C-Band BUC system solutions

APPLICATION NOTE

Overview

Codan provides a range of L-Band BUCs of varying power ranges that operate in basic single-BUC systems or redundancy systems. These BUCs operate in the C-Band and Ku-Band frequency ranges. For information on the Ku-Band range of products see Application Note 17-60112.

This Application Note describes the basic BUC systems, how they provide solutions to typical operating scenarios, then builds on this to describe the redundancy systems.

Product listings, standard accessories and options are also provided.

Mounting and interconnection drawings are provided in this Application Note.

There is an index at the end of this Application Note to assist you in finding information.

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Introduction

BUC-based satellite earth stations sometimes require more planning and consideration than 70/140 MHz IF transceiver-based systems. The operation of a BUC is more integrated with the other items of equipment in an earth station when compared with a 70/140 MHz transceiver. In order to function properly, a BUC must be provided with a 10 MHz reference signal, DC power and, optionally, an FSK M&C signal. In most cases, these three signals are fed to the BUC via the one transmit IF cable.

The provision of these signals is guided by de facto industry standards and practices, which have evolved over the last few years. There are still times, however, when a systems integrator may discover that elements of a system are not fully compatible because they are not able to provide one or more of these critical signals.

Codan solutions

To solve these system integration problems, Codan has developed a range of equipment that assist in offering solutions.

6550 IF Interface Unit

Features include:

- 19" rack mounted, 1 RU high
- 10 MHz reference for BUC and LNB
- 48 V DC power for BUC via transmit IF coaxial cable
- capacity to power up to 5 W LBUC
- 18 V DC power for LNB via receive IF coaxial cable
- modem FSK M&C communications to/from BUC
- PC RS232 M&C communications to/from BUC via FSK

6580B BUC Power Supply module

Features include:

- weatherproof, outdoor mounted
- 48 V DC power for BUC via transmit IF coaxial cable or separate screw terminals
- capacity to power up to 20 W LBUC
- passes IF, 10 MHz, FSK
- 120 V AC or 240 V AC switched

Outcomes for Codan solutions

The outcomes that these solutions offer are listed in Table 1.

Other third-party solutions may also be available that offer the above options in various configurations. Codan also undertakes constant review of such accessories, and new or varied offerings become available as the market demands them.

The scenarios described in the following pages show how typical systems problems can be solved through the application of each of these solutions.

Table 1: Summary of BUC system solutions

Accessory	**IF power inserter and DC block**	**10 MHz reference for BUC and LNB**	**48 V DC power**	**FSK M&C, IF, 10 MHz reference**
6550 IF Interface Unit	Not applicable	Yes	Yes, up to 5 W	Yes, on Tx IF cable
6580B BUC Power Supply module	Built-in	No	Yes, up to 20 W	Pass through

System scenarios

Modem unable to supply 10 MHz reference and DC power for BUC and LNB

This scenario arises for a number reasons:

- Modem cannot supply 10 MHz reference
- L-Band IF combiners cannot pass the DC power and/or 10 MHz reference from the modem
- Modem cannot supply the 48 V DC required by some BUCs
- Optical fibre Interfacility Links (IFLs) replace coaxial cable IFLs

Modem cannot supply 10 MHz reference

First, it is not uncommon for SCPC modems to have both a standard and a high-stability frequency reference option. The frequency stability and phase noise performance of the standard reference usually makes it unsuitable for use as a BUC frequency reference.

Secondly, some proprietary indoor units (IDUs) are designed to drive BUCs with internal DRO-based local oscillators. In some circumstances (e.g. at the satellite beam edge with a high data rate), an alternative non-DRO based BUC may be required.

L-Band IF combiners cannot pass the DC power and/or 10 MHz reference from the modem

Multi-carrier applications require the use of L-Band IF combiners. Most off-the-shelf combiners are unable to pass the DC power and 10 MHz reference signals from the modem. A separate unit is required to supply these signals to the BUC and LNB.

Modem cannot supply the 48 V DC required by some BUCs

This is a common problem with modems or IDUs designed to drive low-power BUCs (typically 1 W to 2 W). These IDUs are typically only designed to provide voltages of 24 V or less. This issue may also arise if the modem does not have a 48 V DC BUC power supply option, or has a 48 V DC BUC power supply option of insufficient rating.

Optical fibre IFLs replace coaxial cable IFLs

Optical fibre IFLs may be used when:

- the IFL length is too large to cope with the L-Band IF signal loss of a coaxial cable
- there are concerns about voltage potential differences and/or electrical safety
- electromagnetic interference at L-Band frequencies may be a problem

However, optical fibre IFLs have several limitations:

- they cannot provide DC power for the BUC
- they may not provide DC power for the LNB
- most cannot carry the 10 MHz reference signal from the modem to the BUC and LNB

Solution

The 6550 IF Interface Unit can be used to provide 48 V DC power to both the LNB and BUC (up to 5 W) and the 10 MHz reference signals. The 6550 can also be used with higher power, externally powered BUCs, as they ignore the 48 V DC on the transmit IF cable. This means that the 6550 can be used in conjunction with the 6580B if the higher capacity 48 V DC power is required.

The 6550 also provides BUC monitor and control access (without the need for an additional M&C cable) via the FSK M&C signal carried on the transmit IF cable.

See Figure 1 on page 9 and Figure 2 on page 9 to view the various ways that the 6550 may be used.

Modem unable to supply DC power for BUC

In some cases, while the modem is able to supply the 10 MHz reference and FSK M&C signals, it may not be able to supply the appropriate DC power to the BUC. This can occur if it is:

- not fitted with a BUC power supply option
- fitted with a BUC power supply that has the incorrect voltage
- fitted with a BUC power supply of insufficient capacity

Solution

Codan's 6580B BUC Power Supply module has been designed specifically for these instances and can be used to provide 48 V DC power for the BUC (up to 20 W).

The 6580B blocks any DC voltage from the modem and multiplexes 48 V DC onto the L-Band transmit IF cable to power the BUC. Since it is transparent to the 10 MHz reference and FSK M&C signals, normal operation is unaffected by the addition of the 6580B.

The 6580B can be used to provide 48 V DC to the BUC via the IF cable or an external connector when fitted.

Figure 2 on page 9 and Figure 3 on page 10 show two possible system configurations using the 6580B.

Typical configurations for basic BUC systems

Table 2: Typical configurations for basic BUC systems

Description	See...
Typical configuration of a 6550 IF Interface Unit	Figure 1 on page 9
Typical configuration of a 6550 IF Interface Unit with a 6580B BUC Power Supply module	Figure 2 on page 9
Typical configuration of a 6580B BUC Power Supply module	Figure 3 on page 10

Figure 1: Typical configuration of a 6550 IF Interface Unit

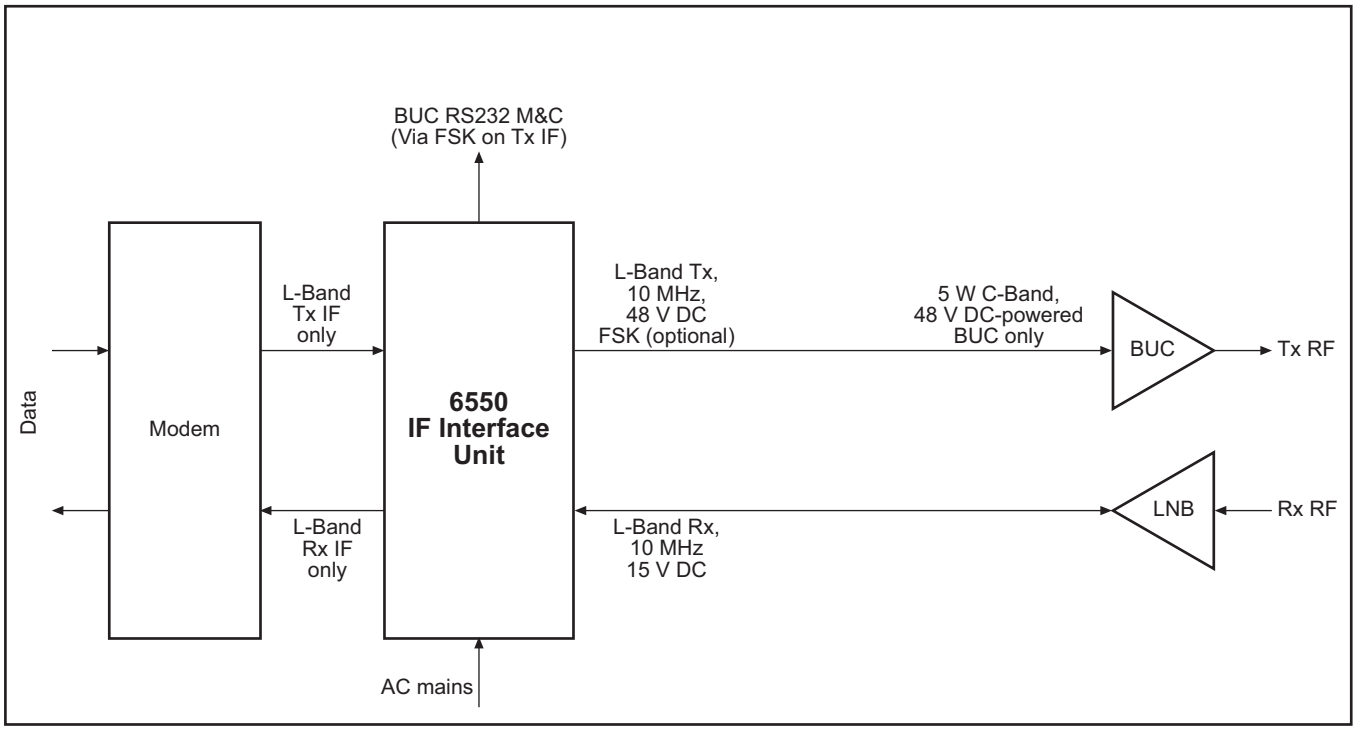


Figure 2: Typical configuration of a 6550 IF Interface Unit with a 6580B BUC Power Supply module

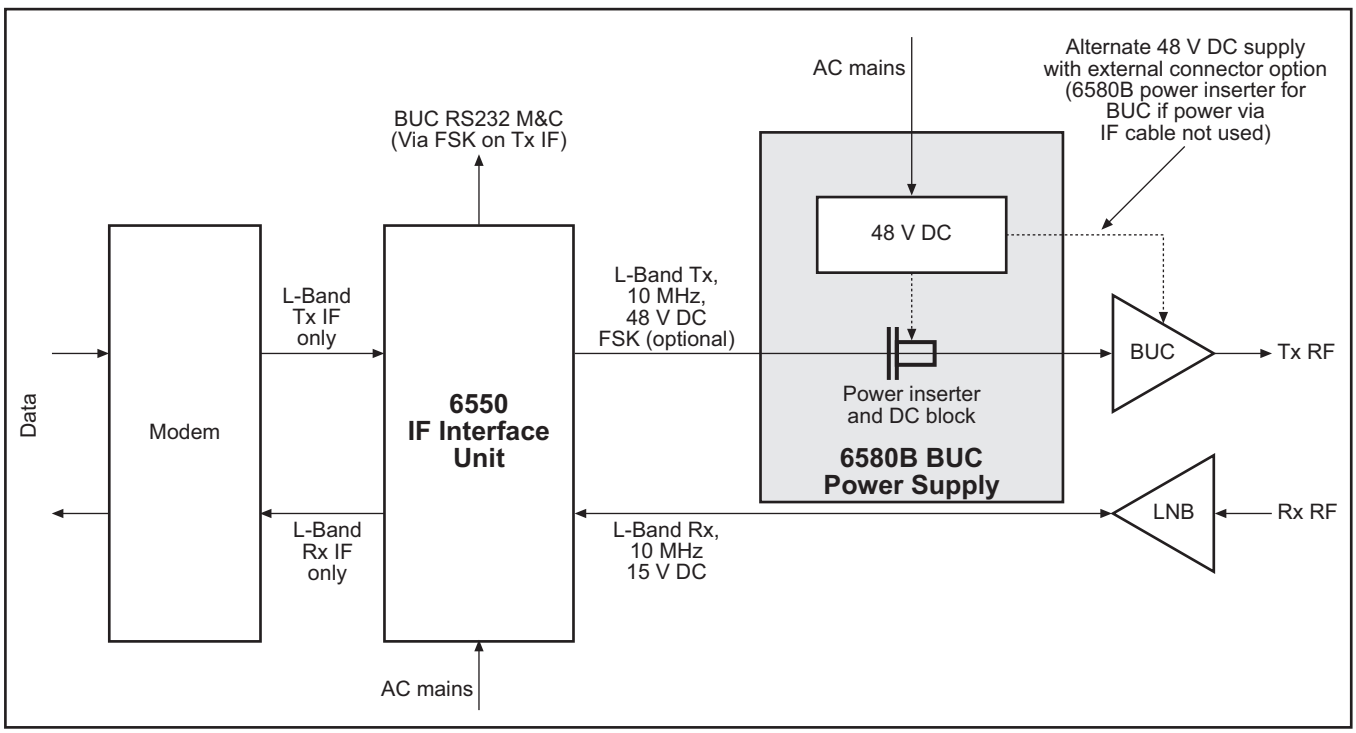
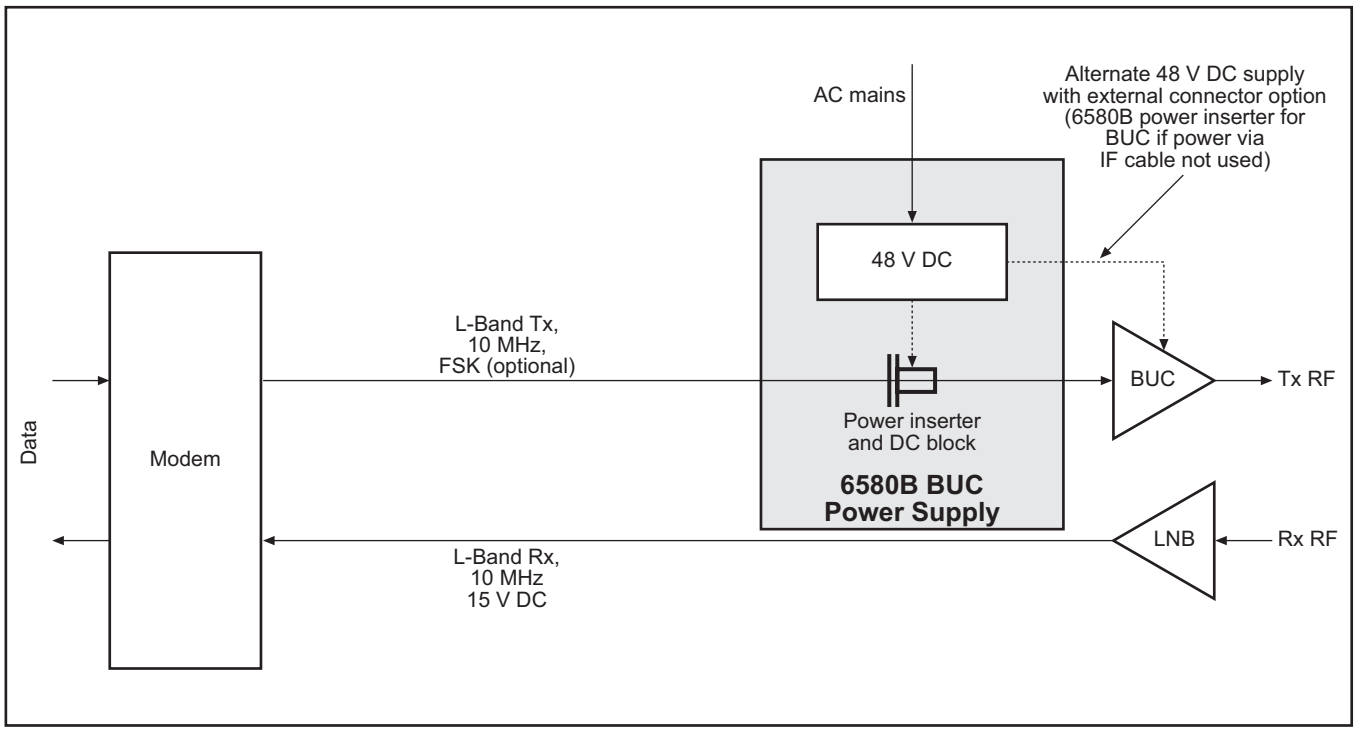


Figure 3: Typical configuration of a 6580B BUC Power Supply module



BUC products, accessories and options

NOTE

Each BUC product comes with the applicable standard accessories listed in Table 4 on page 13. You may also order any of the applicable options from Table 5 on page 14 in addition to the BUC product and its standard accessories.

