1 | CAD FILE: -- | SHEET : 1 OF 1

REV: F
DWG. NO. CI 505

Comant CI 507

Diplexer VOR G/S

The most important thing we build is trust

CI-507 Diplexer VOR G/S

Allows the operation of one VOR receiver and one glide slope receiver from one VOR/GS antenna. Compact design makes installation easy.

Order CI 507-2 for TNC Female connectors on all ports.

Applications

Internal mounting location.

Frequencies Covered

108-118 MHz
329-335 MHz

Specifications

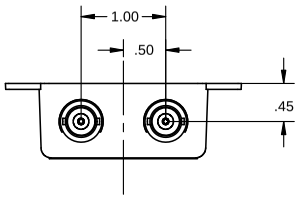
Electrical	
Frequency	108-118 MHz & 329-335 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Maximum
Insertion Loss	0.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.20 lbs. Maximum
Height	0.88 in. Maximum
Material	Die Cast Aluminium
Finish	Aluminium
Connectors	BNC (female)
Environmental	
N/A	Internal Mount
Federal Specifications	
FAA TSO	C34c, C36c, C40a

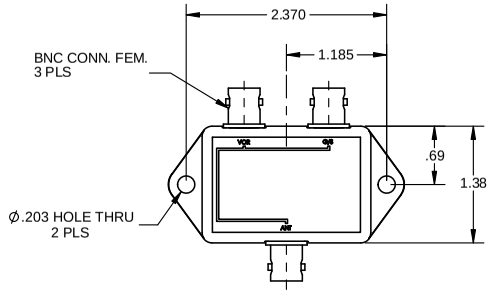
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

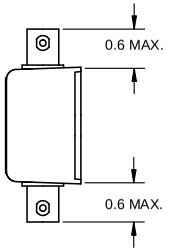
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

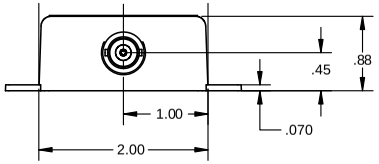
REVISIONS

LTR	DESCRIPTION		DATE	APPROVAL
A	WEIGHT WAS .15 lb. INSOLATION WAS 25 dB MIN. INSOLATION LOSS WAS .3dB MAX. IMPEDANCE ADDED. WAS: ENVELOPE DRAWING.		3/30/87	DH 4/87
B	REF ECN 91-14	MN	03/05/91	DH 03/27/91
C	REF ECN 07-46	MN	03/22/07	AV 03/22/07
D	REF ECN 08-095	MN	11/11/08	DH 11/11/08
E	REF ECN 15-043	MN	07/28/15	DH 08/05/15









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS
   - FREQUENCY _____ 108 TO 118 MHz
     329 TO 335 MHz
   - VSWR _____ 1.5:1 MAXIMUM
   - INSERTION LOSS _____ 0.5 dB MAXIMUM
   - ISOLATION _____ 20 dB MAXIMUM
   - IMPEDANCE _____ 50 OHMS
2. WEIGHT : 0.2 LB MAX
3. TEST PROCEDURE NO. 507
4. TSO C34c, C36c, C40a

ASSY DWG. C50708

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 ✓ PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	9/31/78
CHECK	L. BROWN	10/2/79
ENGR	H. SUMMERS	10/2/79
APPD	H. SUMMERS	10/2/79

Comant Industries, Inc.

DIPLEXER -
ANTENNA, VOR/GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 507	E

SCALE: 1/1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 507 REV. E

Comant CI 509

Coupler Marker Beacon

The most important thing we build is trust

CI-509 Coupler Marker Beacon

Dual marker beacon coupler permits the use of two marker beacon receivers from one marker beacon antenna. Compact design makes installation easy.

Applications

Internal mounting location.

Frequencies Covered

75 +/- .15 MHz

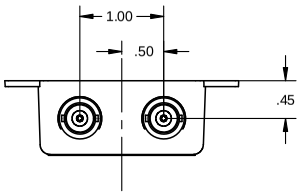
Specifications

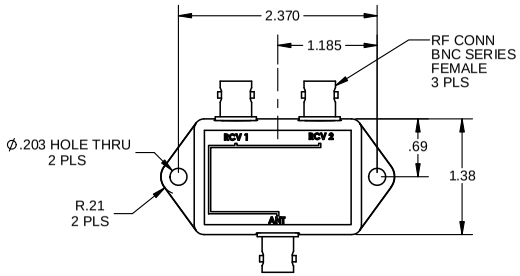
Electrical	
Frequency	75 +/- .15 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Maximum
Insertion Loss	0.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.20 lbs
Height	0.88 inches
Construction	Die Cast Aluminium
Finish	Aluminium
Connector	BNC (female)
Environmental	
N/A	Internal Mounting
Federal Specifications	
FAA TSO	C35d

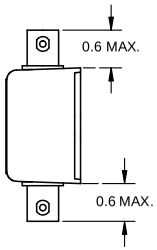
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