Table 3: C-Band BUC products

Description	Ordering part number	Component part number	Net mass (kg)
5 W			
LBUC, 5 W, N-type output, Standard C-Band, 24 V DC-powered via IF connector	6705-N/S-24/IF	08-06335-004	6.0
LBUC, 5 W, Waveguide output, Standard C-Band, 24 V DC-powered via IF connector	6705-W/S-24/IF	08-06335-003	6.0
LBUC, 5 W, N-type output, Standard C-Band, 48 V DC-powered via IF connector	6705-N/S-48/IF	08-06335-002	6.0
LBUC, 5 W, Waveguide output, Standard C-Band, 48 V DC-powered via IF connector	6705-W/S-48/IF	08-06335-001	6.0
10 W			
LBUC, 10 W, N-type output, Extended C-Band, 48 V DC-powered via IF connector, CE	6710-N/E-48/IF-CE	08-06250-002	6.0
LBUC, 10 W, Waveguide output, Extended C-Band, 48 V DC-powered via IF connector, CE	6710-W/E-48/IF-CE	08-06250-001	6.0
LBUC, 10 W, N-type output, Extended C-Band, 48 V DC-powered via external connector, CE	6710-N/E-48/EX-CE	08-06250-004	6.0
LBUC, 10 W, Waveguide output, Extended C-Band, 48 V DC-powered via external connector, CE	6710-W/E-48/EX-CE	08-06250-003	6.0
LBUC, 10 W, N-type output, Standard C-Band, 48 V DC-powered via IF connector	6710-N/S-48/IF	08-06251-002	6.0
LBUC, 10 W, Waveguide output, Standard C-Band, 48 V DC-powered via IF connector	6710-W/S-48/IF	08-06251-001	6.0

Table 3: C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
20 W			
LBUC, 20 W, N-type output, Standard C-Band, 48 V DC-powered via IF connector, CE	6720-N/S-48/IF-CE	08-06423-001	6.0
LBUC, 20 W, Waveguide output, Standard C-Band, 48 V DC-powered via IF connector, CE	6720-W/S-48/IF-CE	08-06423-002	6.0
LBUC, 20 W, N-type output, Standard C-Band, 48 V DC-powered via external connector, CE	6720-N/S-48/EX-CE	08-06423-003	6.0
LBUC, 20 W, Waveguide output, Standard C-Band, 48 V DC-powered via external connector, CE	6720-W/S-48/EX-CE	08-06423-004	6.0
25 W			
MBUC, 25 W, N-type output, Extended C-Band, AC-powered via external connector, CE	6725-N/E-AC/EX-CE	08-06095-004	12.0
MBUC, 25 W, Waveguide output, Extended C-Band, AC-powered via external connector, CE	6725-W/E-AC/EX-CE	08-06095-003	12.0
40 W			
MBUC, 40 W, N-type output, Extended C-Band, AC-powered via external connector, CE	6740-N/E-AC/EX-CE	08-06096-002	12.0
MBUC, 40 W, Waveguide output, Extended C-Band, AC-powered via external connector, CE	6740-W/E-AC/EX-CE	08-06096-001	12.0
60 W			
MBUC, 60 W, Waveguide output, Standard C-Band, AC-powered via external connector, CE	6760-W/S-AC/EX-CE	08-06289-001	15.0
120 W			
HBUC, 120 W, Waveguide output, Standard C-Band, AC-powered SSPA and 5 W Driver BUC, 48 V DC-powered via IF connector	6712H-W/S-AC/EX-48VIF	08-06586-001 with 08-06335-002	33.5
HBUC, 120 W, Waveguide output, Standard C-Band, AC-powered SSPA and 5 W Driver BUC, 48 V DC-powered via IF connector, CE	6712H-W/S-AC/EX-CE-48VIF	08-06586-001 with 08-06335-002	34.0

Table 3: C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
HBUC, 120 W, Waveguide output, Standard C-Band, AC-powered SSPA and 5 W Driver BUC, 24 V DC-powered via IF connector	6712H-W/S-AC/EX-24VIF	08-06586-001 with 08-06335-004	33.5
HBUC, 120 W, Waveguide output, Standard C-Band, AC-powered SSPA and 5 W Driver BUC, 24 V DC-powered via IF connector, CE	6712H-W/S-AC/EX-CE-24VIF	08-06586-001 with 08-06335-004	34

Table 4: Standard accessories for C-Band BUC products

Description	Ordering part number	Component part number	Net mass (kg)
User Guide, Block Up Converter Systems 6700/ 6900 series	Included	15-44027-EN	0.5
Kit, Connector Sealing	Included	15-40202	0.2
Kit, Boom Mounting, LBUC (supplied with 5 W to 20 W LBUCs only)	Included	15-42003-000	1.3
Cable, Coaxial, 50 Ohm with N-type to N-type plug, 1 m (supplied with N-type output BUCs only)	Included	08-05366-010	0.2
Kit, Flange, WR137 Full-thickness gasket, 30 mm (supplied with Waveguide output BUCs only)	Included	15-40205	0.1
Cable, External DC Input, LBUC, 5 m (supplied with external DC-powered LBUCs only)	Included	08-06448-005	0.2
Kit, Boom Mounting, MBUC (supplied with 25 W to 60 W MBUCs only)	Included	15-42019-000	1.5
Cable, AC Mains, 10 m (supplied with 25 W to 60 W MBUCs only)	Included	08-06201-010	1.2
Kit, Mounting, LBUC/HP SSPA, C-Band (supplied with 120 W HBUCs only)	Included	15-42020-000	2.7
Kit, Accessory, HP SSPA, C-Band (supplied with 120 W HBUCs only)	Included	15-40212	9.0

Table 4: Standard accessories for C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
HPA Option, LBUC (supplied with 120 W HBUCs only)	Included	12-50148-EN	0
Filter, Waveguide, Band-Pass, C-Band Waveguide output (supplied with CE-certified 120 W HBUCs only)	Included	78-06041	0.5

NOTE The BUC to PC serial cable is not part of the standard BUC package. If you are using a PC to set up the BUC instead of a Hand-held Controller 6560, please order the BUC to PC serial cable separately (see Table 5 on page 14).

Table 5: Options for C-Band BUC products

Description	Ordering part number	Component part number	Net mass (kg)
BUC to PC serial cable, 2 m		08-05972-002	0.2
Cable, Coaxial, RF output, 1 m (for N-type output BUCs and BUC Power Supply 6580 series only)		08-05366-010	0.2
Cable, Coaxial, RF output, 2 m (for N-type output BUCs and BUC Power Supply 6580 series only)		08-05366-020	0.3
Cable, Coaxial, RF output, 3 m (for N-type output BUCs and BUC Power Supply 6580 series only)		08-05366-030	0.4
Cable, Coaxial, RF output, 5 m (for N-type output BUCs and BUC Power Supply 6580 series only)		08-05366-050	0.7
Cable, Coaxial, RF output, 8 m (for N-type output BUCs and BUC Power Supply 6580 series only)		08-05366-080	1.1
LNB, 3.4 to 4.2 GHz, 40 K, 60 dB gain, N-type output c/w flange kit, consisting of:	LNB-C		0.6
LNB, 3.4 to 4.2 GHz, 40 K noise temperature, 60 dB gain, N-type output		78-12010	
Kit, Flange, WR229, Full c/w nuts		15-40094	

Table 5: Options for C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Transmit Reject Filter c/w flange kit, consisting of:	TRF-C2		0.9
Filter, Transmit Reject Pass: 3.625 to 4.200 GHz Reject: 5.850 to 6.425 GHz		78-06010-001	
Kit, Flange, WR229, Full c/w nuts		15-40094	
Transmit Reject Filter c/w flange kit, consisting of:	TRF-C4		0.6
Filter, Transmit Reject Pass: 3.400 to 4.200 GHz Reject: 5.850 to 6.725 GHz		78-06018	
Kit, Flange, WR229, Full c/w nuts		15-40094	
Hand-held Controller 6560, consisting of:	6560		1.3
Hand-held Controller 6560		08-06121-001	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	
Remote Controller 6570 c/w 1 m cable for interface to 6550, consisting of:	6570-IU-1		1.7
Remote Controller 6570		08-06191-001	
Cable, 6550 to 6570, 1 m		08-06183-001	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	
Remote Controller 6570 c/w 50 m cable, consisting of:	6570-BUC-50		11.2
Remote Controller 6570		08-06191-001	
Cable, BUC to 6570, 50 m		08-06182-050	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	

Table 5: Options for C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Remote Controller 6570 c/w 100 m cable, consisting of:	6570-BUC-100		21.2
Remote Controller 6570		08-06191-001	
Cable, BUC to 6570, 100 m		08-06182-100	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	
6550 IF Interface Unit, consisting of:	6550		3.4
IF Interface Unit IF 6550		08-05965-001	
User Guide, L-Band 6550 IF Interface Unit		15-44020-EN	
Cable, 3-core, grey moulded, 2 m IEC-X (select one of the following, as appropriate): X = 1, Free (no plug) X = 5, Australian plug X = 6, UK plug X = 7, US plug X = 8, EU plug		67-9030X	
6580B BUC Power Supply module c/w AC mains cable and 8" (200 mm) mounting kit, consisting of:	6580B-8		13.0
Power Supply, BUC, 6580B		08-06417-001	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Cable, 3-core 24/0.20, 10 m		08-05862-010	
6580B BUC Power Supply module c/w AC mains cable and 12" (300 mm) mounting kit, consisting of:	6580B-12		13.0
Power Supply, BUC, 6580B		08-06417-001	
Kit, Mounting, PSU/Controller, 12" pole		15-40147	
Cable, 3-core 24/0.20, 10 m		08-05862-010	
Adaptor, WR137, Waveguide to N-type		78-01001-005	0.3
Waveguide, Flexible, WR137, RF Output, C-Band, 300 mm (12")		15-40207	1.2

Table 5: Options for C-Band BUC products (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Waveguide, Flexible, WR137, RF Output, C-Band, 450 mm (18")		15-40208	1.6
Waveguide, Flexible, WR137, RF Output, C-Band, 900 mm (36")		15-40189	3.2
Adaptor, N-type plug to F-type jack		60-15801	0.1

NOTE If an ordering part number is not provided, please use the description or the component part number to order the option.

Shipping

LBUC

All LBUC standard packages ship in one carton (510 mm × 335 mm × 295 mm), and weigh either 9.0 kg (waveguide) or 9.2 kg (N-type) when packed. The shipment bulks out to 8.5 vol-kg gross.

MBUC

All MBUC standard packages ship in one carton (670 mm × 345 mm × 360 mm), and weigh 15.6 kg or 18.6 kg (60 W only) when packed. The shipment bulks out to 13.9 vol-kg gross.

HBUC

All HBUC standard packages ship in two cartons (670 mm × 380 mm × 655 mm and 670 mm × 345 mm × 360 mm), and weigh either 52.9 kg or 53.4 kg (CE versions only) when packed. The shipment bulks out to 55.7 vol-kg gross.

Options and accessories

The options and accessories listed above are shipped within the BUC cartons whenever possible. Please contact your Codan representative for further information.

6580B BUC Power Supply

The 6580B BUC Power Supply is shipped in one carton (570 mm × 335 mm × 295 mm), and weighs 13.8 kg when packed. The shipment bulks out to 8.5 vol-kg gross.

BUC redundancy system solutions

Redundancy switching systems for BUCs and LNBs pose system challenges not encountered in standard 70/140 MHz IF transceiver systems. Since the transmit and receive IF cables to BUCs and LNBs carry DC power, 10 MHz reference signals and the L-Band IF signals, the redundancy switching system must also manage the splitting and switching of these signals. In addition, modems are not normally able to power two BUCs simultaneously, so BUC power must be provided independently of the modem.

NOTE Standard BUC systems are easily upgradable to a redundancy system.

The 6586 Redundancy Controller has been designed to provide:

- BUC 1:1 redundancy switching (transmit-only)
- BUC and LNB 1:1 redundancy switching (transmit/receive)

The RF switching is provided by:

- separate transmit and receive RF waveguide switches
- a combined RF waveguide/coaxial switch

Figure 4: Transmit RF waveguide switch (transmit-only system)

WR137 transmit RF waveguide switch

Figure 5: Separate transmit and receive RF waveguide switches (transmit/ receive system)

WR137 transmit RF waveguide switch

WR229 receive RF waveguide switch

Figure 6: Combined RF waveguide/coaxial switch

Combined RF waveguide and N-type coaxial switch

The 6586 Redundancy Controller includes the following features:

- provides a high-reliability power supply with the capacity to power two LBUCs (up to 10 W) and two LNBs
- splits transmit IF signal to drive both BUCs
- splits 10 MHz reference and FSK M&C signals to drive both BUCs
- switches 10 MHz reference and receive L-Band IF signals to/from both LNBs
- provides control of switching state from either BUC via BUC M&C
- automatically senses and selects transmit-only or transmit/receive operation
- compatible with all Codan BUCs (C-Band and Ku-Band) and all power levels
- provides independent access for Hand-held Controller 6560 or RS232 M&C via a PC
- provides multi-drop bus RS422 access for remote control via Remote Controller 6570

For critical applications in which protection of the receive path is also a requirement, the 6586 can also be used to provide BUC and LNB switching (transmit/receive). In this mode, the 6586 operates in stream redundancy mode where a fault detected in either the BUC or LNB in one stream causes switchover to the other BUC and LNB pair.

NOTE Transmit-only systems are not available with N-type output BUCs.

Table 6: Summary of BUC redundancy system solutions

System configuration	**C-Band**	**Switch wiring on 6586 Redundancy Controller**
Transmit-only	WR137 switch	To **LNB Switch Control** connector
Transmit/receive (combined RF waveguide/coaxial switches)	Combined WR229/coaxial switch	To **LNB Switch Control** connector
Transmit/receive (separate transmit and receive RF waveguide switches)	WR137 and WR229 switches	Receive switch to **LNB Switch Control** connector; transmit switch to **BUC Switch Control** connector

Types of systems

Use Table 7 to determine what options are available for you, depending on your requirements.

Table 7: Types of redundancy systems

Type of system	Transmit-only	Transmit/receive
Number of BUCs/LNBs	Two BUCs with no LNBs or a single LNB	Two BUCS and two LNBs
Type of switches	Single transmit RF waveguide switch (WR137)	Separate transmit and receive RF waveguide switches (WR137 and WR229), or Combine RF waveguide/coaxial switch (WR137/N-type), available up to 40 W

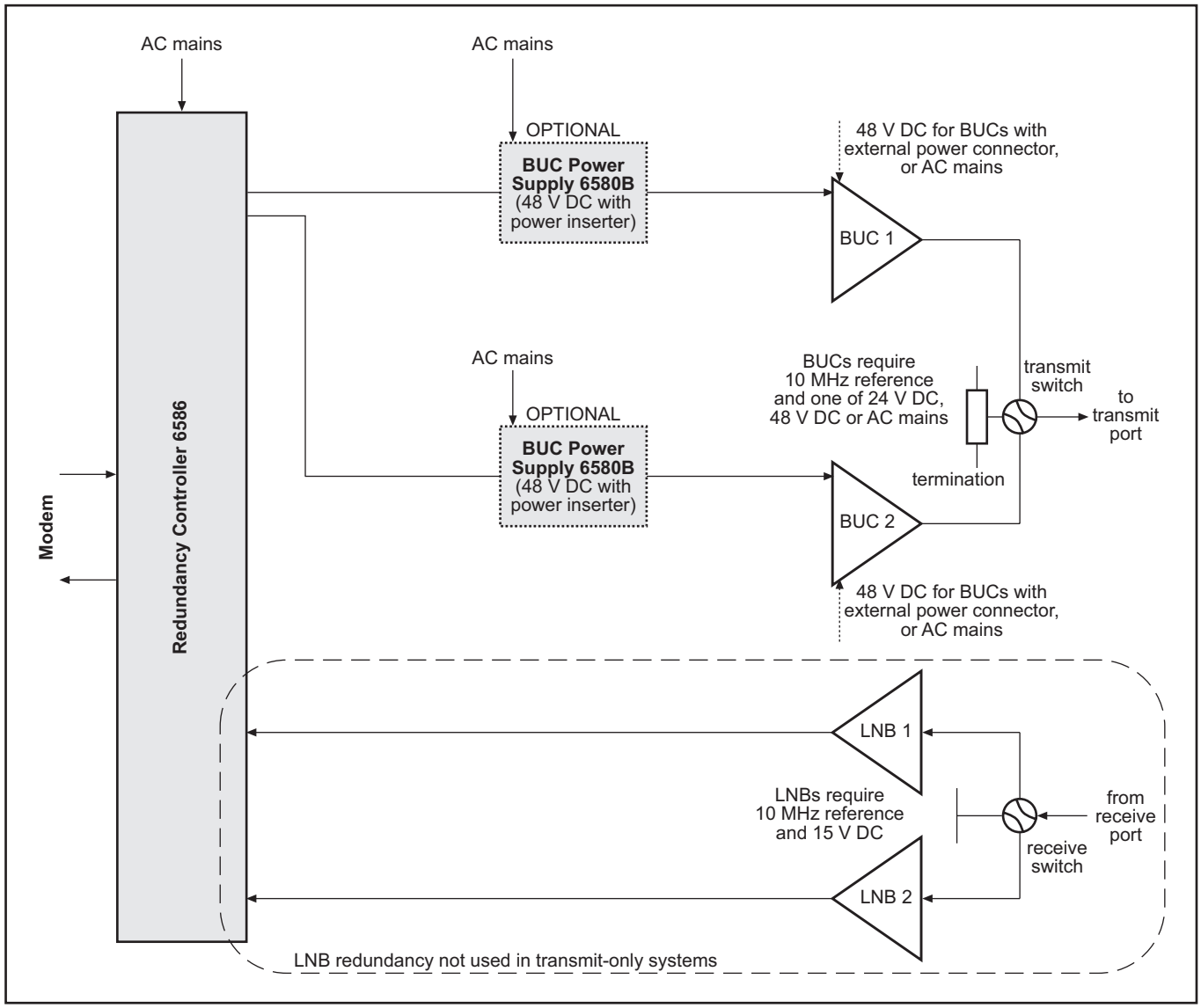
Table 8: Output power and corresponding input power requirements

Output power	**5 W**[a]	**10 W**	**20 W**	**25 W**	**40 W**	**60 W**	**120 W**[b]
Output connectors	RF waveguide (WR137)						
	Coaxial (N-type)						
Input power	48 V DC			94 V to 275 V AC			
Power supplied to BUC via	IF cable			External AC connector			
		External DC connector					
Power supplied to BUC from	6586 or 6580B			AC mains			
Power supplied to LNB from	Modem or 6586						
Power supplied to 6586 from	AC mains via external AC connector						

a. 24 V DC versions cannot be powered by the 6586. Third-party power inserters are required.
b. Requires 5 W BUC driver, which is powered separately.

The 10 MHz reference signal may be supplied to the BUC and/or LNB from a modem (if it is capable).

Figure 7: Layout of BUC redundancy switching system



Redundancy products, accessories and options

NOTE All quantities are single units, unless stated otherwise.

NOTE In the ordering part numbers below, M1 refers to 25 W and 40 W BUCs. M2 refers to 60 W BUCs.

For details on...	See...
C-Band redundancy switching systems (transmit-only)	Table 9
C-Band redundancy switching systems (transmit/receive)	Table 10 on page 28
Options for redundancy switching systems	Table 11 on page 37

Table 9: C-Band redundancy switching systems (transmit-only)

Description	Ordering part number	Component part number	Net mass (kg)
6586 Redundancy Controller, LBUC, C-Band, Waveguide output, transmit-only system, consisting of:	6586-C/W-L1-TO		32.0
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42043-000		
Interconnection Drawing, Redundancy System, LBUC, C-Band, Waveguide		03-01161	
Spacer, LBUC (qty 8)		05-07273	
Rail, Mounting (qty 2)		05-07431	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, AC Mains, 5 m		08-06201-005	
Connector assembly, transmit-only		08-06713-001	
Kit, Flange, WR137, Full c/w nuts		15-40096	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	

Table 9: C-Band redundancy switching systems (transmit-only) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw		15-40205	
Fitting Instruction, Redundancy System, LBUCs		15-42025-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Chain and Cap, N-type		60-15963-911	
Adaptor, WR137 (CPRG) to N-type (coaxial)		78-01001-005	
Attenuator, 30 dB, 50 W, N-type, 0 to 8.5 GHz		78-01101	
Relay, 4-port, WR137 waveguide		78-18005-002	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 2)		78-23011-001	
6586 Redundancy Controller, MBUC, C-Band, Waveguide output, transmit-only system, consisting of:	6586-C/W-M1-TO		32.0
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42046-000		
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide		03-01164	
Rail, Mounting		05-07431	
Spacer, Tubular, 12 mm OD × 8.8 mm ID × 120 mm length (qty 8)		05-07432	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, AC Mains, 5 m		08-06201-005	
Connector assembly, transmit-only		08-06713-001	
Kit, Flange, WR137, Full c/w nuts (qty 2)		15-40096	

Table 9: C-Band redundancy switching systems (transmit-only) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw (qty 3)		15-40205	
Fitting Instruction, Redundancy System, MBUCs		15-42023-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Relay, 4-port, WR137 waveguide		78-18005-002	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 3)		78-23011-001	
Waveguide termination, 125 W, WR137		78-23015	
6586 Redundancy Controller, MBUC, C-Band, Waveguide output, transmit-only system, consisting of:	6586-C/W-M2-TO		32.0
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42048-000		
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide		03-01164	
Rail, Mounting (qty 2)		05-07431	
Spacer, Tubular, 12 mm OD × 8.8 mm ID × 120 mm length (qty 8)		05-07432	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, AC Mains, 5 m		08-06201-005	
Connector assembly, transmit-only		08-06713-001	
Kit, Flange, WR137, Full c/w nuts (qty 2)		15-40096	

Table 9: C-Band redundancy switching systems (transmit-only) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw (qty 3)		15-40205	
Fitting Instruction, Redundancy System, MBUCs		15-42023-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Relay, 4-port, WR137 waveguide		78-18005-002	
Waveguide, E-Bend 90°, WR137, 3" × 3"		78-23011-001	
Waveguide termination, 125 W, WR137		78-23015	
Waveguide, E-Bend 90°, WR137, 3" × 5" (qty 2)		78-23054	
6586 Redundancy Controller, HBUC, C-Band, Waveguide output, transmit-only system, consisting of:	6586-C/W-H1-TO		32.0
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42050-000		
Interconnection Drawing, Redundancy System, HP BUC, C-Band		03-01167	
Spacer, LBUC (qty 8)		05-07273	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 0.6 m (qty 2)		08-05366-006	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 2 m (qty 2)		08-05366-020	
Cable, Tx Waveguide Switch, 2 m		08-06103-002	
Cable, AC Mains, 5 m		08-06201-005	
Cable, Direct I/O High-power BUC System, 2 m (qty 2)		08-06257-002	
Connector assembly, transmit-only		08-06713-001	

Table 9: C-Band redundancy switching systems (transmit-only) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Kit, Flange, WR137, Full c/w nuts (qty 4)		15-40096	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, Converter, HP SSPAs (CE)		15-40196-000	
Kit, Connector Sealing (qty 2)		15-40202	
Fitting Instruction, Redundancy System, HBUCs		15-42024-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Relay, 4-port, WR137 waveguide		78-18005-002	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 2)		78-23011-001	
Waveguide termination, 300 W, WR137		78-23027	
Waveguide, Jacket Twist/Flex, WR137, 18"		78-23048	
Channel, Unistrut, 1 m, Dual HP SSPA Mounting (qty 2)	05-07117		5.0

Table 10: C-Band redundancy switching systems (transmit/receive)

Description	Ordering part number	Component part number	Net mass (kg)
6586 Redundancy Controller, LBUC, C-Band, N-type output, transmit/receive system, consisting of:	6586-C/N-L1-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42041-000		
Interconnection Drawing, Redundancy System, LBUC, C-Band, N-type		03-01162	
Blanking plate c/w pressure hole		05-06765	
Spacer, LBUC (qty 8)		05-07273	
Rail, Mounting (qty 2)		05-07431	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 1 m (qty 3)		08-05366-010	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Fitting Instruction, Redundancy System, LBUCs		15-42025-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Adaptor, N-type, 90°, male–female		60-15863-945	
Chain and Cap, N-type		60-15963-911	
Attenuator, 30 dB, 50 W, N-type, 0 to 8.5 GHz		78-01101	
Relay, Combined WR229 waveguide & N-type		78-18005-004	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
6586 Redundancy Controller, LBUC, C-Band, Waveguide output, transmit/receive system, consisting of:	6586-C/W-L1-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42042-000		
Interconnection Drawing, Redundancy System, LBUC, C-Band, Waveguide		03-01161	
Blanking plate c/w pressure hole		05-06765	
Spacer, LBUC (qty 8)		05-07273	
Rail, Mounting (qty 2)		05-07431	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Kit, Flange, WR137, Full c/w nuts		15-40096	
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw		15-40205	
Fitting Instruction, Redundancy System, LBUCs		15-42025-001	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Adaptor, N-type, 90°, male–female		60-15863-945	
Adaptor, WR137 (CPRG) to N-type (coaxial)		78-01001-005	
Attenuator, 30 dB, 50 W, N-type, 0 to 8.5 GHz		78-01101	
Relay, 4-port, WR137 waveguide		78-18005-002	
Relay, 4-port, WR229 waveguide		78-18005-003	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 2)		78-23011-001	
6586 Redundancy Controller, MBUC, C-Band, N-type output, transmit/receive system, consisting of:	6586-C/N-M1-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42044-000		
Interconnection Drawing, Redundancy System, MBUC, C-Band, N-type		03-01165	
Blanking plate c/w pressure hole		05-06765	
Rail, Mounting (qty 2)		05-07431	
Spacer, Tubular, 12 mm OD × 8.8 mm ID × 120 mm length (qty 8)		05-07432	
Bracket, Redundancy System, MBUC, N-type		05-07458	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 1 m (qty 4)		08-05366-010	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Kit, Flange, WR137, Full c/w nuts		15-40096	
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Fitting Instruction, Redundancy System, MBUCs		15-42023-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Nut, M8, Stainless Steel, Hex		32-00800-080	
Washer, M8, Stainless steel, Normal (qty 2)		32-00801-080	
Washer, M8, Stainless steel, Spring		32-00801-280	
Screw, M8 × 50, Stainless steel, Hex		32-00850-080	
Adaptor, WR137 (CPRG) to N-type (coaxial)		78-01001-005	
Relay, Combined WR229 waveguide & N-type		78-18005-004	
Waveguide termination, 125 W, WR137		78-23015	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
6586 Redundancy Controller, MBUC, C-Band, Waveguide output, transmit/receive system, consisting of:	6586-C/W-M1-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42045-000		
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide		03-01164	
Blanking plate c/w pressure hole		05-06765	
Rail, Mounting (qty 2)		05-07431	
Spacer, Tubular, 12 mm OD × 8.8 mm ID × 120 mm length (qty 8)		05-07432	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Kit, Flange, WR137, Full c/w nuts (qty 2)		15-40096	
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw (qty 3)		15-40205	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Fitting Instruction, Redundancy System, MBUCs		15-42023-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Relay, 4-port, WR137 waveguide		78-18005-002	
Relay, 4-port, WR229 waveguide		78-18005-003	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 3)		78-23011-001	
Waveguide termination, 125 W, WR137		78-23015	
6586 Redundancy Controller, MBUC, C-Band, Waveguide output, transmit/receive system, consisting of:	6586-C/W-M2-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of	15-42047-000		
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide		03-01164	
Blanking plate c/w pressure hole		05-06765	
Rail, Mounting (qty 2)		05-07431	
Spacer, Tubular, 12 mm OD × 8.8 mm ID × 120 mm length (qty 8)		05-07432	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 5 m (qty 2)		08-05366-050	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	
Cable, BUC to 6586, 5 m (qty 2)		08-06099-005	
Cable, Tx Waveguide Switch, 5 m		08-06103-005	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Kit, Flange, WR137, Full c/w nuts (qty 2)		15-40096	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, PSU/Controller, 8" pole		15-40128	
Kit, Connector Sealing (qty 2)		15-40202	
Kit, Flange, WR137, Full, 30 mm screw (qty 3)		15-40205	
Fitting Instruction, Redundancy System, MBUCs		15-42023-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Relay, 4-port, WR137 waveguide		78-18005-002	
Relay, 4-port, WR229 waveguide		78-18005-003	
Waveguide, E-Bend 90°, WR137, 3" × 3"		78-23011-001	
Waveguide termination, 125 W, WR137		78-23015	
Waveguide, E-Bend 90°, WR137, 3" × 5" (qty 2)		78-23054	
6586 Redundancy Controller, HBUC, C-Band, Waveguide output, transmit/receive system, consisting of:	6586-C/W-H1-TR		34.5
6586 Redundancy Controller	08-06081-001		
Kit consisting of:	15-42049-000		
Interconnection Drawing, Redundancy System, HP BUC, C-Band		03-01167	
Blanking plate c/w pressure hole		05-06765	
Spacer, LBUC (qty 8)		05-07273	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 0.6 m (qty 2)		08-05366-006	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 2 m (qty 2)		08-05366-020	
Cable, Coaxial, 50 Ohm, N-type to N-type plug, 8 m (qty 2)		08-05366-080	
Cable, Tx Waveguide Switch, 2 m		08-06103-002	
Cable, Rx Waveguide Switch, 8 m, WR229 waveguide		08-06104-008	
Cable, AC Mains, 5 m		08-06201-005	
Cable, Direct I/O High-power BUC System, 2 m (qty 2)		08-06257-002	
Kit, Flange, WR137, Full c/w nuts (qty 4)		15-40096	
Kit, Flange, WR229, Full, 16 mm screw (qty 2)		15-40106	
Kit, Flange, WR229, Half, 8 mm screw (qty 2)		15-40108	
Kit, Flange, WR137, Full, 12 mm screw (qty 5)		15-40123	
Kit, Mounting, Converter, HP SSPAs (CE)		15-40196-000	
Kit, Connector Sealing (qty 2)		15-40202	
Fitting Instruction, Redundancy System, HBUCs		15-42024-001	
User Guide, Block Up Converter Systems 6700/6900 series		15-44027-EN	
Nipple, Threaded M5		30-27011-001	
Screw, M5 × 8, Stainless steel, Socket cap		31-25008-980	
Relay, 4-port, WR137 waveguide		78-18005-002	
Relay, 4-port, WR229 waveguide		78-18005-003	
Waveguide, E-Bend 90°, WR137, 3" × 3" (qty 2)		78-23011-001	
Waveguide termination, 300 W, WR137		78-23027	

Table 10: C-Band redundancy switching systems (transmit/receive) (cont.)

Description	Ordering part number	Component part number	Net mass (kg)
Waveguide, Jacket Twist/Flex, WR137, 18"		78-23048	
Channel, Unistrut, 1 m, Dual HP SSPA Mounting, (qty 2)	05-07117		5.0

Table 11: Options for redundancy switching systems

Description	Ordering part number	Component part number	Net mass (kg)
Remote Controller 6570 c/w 50 m cable, consisting of:	6570-RC-50		11.1
Remote Controller 6570		08-06191-001	
Cable, BUC to 6570, 50 m		08-06098-050	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	
Remote Controller 6570 c/w 100 m cable, consisting of:	6570-RC-100		21.1
Remote Controller 6570		08-06191-001	
Cable, BUC to 6570, 100 m		08-06098-100	
User Guide, Hand-held Controller/Remote Controller		15-44021-EN	

Shipping

Low and medium-power redundancy systems

All low and medium-power systems ship in one carton (1030 mm × 520 mm × 310 mm), and weigh either 34.0 kg (transmit-only) or 36.5 kg (transmit/receive) when packed. This shipment bulks out to 27.8 vol-kg.

High-power redundancy systems

All high-power systems ship in two cartons (1030 mm × 520 mm × 310 mm and 1430 mm × 165 mm × 165 mm), and weigh either 40.0 kg (transmit-only) or 42.5 kg (transmit/receive) when packed. This shipment bulks out to 34.3 vol-kg.

Drawings

Table 12: List of drawings

Title	Codan part number
Interface Control Drawing, LBUC, C-Band	01-01176
Interface Control Drawing, MBUC, C-Band	01-01301
Interface Control Drawing, MBUC, C-Band (60 W)	01-01625
Fitting Instructions, LBUC, Boom mounting	15-42003-001
Fitting Instructions, MBUC, Boom mounting	15-42019-001
Fitting Instructions, Redundancy System, LBUC, C-Band (N-type)	15-42025-001 (sheet 1)
Fitting Instructions, Redundancy System, LBUC, C-Band (Waveguide)	15-42025-001 (sheet 2)
Fitting Instructions, Redundancy System, LBUC, Ku-Band	15-42025-001 (sheet 3)
Fitting Instructions, MBUC, C-Band (N-type, 25 W, 40 W)	15-42023-001 (sheet 1)
Fitting Instructions, MBUC, C-Band (Waveguide, 25 W, 40 W)	15-42023-001 (sheet 2)
Fitting Instructions, MBUC, C-Band (Waveguide, 60 W)	15-42023-001 (sheet 3)
Fitting Instructions, MBUC, Ku-Band (16 W)	15-42023-001 (sheet 4)
Fitting Instructions, MBUC, Ku-Band (25 W)	15-42023-001 (sheet 5)
Fitting Instructions, Redundancy System, HP BUC, C-Band	15-42024-001 (sheet 1)
Fitting Instructions, Redundancy System, HP BUC, Ku-Band	15-42024-001 (sheet 2)
Fitting Instructions, Power Supply/Redundancy Controller	15-40128-001
Fitting Instructions, PSU/Controller/SSPA 12" pole	15-40147-001
Interface Control Drawing, BUC Redundancy Controller 6586	01-01205
Interconnection Drawing, Redundancy System, LBUC, C-Band, Waveguide	03-01161
Interconnection Drawing, Redundancy System, LBUC, C-Band, N-type	03-01162
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide (25 W, 40 W)	03-01164 (sheet 1)
Interconnection Drawing, Redundancy System, MBUC, C-Band, Waveguide (60 W)	03-01164 (sheet 2)
Interconnection Drawing, Redundancy System, MBUC, C-Band, N-type	03-01165
Interconnection Drawing, Redundancy System, HP BUC, C-Band	03-01167
Cable, LBUC, External DC I/P	08-06448

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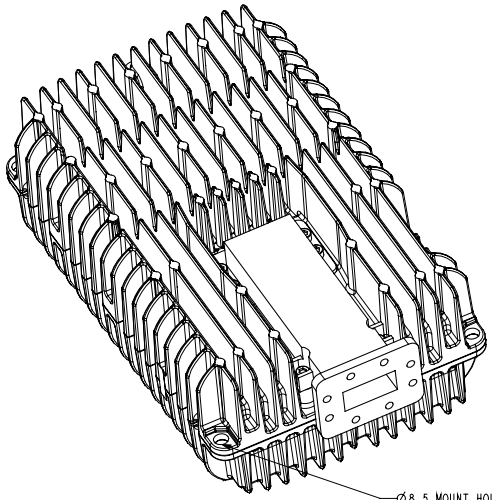