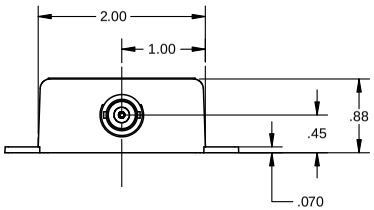
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	ISOLATION WAS 35 dB MIN. (DWG ERROR) CORRECTED WEIGHT AND ISOLATION LOSS TO 0.5 dB		03-17-87	DH 03/17/87
B	IMPEDANCE ADDED. ASSY DWG ADDED. WAS: ENVELOPE DWG		04-28-87	DH 05-87
C	REF ECN 91-23	MN	03-27-91	DH 03-27-91
D	REF ECN 06-163	AV	12-15-06	AV 12-15-06
E	REF ECN 08-095	MN	11/11/08	DH 11/11/08
F	REF ECN 15-070	MN	8/18/15	DH 9/02/15









INSTALLATION DRAWING

NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS
   - FREQUENCY _____ 75 ± .15 MHz
   - VSWR _____ 1.5:1 MAXIMUM
   - R/L _____ -13.98 dB
   - INSERTION LOSS _____ 0.5 dB MAXIMUM
   - ISOLATION _____ 20 dB MAXIMUM
   - IMPEDANCE _____ 50 OHMS
2. WEIGHT : .20 Lbs. MAX.
3. TSO C35d

ASSY DWG. C50907

NEXT ASSY	USED ON	PART DASH NO.
APPLICATION		

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
DEC .XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	10/22/78
CHECK	DICK	03/17/87
ENGR	D. HOLLOWAY	03/17/87
APPD	R.SICCAMA	03/17/87

Comant Industries, Inc.

COUPLER -
ANTENNA, MARKER BEACON

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 509	F

SCALE: 1/1 | CAD FILE: -- | SHEET : 1 OF 1

REV. F
DWG NO. CI 509

Comant CI 1114

Coupler VOR/3-Way

The most important thing we build is trust

CI-1114 Coupler VOR/3-Way

Coupler provides for use of three VOR receivers from one VOR antenna. Coupler circuitry is housed in stamped enclosure to ensure reliability.

Applications

Internal mount location.

Frequencies Covered

108-118MHz

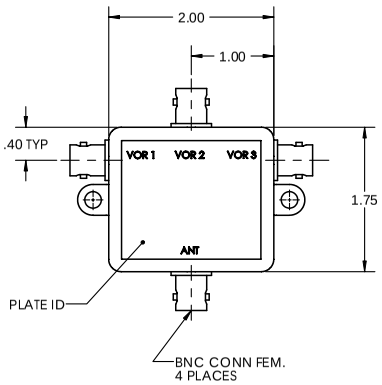
Specifications

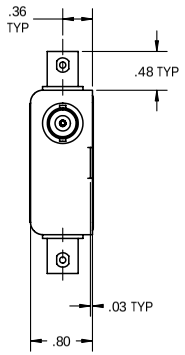
Electrical	
Frequency	108-118 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Minimum
Insertion Loss	0.5 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.25 lbs
Height	0.80 inches
Construction	Stamped Aluminium
Finish	Aluminium
Connector	BNC (female)
Environmental	
N/A	Internal Mounting
Federal Specifications	
FAA TSO	C34c, C36c, C40a

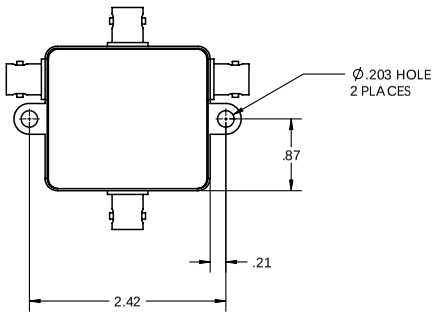
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	WEIGHT ADDED. 0.36 DIM WAS .625 , .75 DIM ADDED , 1.75 DIM WAS 2.00 .87 DIM WAS 1.000, CONNECTORS RELOCATED ASSY DWG NO. ADDED.		5/12/87	RS 6/1/87
B	REF ECN 87-25	HN	8/7/87	RS 8/7/87
C	REF ECN 91-14	HN	3/5/91	DH 3/27/91
D	REF ECN 97-116	HN	8/13/97	DH 8/13/97
E	REF ECN 02-83	HN	3/15/02	DH 3/19/02
F	REF ECN 02-207	HN	10/18/02	JG 10/31/02
G	REDRAWN IN CAD. REF ECN 08-095	HN	10/21/08	10/22/08







SPECIFICATIONS:

1. FREQUENCY : 108 TO 118 MHz
2. VSWR : 1.5:1 MAXIMUM
3. INSERTION LOSS : .5 dB MAXIMUM
4. ISOLATION : 20 dB MAXIMUM
5. WEIGHT : .25 LB

INSTALLATION DRAWING
ASSEMBLY DWG. C111401

NOTES: UNLESS OTHERWISE SPECIFIED.

1. DELETED
2. CONSULT FAA ADVISOR CIRCULAR 43.13-2 FOR PROPER INSTALLATION
3. TSO C34c, C36c, C40a

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.X ± .03 .XX ± .01 .XXX ± .005
FRACTIONS ± 1/32 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI-B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	F. FRADO	4/1/75
CHECK	H. SUMMERS	4/1/75
ENGR	H. SUMMERS	4/10/75
APPD	H. SUMMERS	6/05/75

Comant Industries, Inc.

COUPLER-
THREE WAY, VOR

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1114	G

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO. CI 1114 REV. G

Comant CI 1120 / CI 1120-1

Diplexer Single VOR/Single GS

The most important thing we build is trust

CI 1120 / CI 1120-1 Diplexer Single VOR/ Single GS

Provides operation between a single VOR receiver and a single glide slope receiver from the same VOR/glide slope antenna. Offers polarized VOR and GS output connectors.

Applications

Internal mounting location.

Frequencies Covered

108-120 MHz & 325-340 MHz

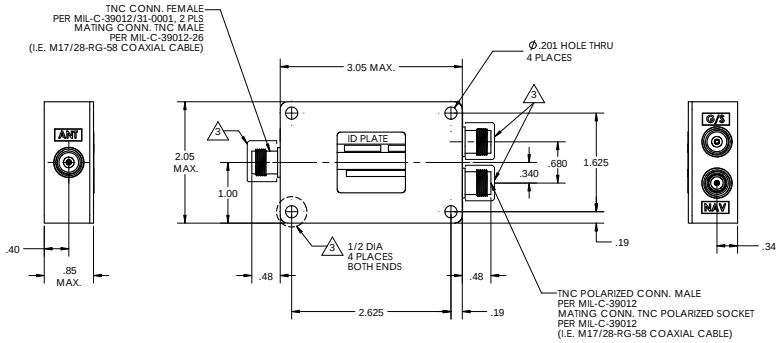
Specifications

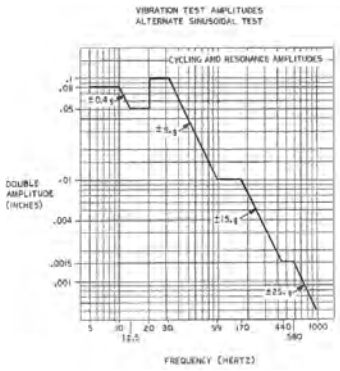
Electrical	
Frequency	108-120 MHz & 325-340 MHz
VSWR	1.5:1 Maximum
Isolation	40 dB Min. between frequencies
Insertion Loss	0.5 dB Maximum / 0.3 dB Typical
Impedance	50 Ohms
Mechanical	
Weight	0.50 lbs. Maximum
Height	0.85 in. Maximum
Material	Die Cast Aluminium
Finish	Flat Grey Epoxy Paint
Connectors	TNC (female)

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	.201 DIA ETC. WAS .144 DIA ETC.		3/25/76	DJ 3/25/76
B	ADDED KINGS CONN. P/N FOR POLARIZED CONN.		6/14/76	DJ 6/14/76
C	NOTE 3 FOR 1/2 DIA, 4 PLS. ADD ASSY DWG NO. C111201-1		2/18/86	RES 2/18/86
D	REF ECN 88-100	HN	5/3/88	RES 5/3/88
E	REF ECN 94-02	HN	1/24/94	DH 1/27/94
F	REF ECN 99-115	HN	11/16/99	DH 11/16/99
G	REDRAWN IN 3D CAD. REF ECN 13-046	MN	9/25/13	DH 9/25/13
H	REF ECN 15-047	MN	9/11/15	DH 9/11/15





NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS:
   - FREQUENCY RANGE ___ 108 TO 120 MHz (NAV)
     325 TO 340 MHz (G/S)
   - VSWR _____ 1.5:1 MAX. THROUGHOUT THE SPECIFIC FREQUENCY RANGES ON EACH CONNECTOR INPUT.
   - ISOLATION _____ 40 dB MIN. FOR BOTH FREQUENCY RANGES BETWEEN "NAV" AND "G/S" INPUTS.
   - INSERTION LOSS _____ 0.5 dB MAX. TYP 0.3 dB IN "NAV" AND "G/S" FREQUENCY RANGES.
2. QUALIFIED TO MIL-E-5400, CLASS 2 EQUIPMENT, WITH VIBRATION TEST MODIFIED TO MEET REQUIREMENTS OF MIL-STD-810B, METHOD 514, EQUIPMENT CATEGORY b, PROCEDURE I, PARTS (1, 2 & 3) WITH TEST LEVELS NOTED ON CHART.
3. THESE SURFACES TO BE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING PER MIL-B-5087
4. TEST PER APPROVED COMANT ATP 1120.
5. FINISH: FLAT GREY PAINT.

ASSY DWG. C112001

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ±.03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M **MATERIAL :** DO NOT SCALE DRAWING	APPROVALS		DATE
	DRAWN	F. PRADO	2/21/76
	CHECK	H. SUMMERS	2/24/76
	ENGR	D. JOHNSON	2/24/76
	APPD	H. SUMMERS	2/24/76

Comant Industries, Inc.