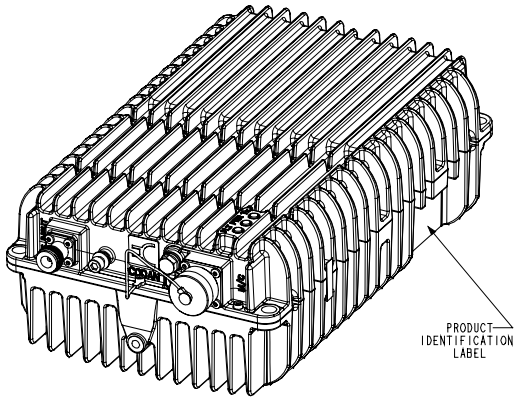

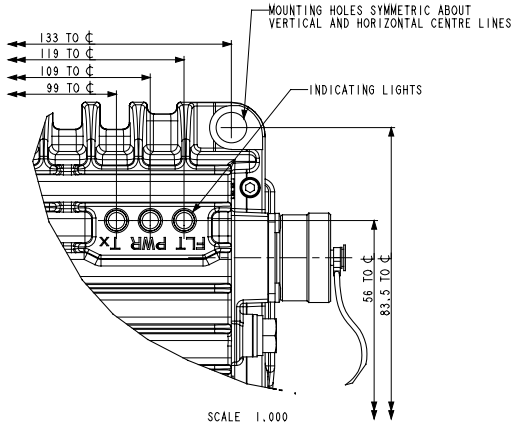

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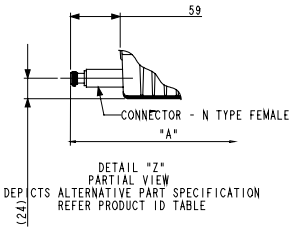
ISSUE B:

DIM 'A' IN PRODUCT ID TABLE:
311 WAS 315,
344 WAS 339
C/R 27515
TJM 26-03-2003

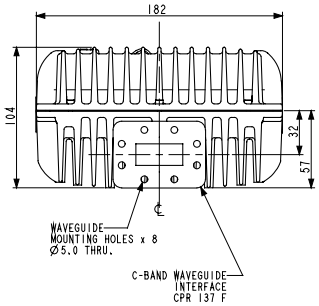
ISSUE C:
EARTH POINT SCREW
WAS M5x10
C/R 27533
TJM 23-04-2003

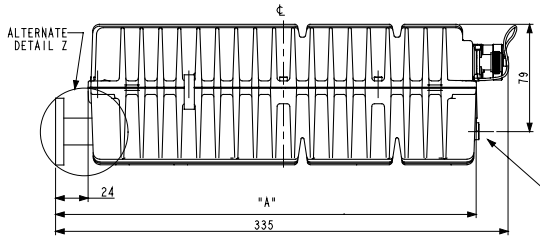
ISSUE 1:
10W VERSION ADDED
TITLE WAS 2W/5W
FORMAT WAS A3
C/R 28054
C/R 28361
TJM 11-01-05

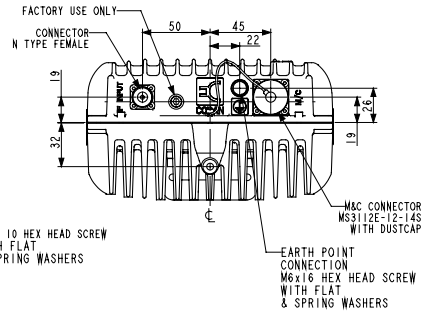
ISSUE 2:
CHANGED DRAWING TO
CORRECT DIMENSIONS
C/R 28545
GZ 11-08-05

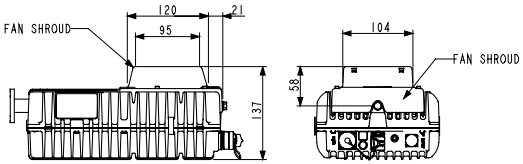


DETAIL "Z"
PARTIAL VIEW
DEPICTS ALTERNATIVE PART SPECIFICATION
REFER PRODUCT ID TABLE



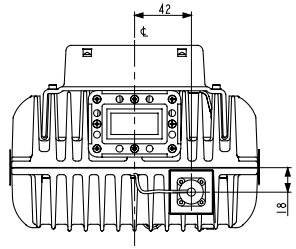






SCALE 0.200

DETAIL OF FAN COOLED VERSION ONLY
SHOWING FAN SHROUD DINENSIONS



SCALE 0.400

DETAIL OF OPTIONAL 48V EXTERNAL DC I/P CONNECTOR

PRODUCT I.D. TABLE	
OUTPUT TYPE	DIMENSION A
W/G	311
N	345

DIMENSIONS IN mm

0.2 x 45° R0.2 max

MATERIAL

FINISH

DRN	DAB	SCALE 0.250
CHKD	RL	DATE 15-07-02
APPD	PMC	04-09-02
		11-01-05

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ± 0.2
ANGULAR ± 0.5°
FLATNESS ± 0.2
ROUGHNESS 1.6 µmRa

CODAN

A2

TITLE
INTERFACE CONTROL DRAWING
LBUC, C-BAND

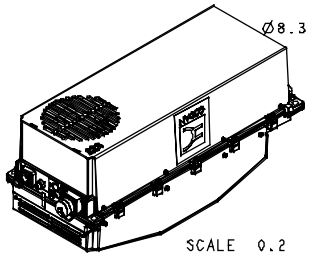
ISS 2

DRAWING/DOC NO.
01-01176

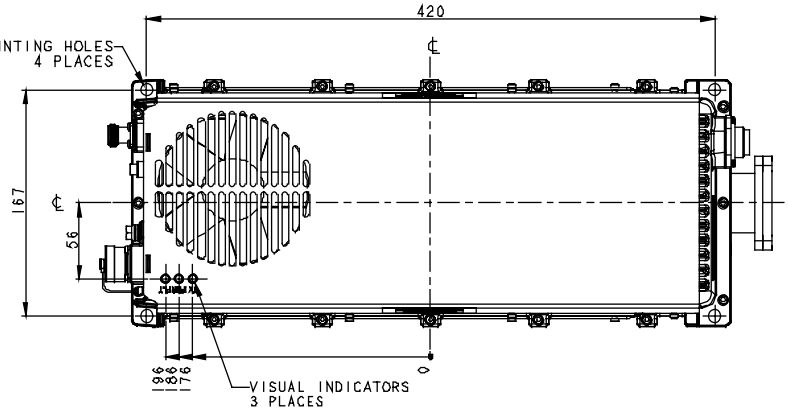
SHT. 1 OF 1

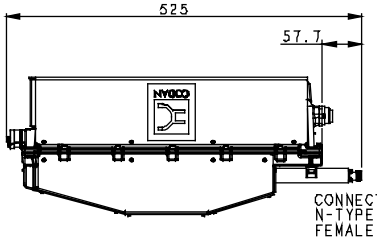
DO NOT SCALE

ISSUE 2:
PICT. CORRECTN.
SURFACES REMOVED.
DIM 204 WAS 202
C/R 28715
TJM 26-09-2005

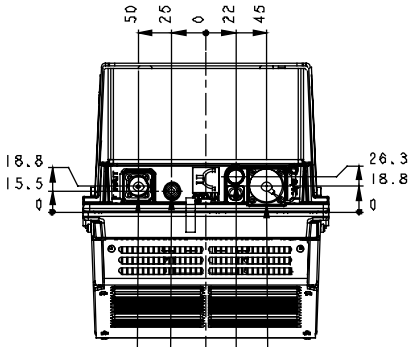


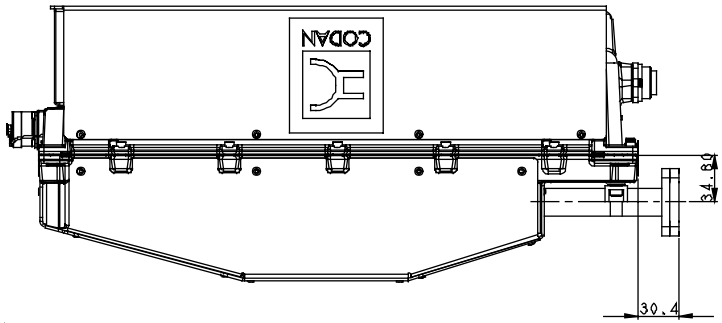
SCALE 0.2

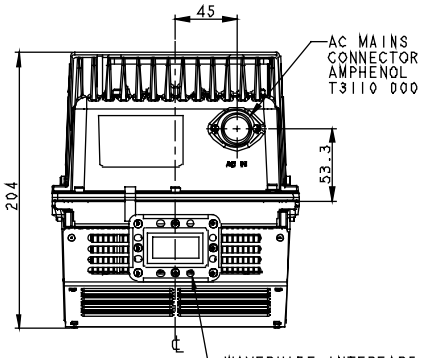


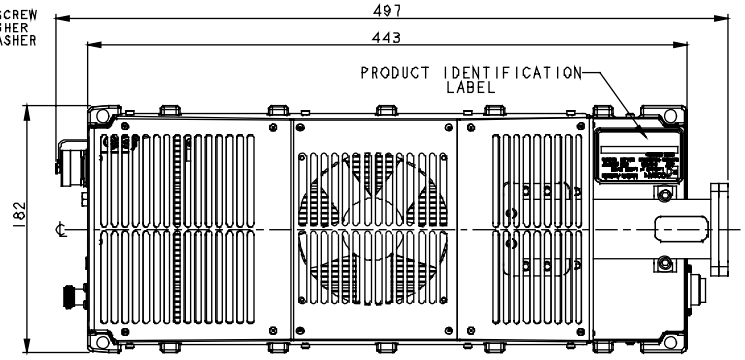


SPECIFIC DIMENSIONS FOR
N-TYPE OUTPUT VARIANT
SCALE 0.2









DIMENSIONS IN mm

MATERIAL		SCALE	0.400
	DRN	KF	DATE 04-06-03
	CHKD	GHZ	04-06-03
	APPD	PMC	13-01-05
FINISH	TOLERANCES UNLESS OTHERWISE SPECIFIED		
	LINEAR ± 0.2		
	ANGULAR ± 0.5°		
	FLATNESS ± 0.2		
	ROUGHNESS 1.6 µmRa		

CODAN

A2

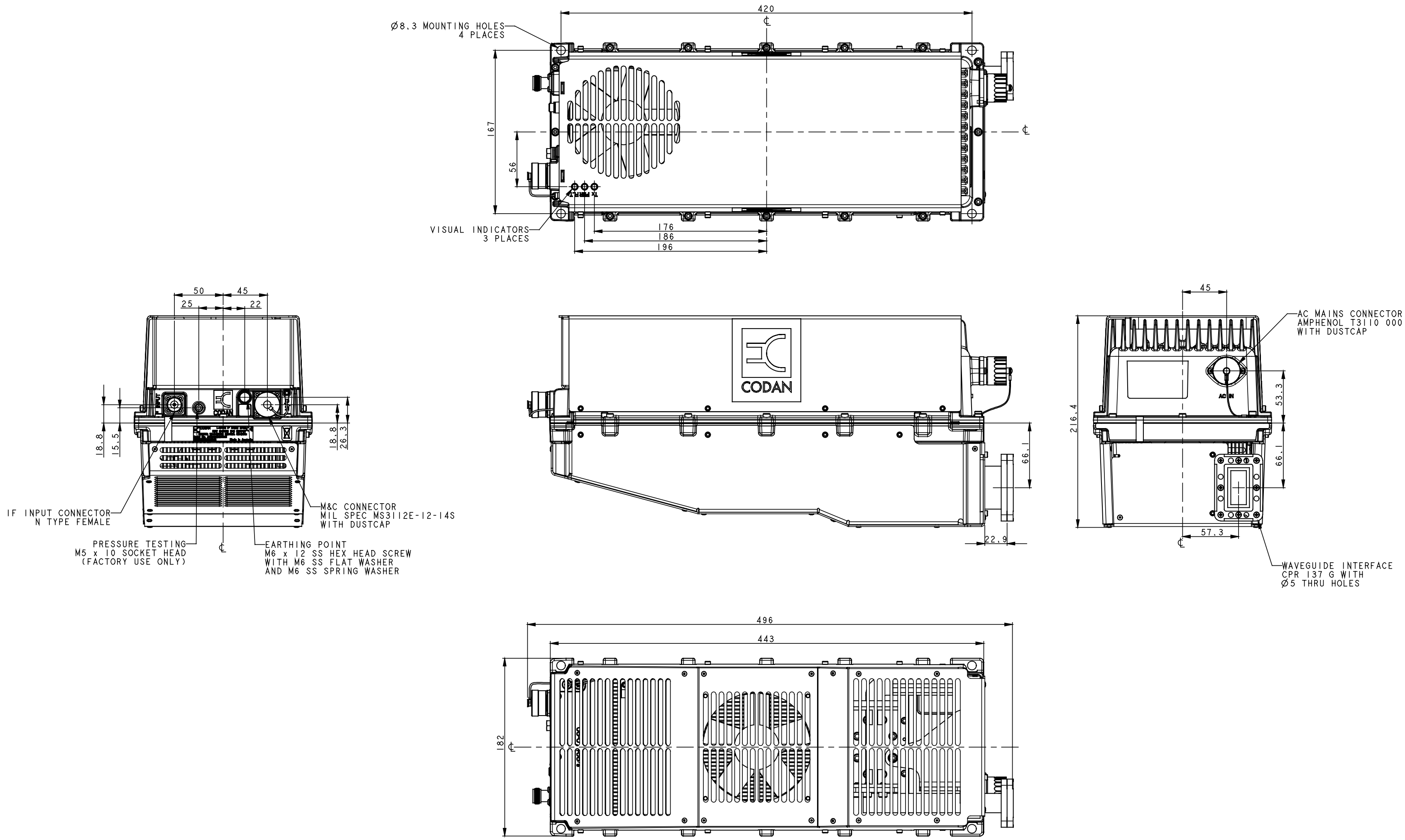
TITLE
INTERFACE CONTROL DRAWING
C-BAND MBUCs 6720, 6725, 6740

ISS 2

DRAWING/DOC NO
01-01301

SHT. 1 OF 1

DO NOT SCALE



DIMENSIONS IN mm

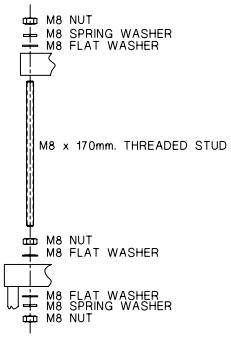
0.2 x 45° R0.2 max			SCALE 1:2
MATERIAL	DRN	DJM	DATE 11-03-05
	CHKD	RL	23-06-05
	APPD		-
FINISH	TOLERANCES UNLESS OTHERWISE SPECIFIED LINEAR ± 0.2 ANGULAR ± 0.5° FLATNESS ± 0.2 ROUGHNESS 1.6 μmRa		

CODAN

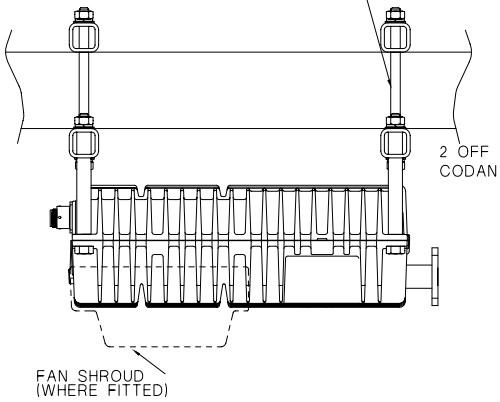
A1 TITLE INTERFACE CONTROL DRAWING C-BAND MBUC 6760

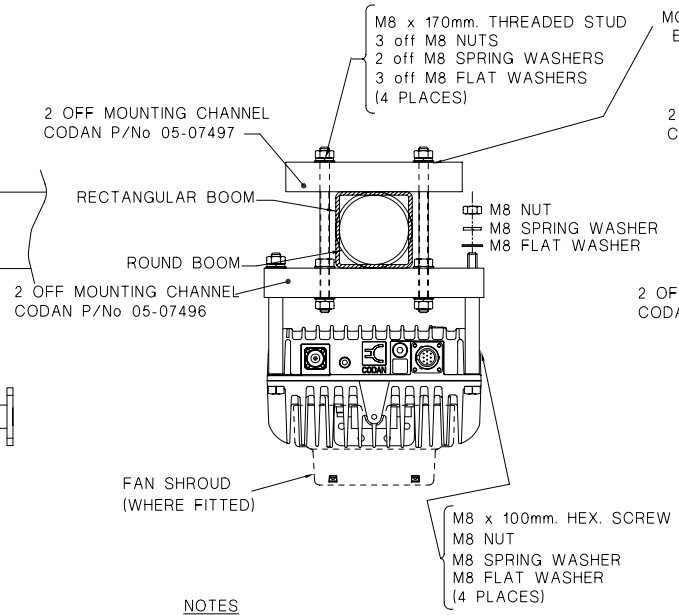
ISS A | DRAWING/DOC NO. 01-01625 | SHT.1 OF 1

DO NOT SCALE

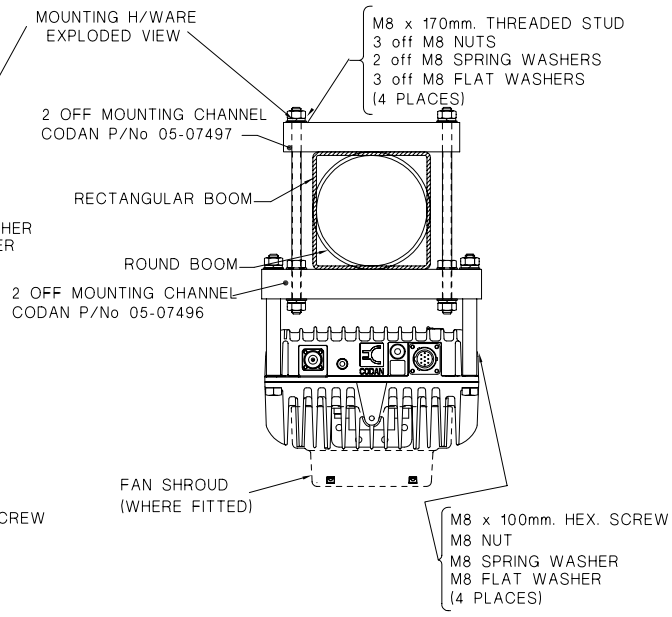


MOUNTING FOR BOOMS UP TO 65mm WIDE/DIA.