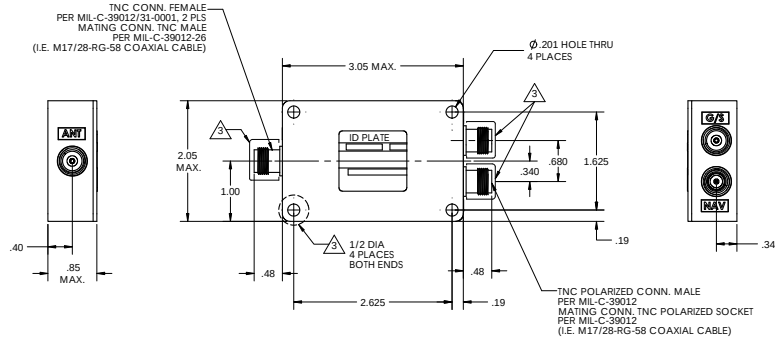
DIPLEXER-
NAV / GLIDE SLOPE

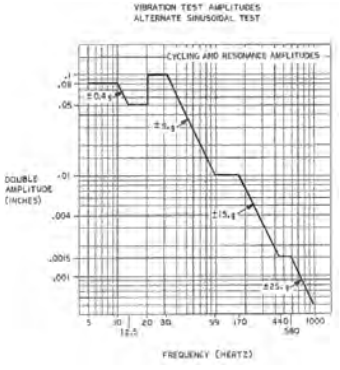
DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1120	H

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 1120 REV F

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	.201 DIA ETC. WAS .144 DIA ETC.		3/25/76	DJ 3/25/76
B	ADDED KINGS CONN. P/N FOR POLARIZED CONN.		6/14/76	DJ 6/14/76
C	NOTE 3 FOR 1/2 DIA, 4 PLS. ADD ASSY DWG NO. C111201-1		2/18/86	RES 2/18/86
D	REF ECN 88-100	HN	5/3/88	RES 5/3/88
E	REF ECN 94-02	HN	1/24/94	DH 1/27/94
F	REF ECN 99-115	HN	11/16/99	DH 11/16/99
G	REDRAWN IN 3D CAD. REF ECN 13-046	MN	9/25/13	DH 9/25/13
H	REF ECN 15-047	MN	9/11/15	DH 9/11/15





NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS:
   - FREQUENCY RANGE ___ 108 TO 120 MHz (NAV)
     325 TO 340 MHz (G/S)
   - VSWR _____ 1.5:1 MAX. THROUGHOUT THE SPECIFIC FREQUENCY RANGES ON EACH CONNECTOR INPUT.
   - ISOLATION _____ 40 dB MIN. FOR BOTH FREQUENCY RANGES BETWEEN "NAV" AND "G/S" INPUTS.
   - INSERTION LOSS _____ 0.5 dB MAX. TYP 0.3 dB IN "NAV" AND "G/S" FREQUENCY RANGES.
2. QUALIFIED TO MIL-E-5400, CLASS 2 EQUIPMENT, WITH VIBRATION TEST MODIFIED TO MEET REQUIREMENTS OF MIL-STD-810B, METHOD 514, EQUIPMENT CATEGORY b, PROCEDURE I, PARTS (1, 2 & 3) WITH TEST LEVELS NOTED ON CHART.
3. THESE SURFACES TO BE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING PER MIL-B-5087
4. TEST PER APPROVED COMANT ATP 1120-1.
5. FOR KOREAN AEROSPACE KTX-2 PROGRAM MIL-SPEC CONNECTORS ONLY.
6. FINISH: FLAT GREY PAINT.

ASSY DWG. C112001-1

INSTALLATION DRAWING

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.		
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ±.03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M **MATERIAL :** DO NOT SCALE DRAWING	KOREAN AEROSPACE		
	APPROVALS		DATE
	DRAWN	F. PRADO	2/21/76
	CHECK	H. SUMMERS	2/24/76
	ENGR	D. JOHNSON	2/24/76
	APPD	H. SUMMERS	2/24/76

Comant Industries, Inc.

DIPLEXER-
NAV / GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1120-1	H

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

DWG NO CI 1120-1 REV H

Comant CI 1120-300

Triplexer

The most important thing we build is trust

CI 1120-300 Triplexer

Comant's all new CI 1120-300 Triplexer is specifically designed to operate with our all-new CI 295-300 Single Connector SAR Antenna (seen on page 94). This allows for coverage of 136-174, 380-520 and 760-870 MHz in one antenna with a single-port connection.

Tested to extreme MIL-STD-810G environments including UH 60 Blackhawk vibration and an extremely high +125 degrees Celsius temperatures, the device uses surface mount components for reliable tuning over temperature. Competitors still use old-fashioned hand-wrapped axial inductors which are a major source of tuning inconsistency.

Applications

For use with Comant's CI 295-300 Series SAR Antennas. Consult your FBO or installation shop for best application information.