MOUNTING FOR BOOMS UP TO 100mm WIDE/DIA.



NOTES
1. BOOM MOUNTING KIT PART No 15-42003-000.
2. UNIT SHOWN IS C-BAND LBUC.

ISSUE B
REMOVED FLAT WASHER
ADDED EXPLODED DETAIL
C/R 27421

ISSUE 1
ADDED FAN SHROUD
C/R 28361

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
TJM 05-09-05

ISSUE 3:
NO CHANGE, C/R ACTION ONLY.
C/R 30404
JMA 13-11-06

FILE No. 15\42003_-3.DWG

CODAN

MATERIAL

FINISH

DIMENSIONS IN mm

SCALE	1:2	
DRN	D B	DATE 15-1-02
CHKD	GZ	28-3-02
APPD	PMC	11-01-05

TOLERANCES UNLESS OTHERWISE STATED
2 PLACES DEC. ±0.25
1 PLACE DEC. ±0.5
0 PLACE DEC. ±1

TITLE
LBUC
FITTING INSTRUCTIONS
BOOM MOUNTING

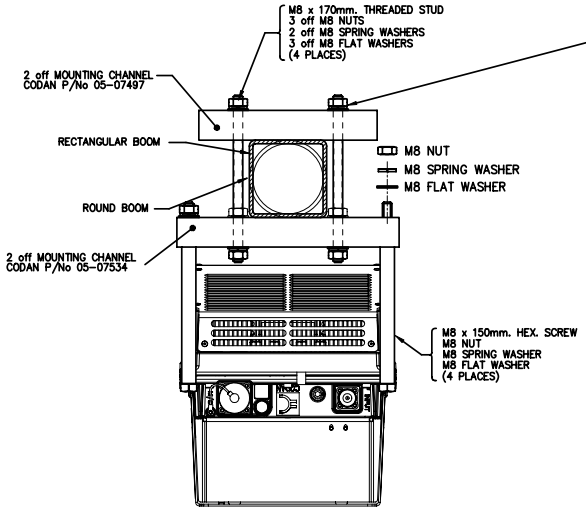
DRAWING/DOC NO.
A1 15-42003-001

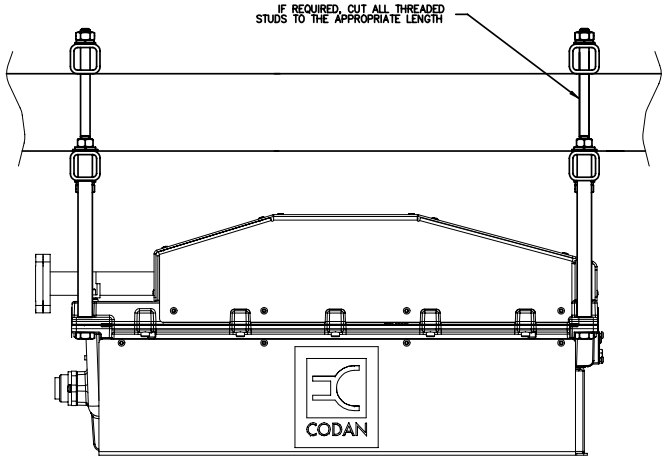
ISS 3

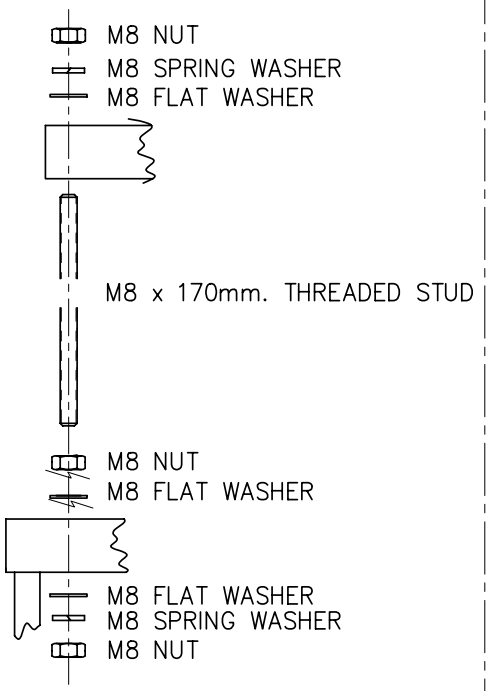
SHT. 1 OF 1

DO NOT SCALE

MOUNTING FOR BOOMS UP TO 65mm WIDE/DIA.

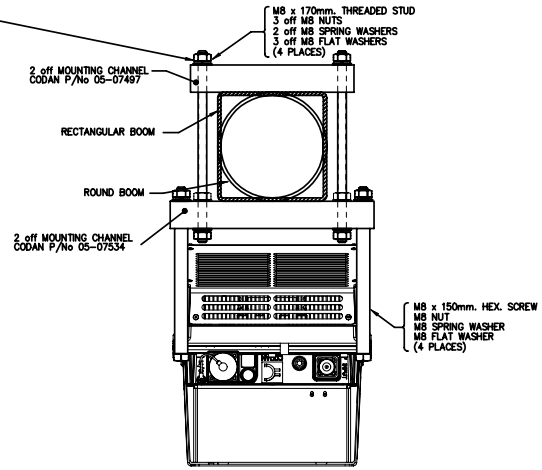






MOUNTING H/WARE
EXPLODED VIEW

MOUNTING FOR BOOMS UP TO 100mm WIDE/DIA.



NOTES

1. BOOM MOUNTING KIT PART No 15-42019-000.
2. UNIT SHOWN IS C-BAND MBUC.

DIMENSIONS IN mm

REMOVE BURRS & SHARP EDGES

CHANGE REQUEST

ISSUE B
Update pictorially, and invert MBUC return "upside down".
C/R 28088
RL 29-07-04

ISSUE 1
CODAN LABEL WAS INVERTED NOW UPRIGHT
C/R 28054
PMC 11-01-05

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 30077
TJM 05-09-05

FILE No. 15\42019__2.DWG

CODAN

DRN	DOW	31-03-04	SCALE 1:2
CHKD	RL	01-04-04	DATE
APPD	PMC	11-01-05	

MATERIAL

FINISH

TOLERANCES UNLESS OTHERWISE STATED
2 PLACES DEC. ±0.25
1 PLACE DEC. ±0.5
0 PLACE DEC. ±1

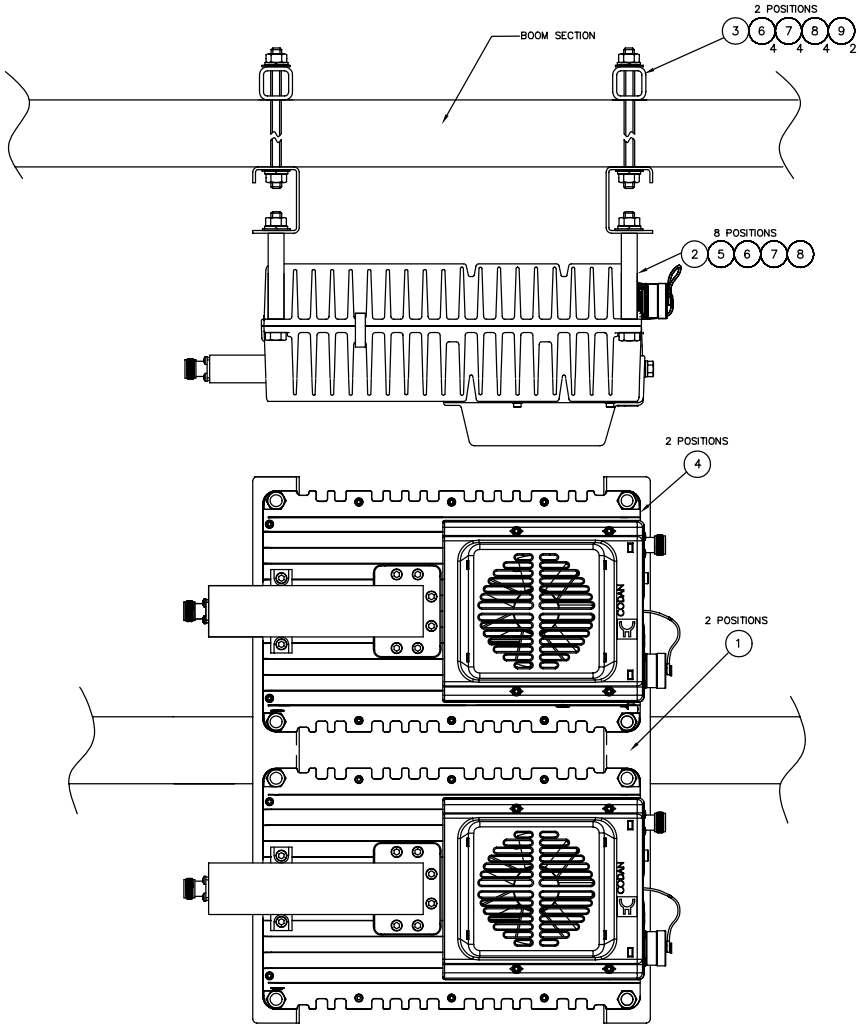
TITLE
MBUC
FITTING INSTRUCTIONS
BOOM MOUNTING

DRAWING/DOC NO.
A1 15-42019-001

ISS 2

SHT. 1 OF 1

DO NOT SCALE



BOOM MOUNTED LBUCs

SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED LBUCs

1. MOUNT BOTH LBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 5, 6, 7 & 8).

2. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 6, 7, 8 & 9).

3. CUT THE THREADED RODS (ITEM 9) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, LBUC	–	–	05-07273	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	LBUC 6700 SERIES (N-TYPE)	–	–		2
5	SCREW, M8x100 316 SS HEX	–	–	32-00899-280	8
6	NUT, M8 304 SS-HEX	–	–	32-00800-080	16
7	WASHER, M8 304 SS SPRING	–	–	32-00801-280	16
8	WASHER, M8 304 SS NORMAL	–	–	32-00801-080	16
9	ROD,THREADED M8 x 170mm	–	–	05-06881	4

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
TJM 05-09-05

ISSUE 3
FAN SHROUD ADDED
UNITS ROTATED
ITEM 4 BALLOON WAS 2
NOTES & PARTS LIST MODS
C/R 30112

FILE Name
15\42025A_3.DWG

DIMENSIONS IN mm

0.2 x 45° R0.2 max

MATERIAL

FINISH

SCALE 1:3

DRN	BT	DATE 27-08-04
CHKD	NP	31-08-04
APPD	NP	12-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A2

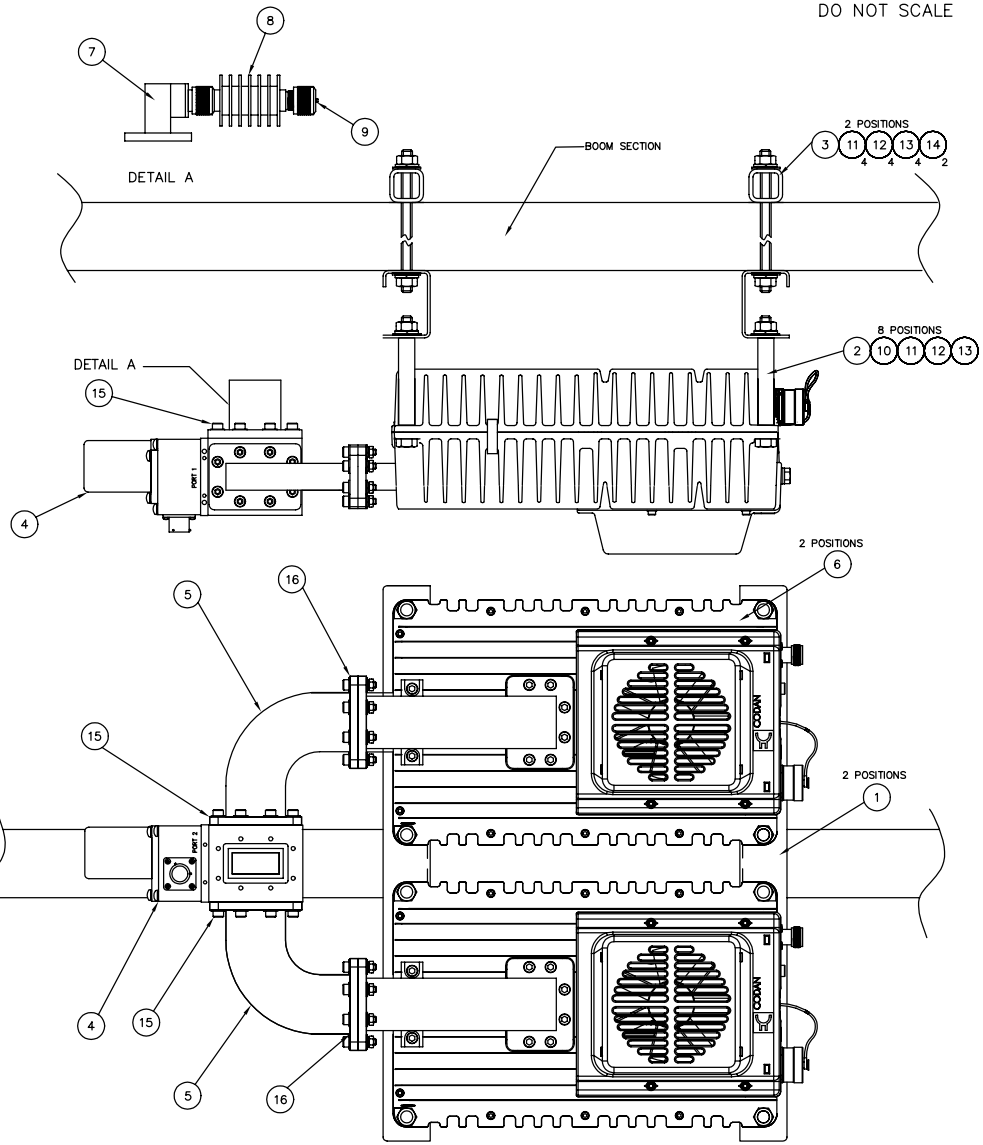
TITLE FITTING INSTRUCTION, C-BAND LBUC REDUNDANCY SYSTEM (N-TYPE)

ISS 3

DRAWING/DOC NO. 15-42025-001

SHT. 1 OF 3

DO NOT SCALE



BOOM MOUNTED LBUCs

SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED LBUCS

1. FIT THE RTIGHT ANGLE WAVEGUIDE (ITEM 5) TO EACH LBUC, USING FLANGE KITS (ITEM 16) ENSURING THE GASKET IS CORRECTLY INSTALLED.

2. FIT ADAPTOR (ITEM 7) TO THE RELAY (ITEM 4) USING FLANGE KIT (ITEM 15), ENSURING THE GASKET IS CORRECTLY INSTALLED. THEN, CONNECT THE 30dB ATTENUATOR (ITEM 8) TO THE N-TYPE CONNECTOR ON THE ADAPTOR (ITEM 7). FINALLY, CONNECT THE N-TYPE CAP (ITEM 9) TO THE OUTPUT OF THE 30dB ATTERNUATOR (ITEM 8). THE ATTENUATOR AND CAP ARE FITTED TO THE ADAPTOR, BUT ARE NOT VISIBLE ON THIS DRAWING (INSERT AT END OF STEP 2).

3. MOUNT BOTH LBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 10, 11, 12 & 13).

4. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RIGHT ANGLE PIECES, USING TWO FLANGE KITS (ITEM 15) ENSURING THE GASKET IS CORRECTLY INSTALLED.

5. TIGHTEN THE LBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

6. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 11, 12, 13 & 14).

7. CUT THE THREADED RODS (ITEM 14) TO LENGTH AS REQUIRED.

8. THESE ITEMS ARE CONNECTED TO THE ADAPTOR (ITEM 7) BUT IS NOT VISIBLE ON THE VIEW SHOWN HERE.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, LBUC	–	–	05-07273	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	RELAY, 4 PORT WR137 WAVEGUIDE	SECTOR MICROW	3EGMS	78-18005-002	1
5	WAVEGUIDE BEND 90° WR137 3" x 3"	AMC	AMC202HB-G/G-3X3-B	78-23011-001	2
6	LBUC 6700 SERIES	–	–		2
7	ADAPTOR, WR137	AMC	AMC202-N-G-B-1	78-01001-005	1
8	ATTENUATOR, 30dB, 25W (SEE NOTE 8)	WEINSCHEL	33-30-34	78-01005-001	1
9	CHAIN AND CAP, N-TYPE (SEE NOTE 8)	ACME	C39-11	60-15963-911	1
10	SCREW, M8x100 316 SS HEX	–	–	32-00899-280	8
11	NUT, M8 304 SS-HEX	–	–	32-00800-080	16
12	WASHER, M8 304 SS SPRING	–	–	32-00801-280	16
13	WASHER, M8 304 SS NORMAL	–	–	32-00801-080	16
14	ROD,THREADED M8 x 170mm	–	–	05-06881	4
15	FLANGE KIT, WR137 FULL, 12mm SCR	–	–	15-40123	4
16	FLANGE KIT, WR137 FULL, C/W NUT	–	–	15-40205	2

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4)

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
TJM 05-09-05

ISSUE 3
FAN SHROUD ADDED
UNITS ROTATED
NOTES & PARTS LIST MODS
ITEMS 4, 5, 15 & 16 BALLOONS CLARIFIED
C/R 30112
GHZ 15-05-06

FILE Name
15\42025B_3.DWG

0.2 x 45° R0.2 max

MATERIAL

FINISH

DIMENSIONS IN mm

SCALE 1:3

DRN	BT	DATE 27-08-04
CHKD	NP	31-08-04
APPD	NP	12-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A2

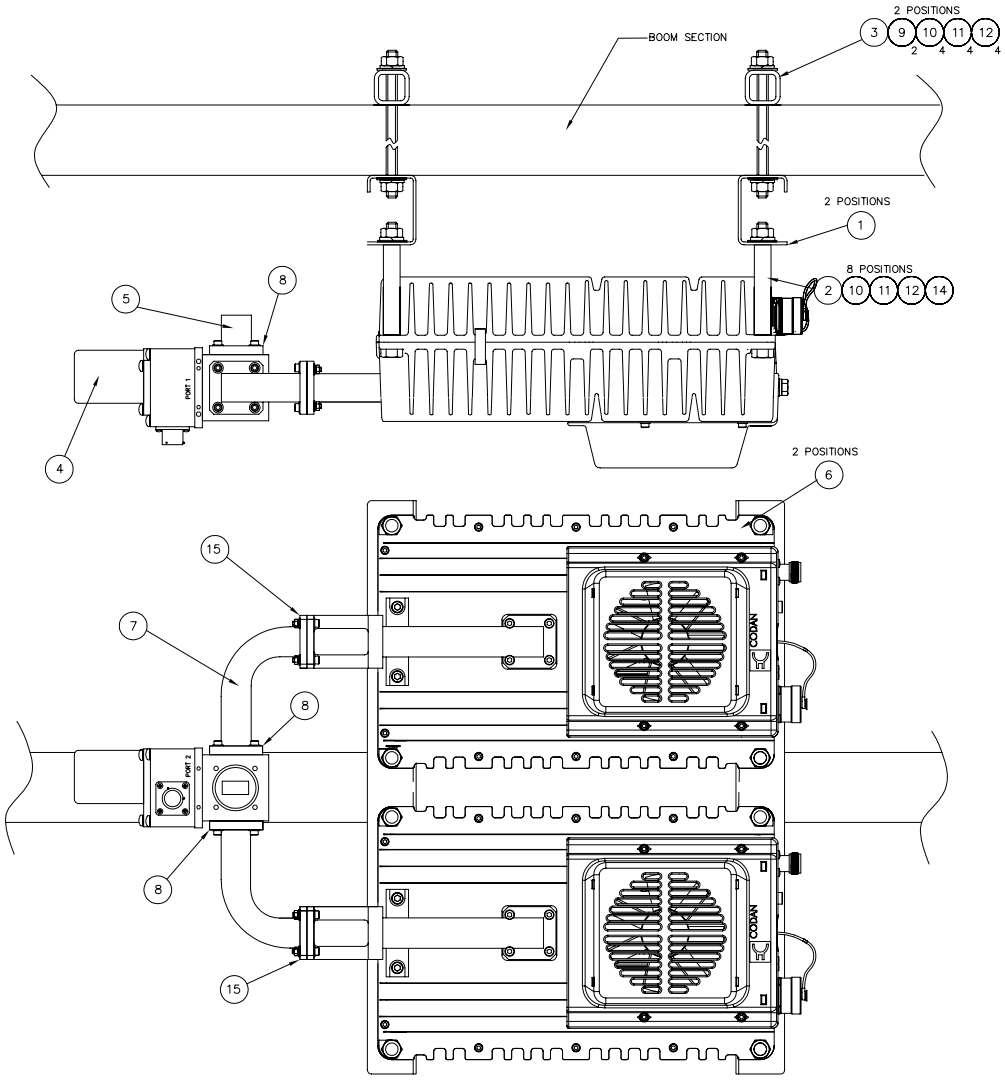
TITLE FITTING INSTRUCTIONS, C-BAND LBUC REDUNDANCY SYSTEM (W/G)

ISS 3

DRAWING/DOC NO. 15-42025-001

SHT. 2 OF 3

DO NOT SCALE



SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED LBUCs

1. FIT THE RIGHT ANGLE WAVEGUIDE (ITEM 7) TO EACH LBUC, USING FLANGE KITS (ITEM 15) ENSURING THE GASKET IS CORRECTLY INSTALLED.

2. FIT TERMINATION (ITEM 5) TO THE RELAY (ITEM 4) USING FLANGE KIT (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED.

3. MOUNT BOTH LBUCs TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 10, 11, 12 & 14). DO NOT TIGHTEN THE NUTS YET.

4. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RIGHT ANGLE PIECES, USING FLANGE KITS (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED.

5. TIGHTEN THE LBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

6. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 9, 10, 11 & 12).

7. CUT THE THREADED RODS (ITEM 9) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05–07431	2
2	SPACER, LBUC	–	–	05–07273	8
3	BRACKET, MOUNTING	–	–	05–07497	2
4	RELAY, 4 PORT WR75 WAVEGUIDE	SECTOR MICROW	75EOMS	78–18008	1
5	WAVEGUIDE TERMINATION, 25W, WR75	AMC	LPT206–F1–B	78–23020	1
6	LBUC 6900 SERIES	–	–		2
7	WAVEGUIDE BEND, 90° WR75, 3.2" x 2"	AMC	HM206–F1/F1–3.2X2.0–B	78–23019	2
8	FLANGE KIT, WR75, THICK GROOVE	–	–	15–40172	3
9	ROD THREADED STUD, M8 x 170mm	–	–	05–06881	4
10	HEX NUT, M8	–	–	32–00800–080	16
11	WASHER, FLAT, M8	–	–	32–00801–080	16
12	WASHER, SPRING, M8	–	–	32–00801–280	16
13	FLANGE KIT, WR75, UNIVERSAL	–	–	15–40174	1
14	HEX HD SCREW, M8 x 100mm	–	–	32–00899–280	8
15	FLANGE KIT, WR75, THIN GROOVE	–	–	15–40206	2

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4)

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12–10–04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
TJM 05–09–05

ISSUE 3
FAN SHROUD ADDED
UNITS ROTATED
NOTES & PARTS LIST MODS
ITEMS 4, 7, 13 & 15 CLARIFIED
C/R 30112
GHZ

FILE Name
15\42025C_2.DWG

DIMENSIONS IN mm

0.2 x 45° R0.2 max

MATERIAL

FINISH

SCALE 1:3

		DATE
DRN	BT	27–08–04
CHKD	NP	31–08–04
APPD	NP	12–10–04

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A2

TITLE FITTING INSTRUCTIONS, Ku–BAND LBUC REDUNDANCY SYSTEM

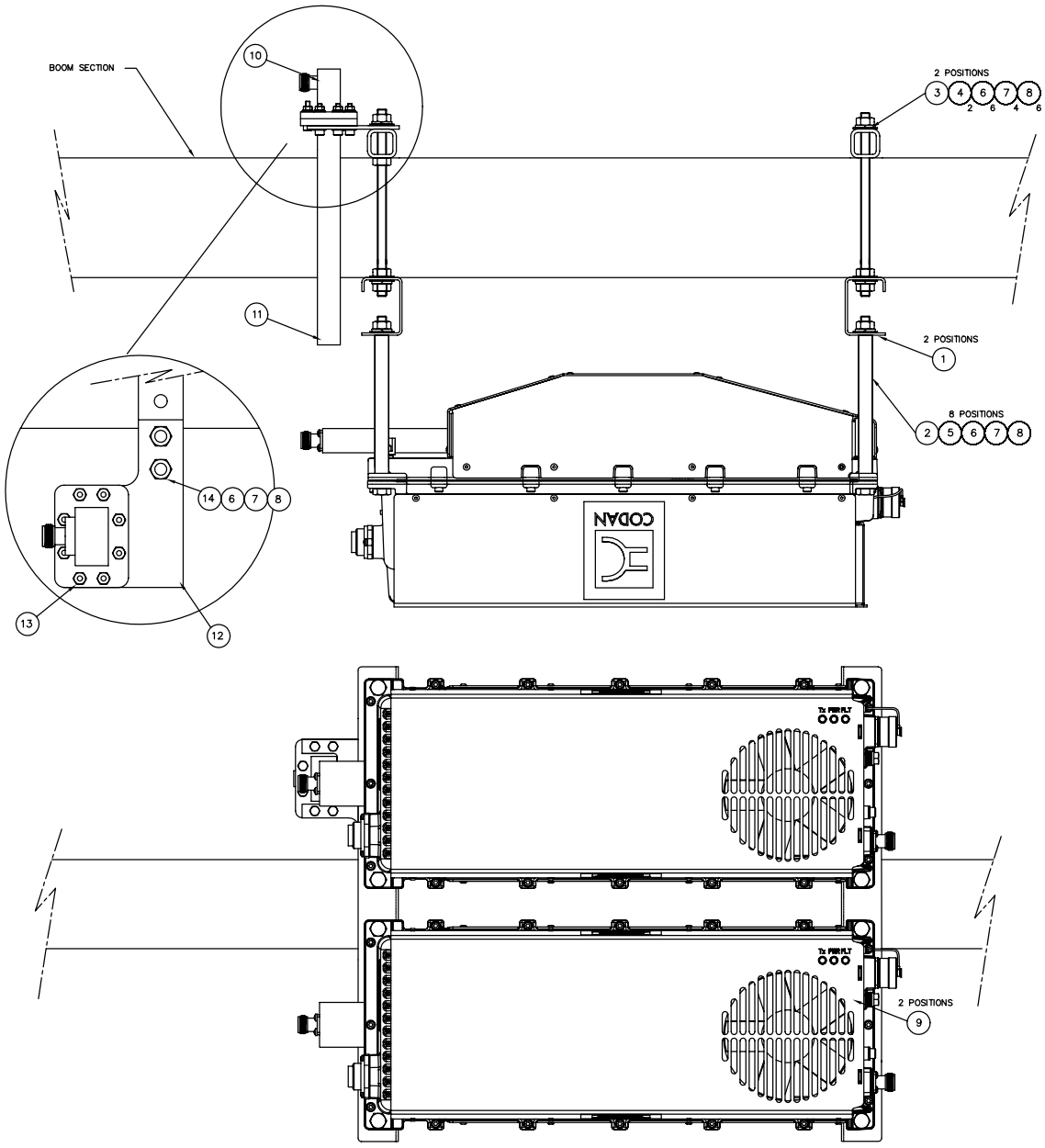
ISS 2

DRAWING/DOC NO. 15–42025–001

SHT. 3 OF 3

DO NOT SCALE

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04
ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
UPDATE FOR NEW MBUCS
C/R 28624
TJM 05-09-05



SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED MBUCS

1. MOUNT BOTH MBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 5, 6, 7 & 8).

2. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 4, 6, 7 & 8). DO NOT FULLY TIGHTEN THE NUTS.

3. ASSEMBLE THE ADAPTOR AND TERMINATION (ITEMS 10 & 11) USING THE FLANGE KIT PARTS AND THE MOUNTING BRACKET (ITEM 12). ENSURE THE GALVANISED MOUNTING BRACKET IS FITTED AS SHOWN. NOTE THE LOCATION OF THE M5 HEX SCREW HEADS. INSTALL THE M8 HEX BOLT THROUGH THE HOLE IN THE PLATE BRACKET NOT USED BY THE THREADED ROD (ITEM 4). TIGHTEN ALL NUTS.

4. CUT THE THREADED STUDS (ITEM 4) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, ø12 x 120mm	–	–	05-07432	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	ROD THREADED, M8 x 170mm	–	–	05-06881	4
5	HEX HD SCREW, M8 x 150mm	–	–	32-00830-080	8
6	WASHER, FLAT, M8	–	–	32-00801-080	21
7	WASHER, SPRING, M8	–	–	32-00801-280	17
8	HEX NUT, M8	–	–	32-00800-080	21
9	MBUC	–	–	6720/25/40	2
10	ADAPTOR	AMC	AMC202-N-G-B-1	78-01001-005	1
11	TERMINATION, WR137, 125W	AMC	AMCMPT-202-G-B	78-23015	1
12	MOUNTING BRACKET	–	05-07458	15-42026-000	1
13	FLANGE KIT, WR 137 FULL C/W NUTS	–	–	15-40096	1
14	HEX HD SCREW M8x50	–	–	32-00850-080	1

DIMENSIONS IN mm

FILE Name
15\42023A_2.DWG

0.2 x 45° R0.2 max.

MATERIAL

FINISH

			SCALE
			1:2
DRN	BT	16-08-04	DATE
CHKD	NP	17-08-04	
APPD	NP	12-10-04	

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A1

TITLE
FITTING INSTRUCTIONS
20/25/40W C-BAND MBUC
REDUNDANCY SYSTEM (N-TYPE)

ISS 2

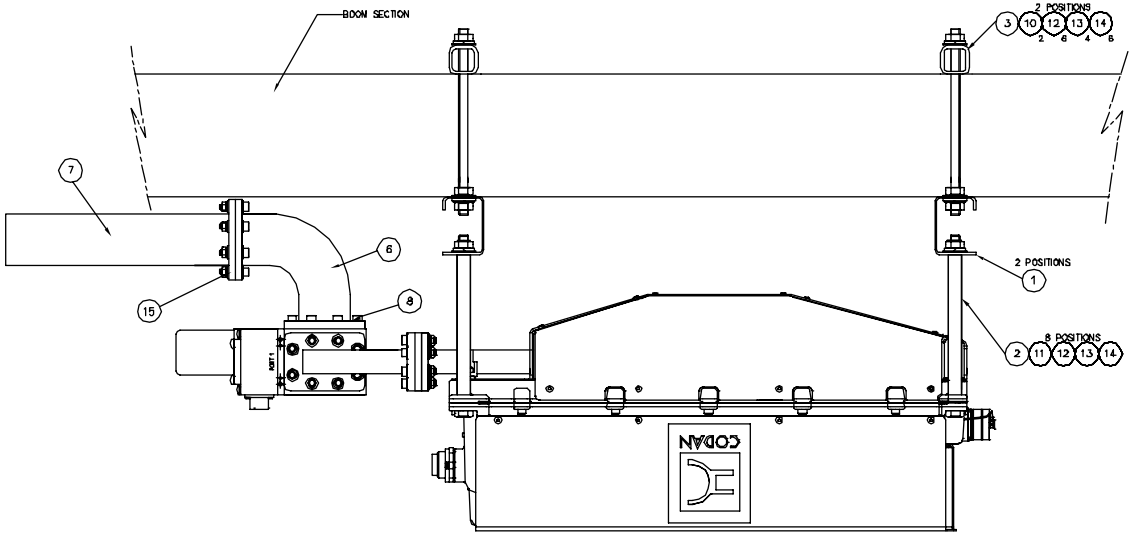
DRAWING/DOC NO.
15-42023-001

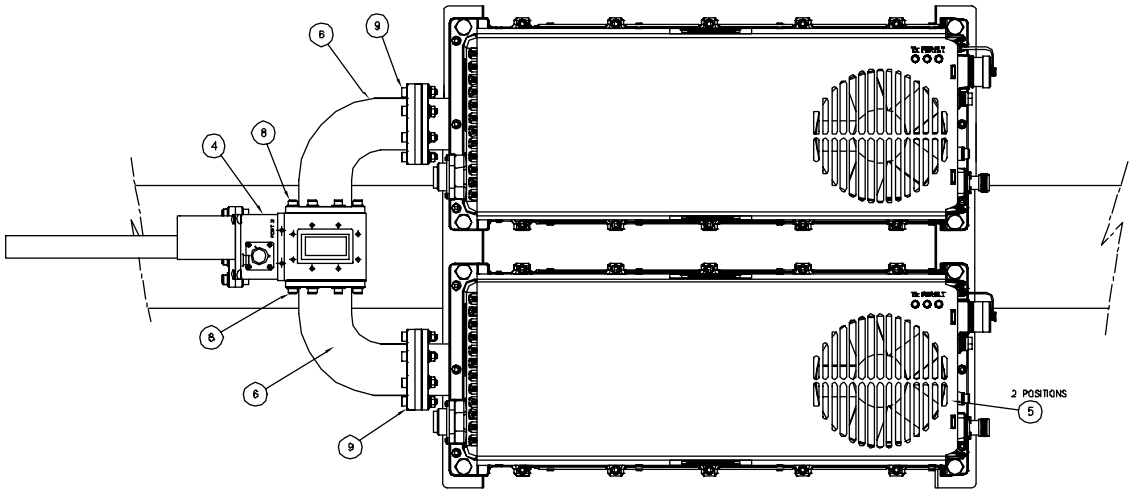
SHT. 1 OF 5

DO NOT SCALE

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
UPDATE FOR NEW MBUCS
C/R 28624
TJM 05-09-05





SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED MBUCS

1. FIT THE RIGHT ANGLE WAVEGUIDE (ITEM 6) TO EACH MBUC, USING FLANGE KITS (ITEM 9) ENSURING THE GASKET IS CORRECTLY INSTALLED.