Frequencies Covered

136-174 MHz
380-520 MHz
760-870 MHz

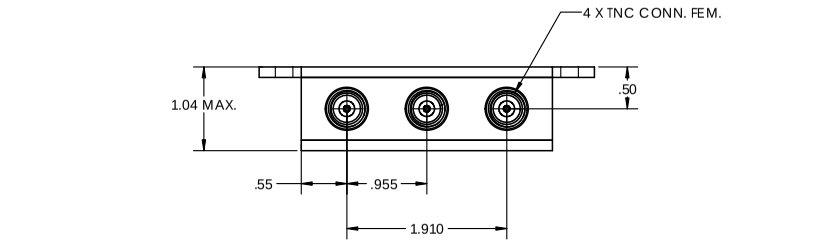
Specifications

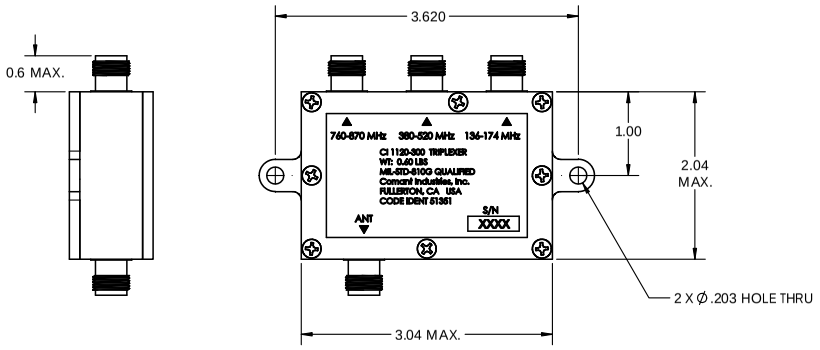
Electrical	
Frequency MHz	136-174 380-520 760-870
VSWR Maximum	1.5:1 1.5:1 1.5:1
Return Loss dB	-13.98 dB -13.98 dB -13.98
Isolation	30 dB 30 dB 30 dB (MAX)
Insertion Loss	1.0 dB 1.0 dB 1.0 dB (MAX)
Impedance RF	50 Ohms
Power RF	10 Watts
Mechanical	
Weight	0.60 lbs
Dimensions	1 X 3 inches
Finish	Nickel Plated Aluminum
Connector	4 TNC (female)
Environmental	
Temperature	-55 C to + 125C
Altitude	Up To 50,000 Feet
Relative Humidity	95%
Vibration	UH60 Blackhawk Per MIL-STD-810G Method 514.6 Category 14

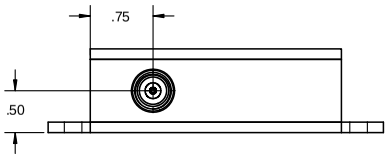
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

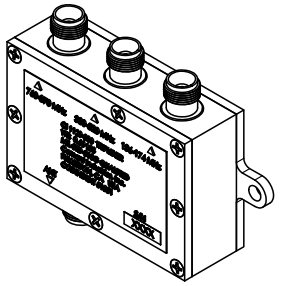
Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	MN	7/23/14	DH 7/23/14









NOTES: UNLESS OTHERWISE SPECIFIED.

1. RF CHARACTERISTICS:

1.1 FREQUENCY RANGE:	136-174 MHz	380-520 MHz	760-870 MHz
1.2 VSWR:	1.5:1 MAX.	1.5:1 MAX.	1.5:1 MAX.
R/L:	-13.98 dB MAX.	-13.98 dB MAX.	-13.98 dB MAX.
1.3 ISOLATION:	30 dB MIN.	30 dB MIN.	30 dB MIN.
1.4 INSERTION LOSS:	1.0 dB MAX.	1.0 dB MAX.	1.0 dB MAX.
1.5 IMPEDANCE:	50 OHMS NOMINAL		
1.6 RF POWER:	10 WATT		

2. WEIGHT: 0.60 LBS MAX.
3. TEST PER APPROVED COMANT ATP 1120-300.
4. NICKEL PLATED ALUMINUM HOUSING.
5. TEMPERATURE RANGE: -55° C TO +125° C
6. ALTITUDE: UP TO 50,000 FT.
7. RELATIVE HUMIDITY: 95%
8. VIBRATION: UH 60 SIKORSKY BLACK HAWK PER MIL-STD-810G, METHOD 514.6, CATEGORY 14.

REV. A
DWG NO CI 1120-300

ASSY DWG. D112024

--	ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD	PARTS LIST			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 PER ANSI- B46.1
REMOVE BURRS AND
SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	M. NGUYEN	07/21/14
CHECK	R. GOMEZ	07/21/14
ENGR	D. HOLLOWAY	07/21/14
MFG	J. JONES	07/22/14
QC	S. ADAMS	07/23/14

Comant Industries, Inc.

TRIPLEXER

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1120-300	A

SCALE: 1:1 | CAD FILE: -- | SHEET : 1 OF 1

Comant CI 1125 / CI 1125-TNC

Diplexer 2 VOR/2 GS

The most important thing we build is trust

CI-1125 / CI-1125-TNC Diplexer 2 VOR/2 GS

Dual VOR/Dual GS diplexer features diplexer circuitry in a small die-stamped housing for high reliability. Provides operation between two VOR receivers and two glide slope receivers from the same VOR/GS antenna.

CI 1125 With 5 BNC Connectors

CI 1125-TNC With 4 BNC and 1 TNC Connector

Applications

Internal mount location.

Frequencies Covered

108-118 MHz & 329-335 MHz

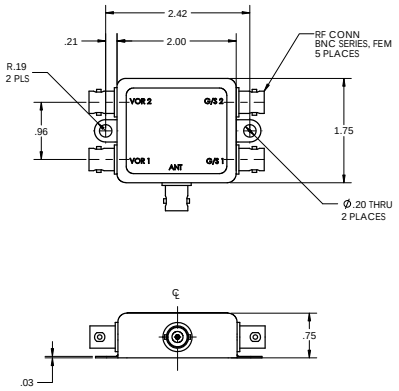
Specifications

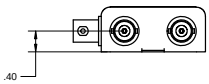
Electrical	
Frequency	108-118 MHz & 329-335 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB between VOR/GS 18 dB between VOR Ports 18 dB between GS Ports
Insertion Loss	3.6 dB Maximum
Impedance	50 Ohms
Mechanical	
Weight	0.20 lbs
Height	0.75 inches
Material	Aluminium
Finish	Aluminium
Connector	BNC or TNC
Environmental	
N/A	Internal Mounting
Federal Specifications CI 1125	
FAA TSO	C34c, C36c, C40a

WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
D	REDRAWN IN CAD WITH CHANGES. REF ECN 10-075 "WAS" CONDITION ON FILE.	MN	10/25/10	DH 11/01/10





NOTES: UNLESS OTHERWISE SPECIFIED.
1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY: 108 TO 118 MHz; 329 TO 335 MHz
   - 1.2 VSWR: 1.5 :1 MAX
   - R/L: -13.98 dB MAX
   - 1.3 INSERTION LOSS: 3.6 dB MAX
   - 1.4 ISOLATION: 20 dB MIN. BETWEEN VOR & GS PORTS; 18 dB MIN. BETWEEN VOR PORTS; 18 dB MIN. BETWEEN GS PORTS
2. WEIGHT: 0.20 LB. MAX
3. TSO C34c, C36c, C40a

INSTALLATION DRAWING

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 ✓ PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	A.TAM	8/13/84
CHECK	RES	1/20/87
ENGR	D.HOLLOWAY	4/21/87
APPD	R.SICCAMA	4/20/07

Comant Industries, inc.

DIPLEXER-ANTENNA
DUAL VOR/DUAL GLIDE SLOPE

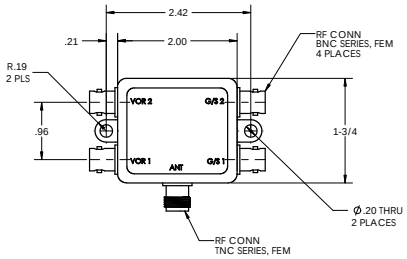
DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1125	D

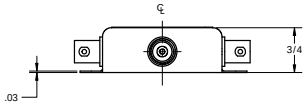
SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

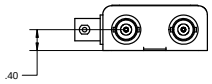
ASSEMBLY DRAWING C112501

DWG NO CI 1125 REV D

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	TITLE WAS "DUAL VOR/GLIDE SLOPE	DM	3/25/79	DM
B	ADDED CESSNA PART NO. NOTE 3	DM	4/3/79	DM
C	REF ECN 07-13	AV	2/19/07	AV 2/19/07
D	REF ECN 09-033	MN	9/8/09	DH 9/8/09
E	REF ECN 10-076	MN	12/13/10	DH 12/13/10







NOTES: UNLESS OTHERWISE SPECIFIED.
1. RF CHARACTERISTICS:
   - 1.1 FREQUENCY: 108 TO 118 MHz; 329 TO 335 MHz
   - 1.2 VSWR: 1.5 :1 MAXIMUM
   - 1.3 INSERTION LOSS: 3.6 dB MAXIMUM
   - RETURN LOSS: -13.98 dB
   - 1.4 ISOLATION: 20 dB MIN. BETWEEN VOR & GS PORTS; 18 dB MIN. BETWEEN VOR PORTS; 18 dB MIN. BETWEEN GS PORTS
2. WEIGHT: 0.22 LB.
3. DELETED

INSTALLATION DRAWING

--	ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL / SPECIFICATIONS
QTY REQD		PARTS LIST		

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON DECIMALS
.XX ± .03 .XXX ± .010
FRACTIONS ± 1/16 ANGLES ± 1°
MACHINE FINISH 125 ✓ PER ANSI- B46.1
REMOVE BURRS AND SHARP EDGES .015 MAX
MEET DIMENSIONS BEFORE PLATING
DIMENSIONS ARE PER ASME Y14.5M
MATERIAL :
DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS		DATE
DRAWN	DAVEY	2/3/79
CHECK	D. MADARAS	2/3/79
ENGR	H. SUMMERS	2/3/79
APPD	H. SUMMERS	2/3/79

Comant Industries, inc.