2. FIT RIGHT ANGLE WAVEGUIDE (ITEM 6) TO THE TERMINATION (ITEM 7), USING FLANGE KIT (ITEM 15) ENSURING THE GASKET IS CORRECTLY INSTALLED. THEN MOUNT THIS ASSEMBLY TO THE WAVEGUIDE RELAY (ITEM 4) AS SHOWN, USING A FLANGE KIT (ITEM 8).

3. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RIGHT ANGLE PIECES, USING FLANGE KITS (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED.

4. MOUNT BOTH MBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 11, 12, 13 & 14). DO NOT TIGHTEN THE NUTS YET.

5. TIGHTEN THE MBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

6. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 10, 12, 13 & 14).

7. CUT THE THREADED RODS (ITEM 10) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, ø12 x 12Omm	–	–	05-07432	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	RELAY, 4 PORT WR137 WAVEGUIDE	SECTOR MICROW	3EGMS	78-18005-002	1
5	MBUC	–	–	6720/25/40	2
6	WAVEGUIDE BEND 90° WR137 3" x 3"	AMC	202HB-G/G-3X3-B	78-23011-001	3
7	WAVEGUIDE TERMINATION 125W WR137	AMC	AMCMPT-202-GB	78-23015	1
8	FLANGE KIT, WR137 FULL, 12mm SCR	–	–	15-40123	4
9	FLANGE KIT, WR137 FULL, 30mm c/w NUT	–	–	15-40205	2
10	ROD THREADED, M8 x 170mm	–	–	05-08881	4
11	HEX HD SCREW, M8 x 150mm	–	–	32-00830-080	8
12	WASHER, FLAT, M8	–	–	32-00801-080	20
13	WASHER, SPRING, M8	–	–	32-00801-280	16
14	HEX NUT, M8	–	–	32-00800-080	20
15	FLANGE KIT, WR137 FULL, c/w NUT	–	–	15-40096	1

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4)

DIMENSIONS IN mm

FILE Name
15\42023B_Z.DWG

0.2 x 45° RD.2 max.

MATERIAL

FINISH

DRN	BT	12-08-04	SCALE 1:2
CHKD	NP	17-08-04	DATE
APPD	NP	12-10-04	

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A1

TITLE
FITTING INSTRUCTIONS
20/25/40W C-BAND MBUC
REDUNDANCY SYSTEM (W/G)

ISS 2

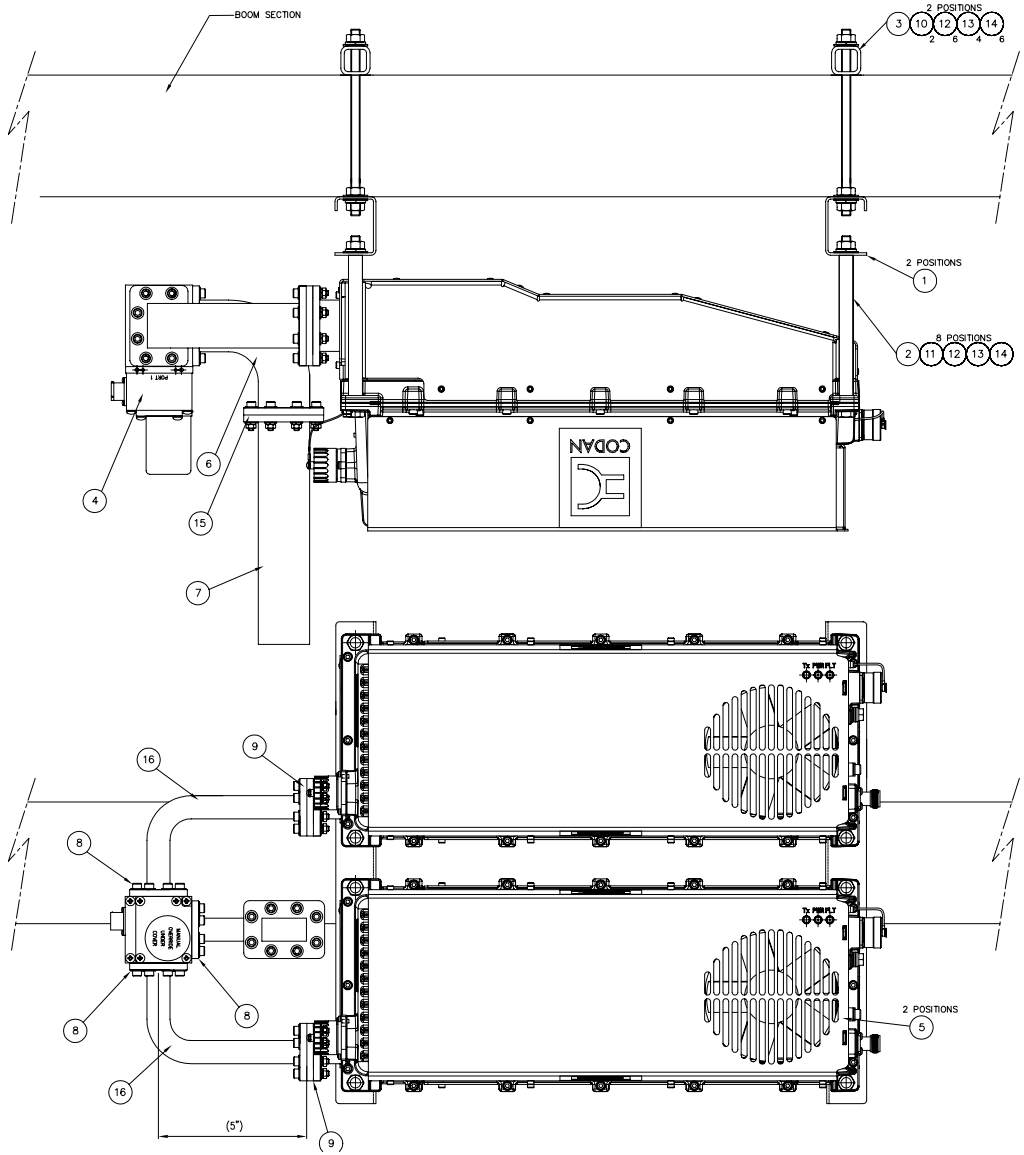
drawing/doc no.
15-42023-001

SHT. 2 OF 5

DO NOT SCALE

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
UPDATE FOR NEW MBUCS
C/R 28624
TJM 05-09-05



SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED MBUCS

1. FIT THE RIGHT ANGLE WAVEGUIDE (ITEM 16) TO EACH MBUC, USING FLANGE KITS (ITEM 9) ENSURING THE GASKET IS CORRECTLY INSTALLED AND THE 5" LEG OF RIGHT ANGLE WAVEGUIDE IS CONNECTED TO THE MBUC.

2. FIT RIGHT ANGLE WAVEGUIDE (ITEM 6) TO THE TERMINATION (ITEM 7), USING FLANGE KIT (ITEM 15) ENSURING THE GASKET IS CORRECTLY INSTALLED. THEN MOUNT THIS ASSEMBLY TO THE WAVEGUIDE RELAY (ITEM 4) AS SHOWN, USING A FLANGE KIT (ITEM 8).

3. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RIGHT ANGLE PIECES, USING FLANGE KITS (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED.

4. MOUNT BOTH MBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 11, 12, 13 & 14). DO NOT TIGHTEN THE NUTS YET.

5. TIGHTEN THE MBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

6. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 10, 12, 13 & 14).

7. CUT THE THREADED RODS (ITEM 10) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, ø12 x 120mm	–	–	05-07432	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	RELAY, 4 PORT WR137 WAVEGUIDE	SECTOR MICROW	3EGMS	78-18005-002	1
5	MBUC	–	–	6760	2
6	WAVEGUIDE BEND 90° WR137 3" x 3"	AMC	202HB-G/G-3X3-B	78-23011-001	1
7	WAVEGUIDE TERMINATION 125W WR137	AMC	AMCMPT-202-GB	78-23015	1
8	FLANGE KIT, WR137 FULL, 12mm SCR	–	–	15-40123	4
9	FLANGE KIT, WR137 FULL, 30mm c/w NUT	–	–	15-40205	2
10	ROD THREADED, M8 x 170mm	–	–	05-06881	4
11	HEX HD SCREW, M8 x 150mm	–	–	32-00830-080	8
12	WASHER, FLAT, M8	–	–	32-00801-080	20
13	WASHER, SPRING, M8	–	–	32-00801-280	16
14	HEX NUT, M8	–	–	32-00800-080	20
15	FLANGE KIT, WR137 FULL, c/w NUT	–	–	15-40096	1
16	WAVEGUIDE E-BEND, 90DEG, WR137, 3"x5"	–	–	78-23054	2

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4).

FILE Name
15\42023C_2.DWG

0.2 x 45° R0.2 max.

MATERIAL

FINISH

DIMENSIONS IN mm

SCALE 1:2

DRN	BT	12-08-04
CHKD	NP	17-08-04
APPD	NP	12-10-04

TOLERANCES
UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A1

TITLE
FITTING INSTRUCTIONS
60W C-BAND MBUC
REDUNDANCY SYSTEM (W/G)

ISS 2

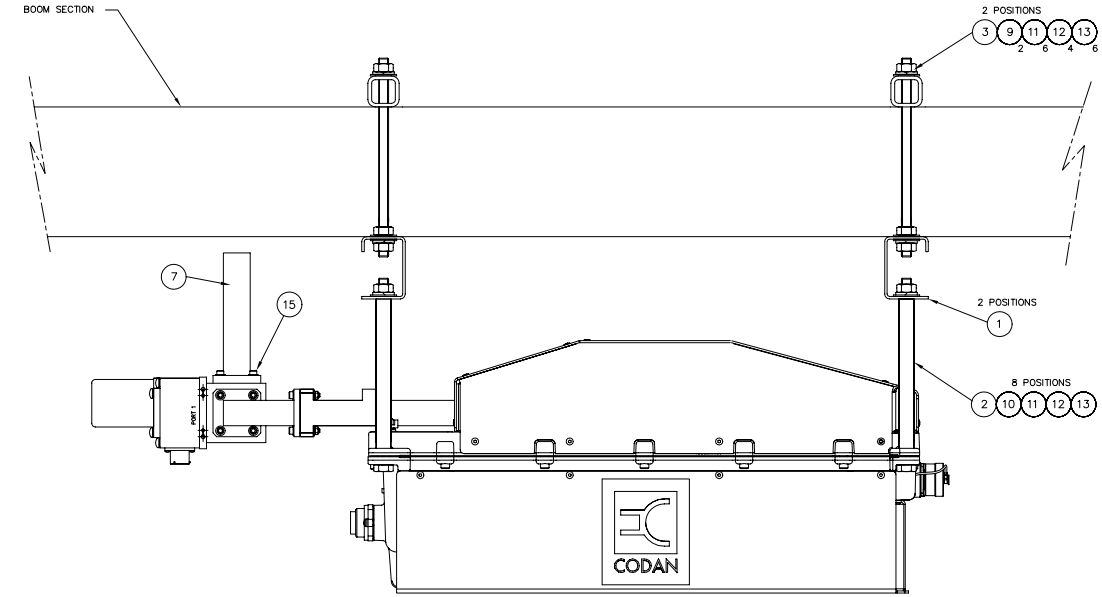
DRAWING/DOC NO.
15-42023-001

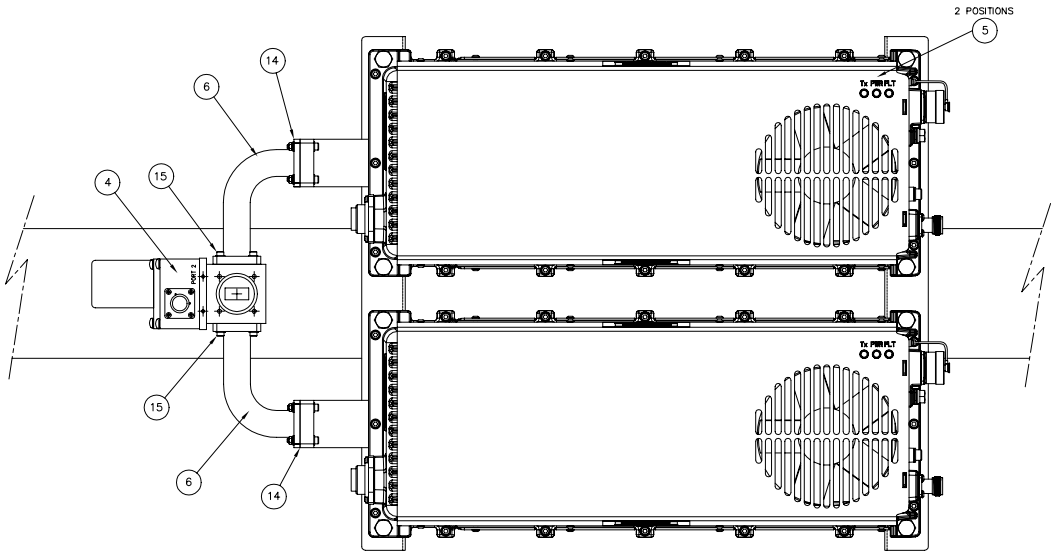
SHT. 3 OF 5

DO NOT SCALE

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
UPDATE FOR NEW MBUCS
C/R 28624
TJM 05-09-05





SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED MBUCS

1. FIT THE RIGHT ANGLE WAVEGUIDE (ITEM 6) TO EACH MBUC USING FLANGE KITS (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED. ENSURE THE 2" LEG OF RIGHT ANGLE WAVEGUIDE IS CONNECTED TO THE MBUC.

2. MOUNT BOTH MBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 10, 11, 12 & 13). DO NOT TIGHTEN THE NUTS YET.

3. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RIGHT ANGLE PIECES.

4. TIGHTEN THE MBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

5. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 9, 11, 12 & 13).

6. CUT THE THREADED RODS (ITEM 9) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	–	–	05-07431	2
2	SPACER, #12 x 120mm	–	–	05-07432	8
3	BRACKET, MOUNTING	–	–	05-07497	2
4	RELAY, 4 PORT WR75 WAVEGUIDE	SECTOR MICROW	75EOMS	78-18008	1
5	MBUC	–	–	6916	2
6	WAVEGUIDE BEND 90° WR75 3.2" x 2"	AMC	HM206-F1/F1-3.2x2.0B	78-23019	2
7	WAVEGUIDE TERMINATION 75W WR75	AMC	MPT206-F1-B	78-23021	1
8	FLANGE KIT, WR75, UNIVERSAL	–	–	15-40174	1
9	ROD THREADED, M8 x 170mm	–	–	05-06881	4
10	HEX HD SCREW, M8 x 150mm	–	–	32-00830-080	8
11	WASHER, FLAT, M8	–	–	32-00801-080	20
12	WASHER, SPRING, M8	–	–	32-00801-280	16
13	HEX NUT, M8	–	–	32-00800-080	20
14	FLANGE KIT, WR75, THIN 25mm SCR	–	–	15-40206	2
15	FLANGE KIT, WR75, THICK GROOVE	–	–	15-40172	3

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4)

DIMENSIONS IN mm

FILE Name
15\42023D_2.DWG

0.2 x 45° R0.2 max.