DIPLEXER-ANTENNA
DUAL VOR/DUAL GLIDE SLOPE

DWG SIZE	CODE IDENT	DWG. NO.	REV.
C	51351	CI 1125-TNC	E

SCALE: 1:1 CAD FILE: -- SHEET : 1 OF 1

ASSEMBLY DRAWING C112501-1

DWG NO CI 1125-TNC REV E

Comant CI 5120

Splitter Dual VOR/LOC/GS

The most important thing we build is trust

CI-5120 Splitter Dual VOR/LOC/GS

Designed for use with Garmin GNS 580 and similar systems that have a single input for VOR/LOC and GS. The CI 5120 splits single coax antenna input into equally proportioned VOR/LOC/GS outputs, allowing you to run two single input receivers off of one antenna.

Applications

Interior mount location.

Frequencies Covered

108-118 MHz & 329-335 MHz

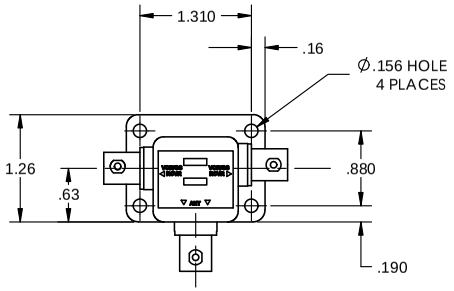
Specifications

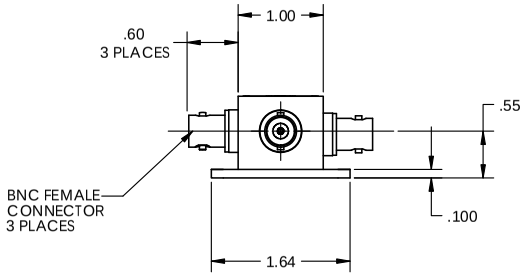
Electrical	
Frequency	108-118 MHz & 329-335 MHz
VSWR	1.5:1 Maximum
Isolation	20 dB Minimum
Insertion Loss	1.0 dB Maximum
Impedance	50 Ohms
Amplitude Balance	±.50dB
Phase	⇄80 degrees ±5 degrees
Power Split	3 dB
Mechanical	
Weight	0.1 lbs
Height	0.97 inches
Material	Aluminium
Finish	Aluminium
Connector	BNC (Female)
Environmental	
N/A	Internal Mounting

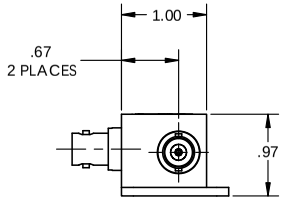
WARNING: Use factory supplied drawings and specifications for installation. Refer to FAA AC 43.13-2B for installation guidelines.

Order at:
Tel: 714-870-2420 Fax: 714-870-6294
Email: comantorders@cobham.com

REVISIONS				
LTR	DESCRIPTION		DATE	APPROVAL
A	RELEASED DRAWING	JF	12/08/04	DH 12/08/04







NOTES:

1. FREQUENCY_____108-118 MHz AND 329-335 MHz
2. POWER SPLIT_____ 3 dB 3 dB
3. INSERTION LOSS_____ 1.0 dB MAX. 1.0 dB
   (NOT INCLUDING 3dB POWER SPLIT)
4. ISOLATION_____ 20 dB MIN. 20 dB MIN.
   (BETWEEN ADJACENT ANT. PORTS)
5. AMPLITUDE BALANCE_____ +/- .50 dB +/- .50 dB
6. IMPEDENCE _____ 50 OHMS NOM. 50 OHMS NOM.
7. VSWR_____ 1.5:1 MAX. 1.5:1 MAX.
   R/L_____ -13.98 dB -13.98 dB
8. PHASE_____ -/+ 180° +/- 5° -/+ 180° +/- 5°
9. CONNECTORS AND MOUNTING HOLES ARE FREE OF INSULATING FINISH FOR ELECTRICAL BONDING.
10. A512001 INSTALLATION INSTRUCTIONS SUPPLIED WITH KIT.

DWG NO CI 5120 REV A

UNLESS OTHERWISE SPECIFIED	CONTRACT NO.			Comant Industries, inc.			
DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS .XX ± .03 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1°	APPROVALS		DATE	DUAL VOR/GS SPLITTER			
MACHINE FINISH 125 PER ANSI- B46.1 REMOVE BURRS AND SHARP EDGES .015 MAX MEET DIMENSIONS BEFORE PLATING DIMENSIONS ARE PER ASME Y14.5M	DRAWN	J. FRANKS	12/08/04				
	CHECK	R. GOMEZ	12/08/04				
	ENGR	D. HOLLOWAY	12/08/04				
MATERIAL :	QC	S. ADAMS	12/08/04	DWG SIZE C	CODE IDENT 51351	DWG. NO. CI 5120	REV. A
DO NOT SCALE DRAWING	APPD	D. HOLLOWAY	12/08/04	SCALE: 1:1	CAD FILE: --	SHEET : 1 OF 1	

VHF 30 MHz - 174 MHz									VHF & UHF			ELT		
Medium & Low Band VHF			VHF			FM			Multifunction			Multifunction		
30-100 MHz			118-157 MHz			88-108 and 138-174 MHz			108-118 and 329-335 MHz			121.5, 243, 406 MHz		
Frequencies	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**
75 MHz	**Marker Beacon**		118-137 MHz	**VHF Communication**		148-174 MHz	**FM Public Service**		108-118 MHz & 329-335 MHz	**VOR / LOC / GS**		121.5, 243 and 406 MHz	**Emergency Locator Beacon**	
	CI 102	126		CI 108	8		CI 177	60		CI 205-3	144		CI 317	214
	CI 118	128		CI 108-1 Series	10		CI 177-3	64		CI 120G/S	146		CI 317-1	216
	CI 118-1	130		CI 1085 Series	12					CI 120-200G/S-L	150		CI 319	218
	CI 118-9	132		CI 109	14	138-174 MHz	**FM Extended**			CI 120-400	150		CI 319-1	220
	CI 118-10	134		CI 119	16		CI 177-1	62		CI 157P	156			
	CI 164	136		CI 121	18		CI 177-13	66		CI 158C	158			
	CI 165 Series	138		CI 122	20					CI 158C-2	160			
	CI 1600	140		CI 211 Series	30	136-174 MHz &	**FM Extended**			CI 159C	162			
88-108 MHz & 540-1600 KHz	**AM/FM Receive**			CI 248-5	32	138-174 MHz	CI 292-3	68		CI 215	164			
	CI 222	72		CI 268-5	34		CI 292-4	70		CI 259E	166			
	CI 222-1	74		CI 268-60	36									
						88-108 MHz	**FM Receive**		329-335 MHz	**Glide Slope**				
			118-137 MHz	**ComDat® Multifunction**			CI 222-1	74		CI 193	142			
			plus 1.575 GHz	CI 2480-200	44									
			plus 2.3 GHz	CI 2480-201	46									
				CI 2480-216	48									
				CI 2580-200	50									
				CI 2590-200	52									
				CI 2680-200	54									
				CI 2680-216	56									
				CI 2728-410	58									

Search and Rescue SAR			UHF 300 MHz - 1000 MHz			GSM 450 MHz - 1990 MHz			L Band & S Band 1 - 4 GHz		
VHF-UHF			UHF / L Band			ATG TX RX			GPS, Iridium, XM		
136-174, 380-520, 764-870 MHz			300-500 MHz and 800-1090 MHz			850-1990 MHz			1.575, 1.6, 2.5 GHz		
Frequencies	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**	**Frequencies**	**Models / Function**	**Page**
136-174 and 380-520 MHz	**Search & Rescue**		1030-1090 MHz	**Transponder**		850.5 to 895.5 MHz	**Inflight Entertainment**		1575.42 MHz	**Navigation**	
	CI 295-200	90		CI 101	100		CI 5500	210		CI 401-220	168
136-174	CI 295-250	92					CI 5800/5900 Series	211		CI 401-221	170
and 764-870 MHz			960-1220 MHz	**DME / Transponder**		703-803 MHz	CI 5888 ATG	213		CI 401-460	186
136-174,	CI 295-300 Series	94		CI 105	102					CI 419-200	174
380-520 and				CI 105-3	104	1575.42MHz and	**PCS / Timing**			CI 420-220	176
764-870 MHz				CI 105-6 & -7	106	1850-1990 MHz	CI 2680-1	212		CI 420-221	178
406-512 MHz	**UHF Radiotelephone**			CI 105-9	108					CI 420-230	180
400-960 MHz	CI 275 Series	86		CI 105-16	112					CI 428-200	182
800-870 MHz	CI 285	88		CI 110-40-30	116					CI 429-200	184
	CI 306	96		CI 110-41-30	118						
806-960 MHz	CI 310 Series	98		CI 110-60-30	120				1616.0-16-1626.5 MHz	**Iridium**	
				CI 110-61-30	122					CI 401-490	200
138-174 MHz	**FM Extended**			CI 305	124					CI 420-490	202
	CI 177-1	62								CI 490-490	204
	CI 177-13	66	406-512 MHz	**UHF Radiotelephone**							
			400-960 MHz	CI 275 Series	86				1575.42 and 2332.5-2345.0 MHz	**ComDat® Multifunction**	
136-174 MHz and	**FM Extended**			CI 285	88					CI 420-420	188
138-174 MHz	CI 292-3	68	806-960 MHz	CI 310 Series	98					CI 428-410	190
	CI 292-4	70	1030-1090 MHz							CI 429-410	192
									116-156MHz and 960-1220MHz	CI 1085-20-L	12
			800-870 MHz	CI 306	96						
									2332.5-2345.0 MHz	**Weather / Music**	
										CI 420-1	194
										CI 420-10	196
										CI 420-16	198
									2.4-5.820GHz	**WiFi Datalink**	
									2.400-2.500GHz	CI 150-32-L	207
									2.400-2.475GHz	CI 150-250-L	207
									2.400-2.475 and 5.170 - 5.820GHz	CI 150-500-L	208

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