MATERIAL

FINISH

			SCALE
			1:2
DRN	BT	13-08-04	DATE
CHKD	NP	17-08-04	
APPD	NP	12-10-04	

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A1

TITLE
FITTING INSTRUCTIONS
16W Ku-BAND MBUC
REDUNDANCY SYSTEM

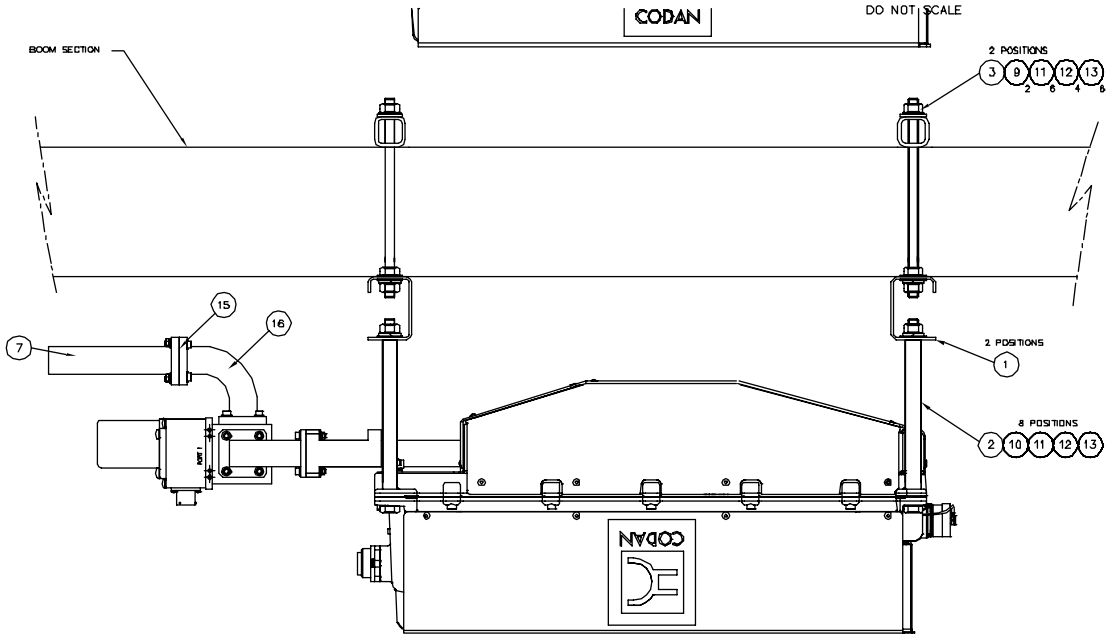
ISS 2

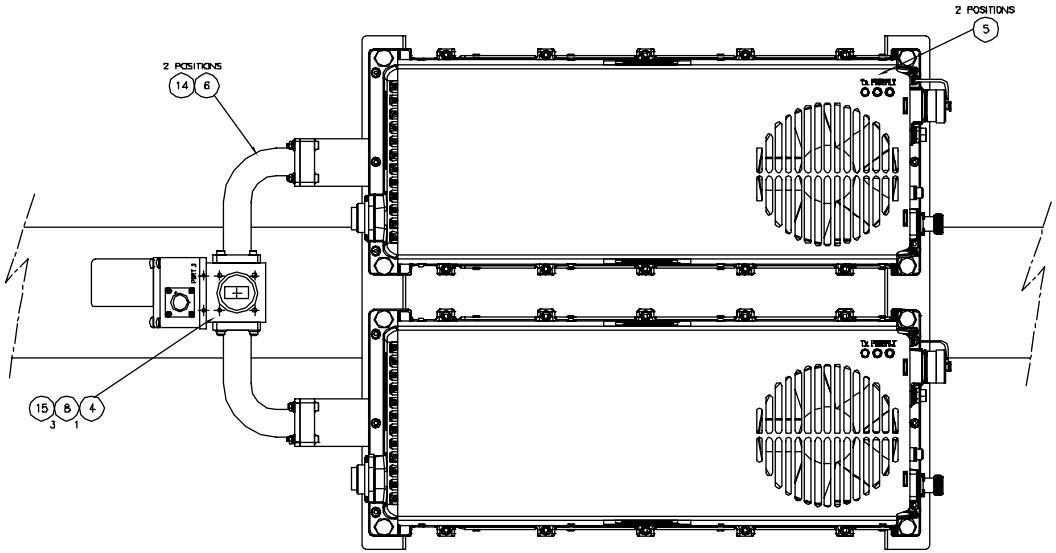
DRAWING/DOC NO.
15-42023-001

SHT. 4 OF 5

CODAN

DO NOT SCALE





ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
UPDATE FOR NEW MBUCS
C/R 28624
TJM 05-09-05

SUGGESTED FITTING INSTRUCTIONS

BOOM MOUNTED MBUCS

1. FIT THE RT. ANGLE WAVEGUIDE (ITEM 6) TO EACH MBUC USING FLANGE KITS (ITEM 8) ENSURING THE GASKET IS CORRECTLY INSTALLED. ENSURE THE 2" LEG OF RT. ANGLE WAVEGUIDE IS CONNECTED TO THE MBUC.

2. MOUNT BOTH MBUCS TO THE RAILS (ITEM 1) USING THE HARDWARE SHOWN (ITEMS 2, 10, 11, 12 & 13). DO NOT TIGHTEN THE NUTS YET.

3. FIT WAVEGUIDE RELAY (ITEM 4) BETWEEN THE TWO RT. ANGLE PIECES.

4. TIGHTEN THE MBUC MOUNTING HARDWARE CAREFULLY TO MINIMISE THE STRESS ON THE WAVEGUIDE.

5. FIT TERMINATION (ITEM 7) TO THE 2"X2" H-PLANE BEND (ITEM 16) ENSURING THAT THE GROOVED FLANGE OF ITEM 16 IS MATCHED TO THE TERMINATION. USE A FLANGE KIT (ITEM 15) AT THIS INTERFACE. AFTERWARDS, FIT THIS ASSEMBLY TO THE WAVEGUIDE RELAY (ITEM 4) USING A FLANGE KIT (ITEM 15).

6. FIT THE COMPLETED ASSEMBLY TO THE UNDERSIDE OF THE ANTENNA BOOM. USE THE PAIR OF HOLES WHICH WILL GIVE THE CLOSEST FIT TO THE BOOM SECTION AND SECURE USING THE MOUNTING CHANNELS (ITEM 3) AND HARDWARE (ITEMS 9, 11, 12 & 13).

7. CUT THE THREADED RODS (ITEM 9) TO LENGTH AS REQUIRED.

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No.	CODAN P/No.	QUANTITY
1	RAIL, MOUNTING	-	-	05-07431	2
2	SPACER, ø12 x 120mm	-	-	05-07432	8
3	BRACKET, MOUNTING	-	-	05-07497	2
4	RELAY, 4 PORT WR75 WAVEGUIDE	SECTOR MICROW	75EDMS	78-18008	1
5	MBUC	-	-	8925	2
6	WAVEGUIDE BEND 90° WR75 3.2" x 2"	AMC	HW1206-F1/F1-3.2x2.0B	78-23019	2
7	WAVEGUIDE TERMINATION 75W WR75	AMC	MFT206-F1-B	78-23021	1
8	FLANGE KIT, WR75, UNIVERSAL	-	-	15-40174	1
9	ROD THREADED, M8 x 170mm	-	-	05-06881	4
10	HEX HD SCREW, M8 x 150mm	-	-	32-00830-080	8
11	WASHER, FLAT, M8	-	-	32-00801-080	20
12	WASHER, SPRING, M8	-	-	32-00801-280	16
13	HEX NUT, M8	-	-	32-00800-080	20
14	FLANGE KIT, WR75, THIN 25mm SCR	-	-	15-40206	2
15	FLANGE KIT, WR75, THICK GROOVE	-	-	15-40172	4
16	WAVEGUIDE BEND, 90 DEG, WR75 2"x2"	-	-	78-23055	1

NOTE: EXTRA FLANGE KIT (ITEM 8) PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 4)

DIMENSIONS IN mm

FILE Name
15\42023E_2.DWG

0.2 x 45° RD.2 max.

MATERIAL

FINISH

		SCALE
DRN	BT	1:2
CHKD	NP	DATE 13-08-04
APPD	NP	17-08-04
		12-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

A1

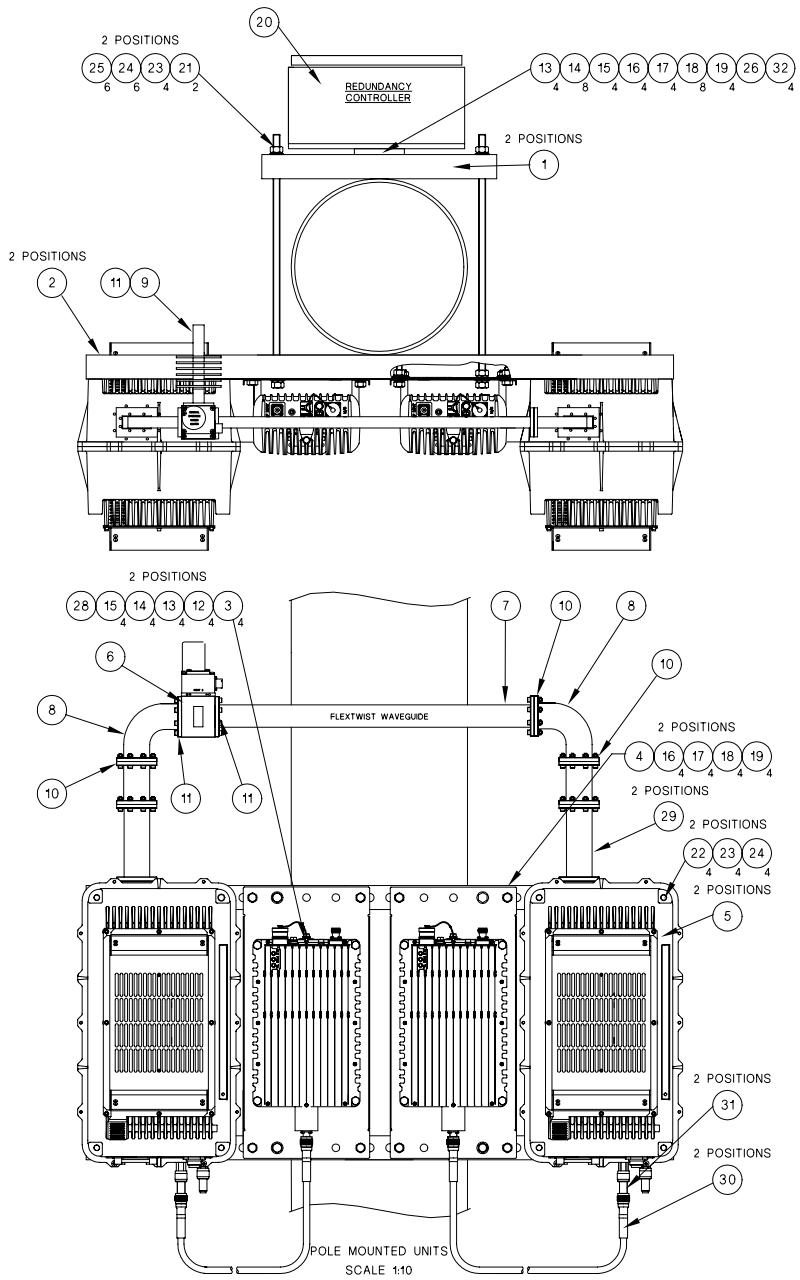
TITLE
FITTING INSTRUCTIONS
25W Ku-BAND MBUC
REDUNDANCY SYSTEM

ISS 2

DRAWING/DOC NO.
15-42023-001

SHT. 5 OF 5

DO NOT SCALE



ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No	CODAN P/No	QTY
1	SLOTTED CHANNEL, 400mm	-	-	05-07616	2
2	SLOTTED CHANNEL, 1000mm	-	-	05-07117	2
3	SPACER, 65mm	-	-	05-07273	8
4	BRACKET, LBUC MOUNTING.	-	-	05-07430	2
5	HIGH POWER SSPA	-	-	5760/5712H	2
6	RELAY, 4 PORT WR137 WAVEGUIDE	SECTOR MICROW	3EGMS	78-18005-002	1
7	WAVEGUIDE, FLEXTWIST WR137, 18"	AMC	FLT202-G/G-18-B	78-23048	1
8	WAVEGUIDE BEND, 90° WR137, 3" x 3"	AMC	202HB-G/G-3X3-B	78-23011-001	2
9	WAVEGUIDE TERMINATION WR137, 300W	AMC	MPT-202-G-1A	78-23027	1
10	FLANGE KIT, WR137 FULL, c/w NUT	-	-	15-40096	3
11	FLANGE KIT, WR137 FULL, 12mm SCR	-	-	15-40123	4
12	M8 x 90 HEX SCREW	-	-	32-00890-080	8
13	M8 SPRING WASHER	-	-	32-00801-280	12
14	M8 FLAT WASHER	-	-	32-00801-080	16
15	M8 HEX NUT	-	-	32-00800-080	12
16	M10 x 40 HEX SCREW	-	-	32-01040-080	12
17	M10 SPRING WASHER	-	-	32-01001-280	12
18	M10 FLAT WASHER	-	-	32-01001-080	16
19	M10 HEX NUT	-	-	32-01000-080	12
20	REDUNDANCY CONTROLLER	-	-	08-06081-001	1
21	THREADED STUD M12 x 500mm	-	-	32-01299-980	4
22	M12 SOC HD CAP SCREW	-	-	32-01225-280	8
23	WASHER, M12 304 SS, SPRING	-	-	32-01201-280	16
24	WASHER, M12 304 SS FLAT	-	-	32-01201-080	20
25	NUT, M12 304 SS, HEX	-	-	32-01200-080	12
26	BRACKET, WIDE SPACING	-	-	05-07264	1
27	ALLEN KEY 10mm A/F	-	-	75-31400-005	1
28	LBUCs	-	-	6700 SERIES	2
29	W/G FILTER	-	-	78-06041	2
30	CABLE, COAX 50 Ohm N-N PLUG 0.6m	-	-	08-05366-006	2
31	ATTENNUATOR, 30dB, 10W, 18GHz	WEINSCHEL	23-30-34	78-01002	2
32	M8X20 HEX SCREW	-	-	32-00804-180	4

NOTE: EXTRA FLANGE KIT (ITEM 11) IS PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 6).

SUGGESTED FITTING INSTRUCTIONS:

1. FIT THE TWO LBUCS (ITEMS 28) TO THE LBUC MOUNTING BRACKETS (ITEMS 4) USING THE M8 HARDWARE SHOWN (ITEMS 3, 12, 13, 14 & 15). TIGHTEN ALL NUTS.

2. FIT THESE LBUC ASSEMBLIES TO THE TWO MOUNTING RAILS (ITEMS 2) AS SHOWN USING THE M10 HARDWARE PROVIDED (ITEMS 16, 17, 18 & 19). DO NOT FULLY TIGHTEN THE NUTS. ENSURE THE OPEN SLOTS IN THE RAILS (ITEM 2) POINT AWAY FROM THE LBUCS (ITEMS 28).

3. FIT A RIGHT ANGLE (ITEM 8) AND A FLEXGUIDE PIECE (ITEM 7) TOGETHER USING A FLANGE KIT (ITEM 10), ENSURING THAT THE GASKET IS INSTALLED CORRECTLY. THEN FIT THE OTHER END OF THE FLEXGUIDE TO THE WAVEGUIDE RELAY (ITEM 6) USING A FLANGE KIT (ITEM 11), ENSURING THAT THE GASKET IS INSTALLED CORRECTLY. FIT THE OTHER RIGHT ANGLE PIECE (ITEM 8) TO THE WAVEGUIDE RELAY (ITEM 6) USING A FLANGE KIT (ITEM 11). FINALLY, FIT THE HIGH POWER TERMINATION (ITEM 9) TO THE WAVEGUIDE RELAY (ITEM6), USING A FLANGE KIT (ITEM 11). IT IS ASSUMED THAT AT THIS STAGE, THE W/G FILTERS (ITEMS 29) ARE ALREADY FITTED TO THE HPSSPAS (ITEMS 5), USING THE FLANGE KITS SUPPLIED WITH THE HPSSPAS. THE W/G FILTERS MAY BE OMITTED IF CE COMPLIANCE IS NOT REQUIRED.

4. FIT THE WIDE SPACING BRACKET (ITEM 26) BETWEEN THE TWO RAILS (ITEM 1) USING THE M10 HARDWARE PROVIDED (ITEMS 16, 17, 18 & 19). ENSURE THE OPEN SLOT IN THE RAIL POINTS AWAY FROM THE BRACKET AND THAT THE FOLDED EDGES ON THE BRACKET POINTS TOWARDS THE RAILS.

5. FIT THE LBUC ASSEMBLY TO THE POLE USING THE WIDE SPACING BRACKET ASSEMBLY, THE THREADED STUDS (ITEM 21) AND MISCELLANEOUS M12 HARDWARE (ITEMS 23, 24 & 25). USE THE HOLE SPACING THAT ALLOWS FOR THE THREADED STUDS AS CLOSE TO THE POLE AS POSSIBLE.

6. FIT THE HSSPAS (ITEMS 5) TO THE RAILS AS SHOWN USING THE NECESSARY M12 HARDWARE (ITEMS 22, 23 & 24). ALSO, FIT THE REDUNDANCY CONTROLLER TO THE WIDE SPACING BRACKET. USING THE M8 HARDWARE PROVIDED (ITEMS 13, 14 15 & 32).

7. FIT THE WAVEGUIDE RELAY ASSEMBLY TO THE HPSSPAS (ITEMS 5) AS SHOWN USING FLANGE KITS (ITEMS 10), ENSURING THE GASKETS ARE INSTALLED CORRECTLY. ENSURE THAT NO UNDUE STRAIN IS APPLIED TO THE WAVEGUIDE COMPONENTS. THE HIGH POWER TERMINATION SHOULD CLEAR THE POLE. FULLY TIGHTEN ALL NUTS.

8. INSTALL THE COAXIAL CABLES (ITEM 30) BETWEEN THE LBUCS AND HPSSPAS AFTER FITTING THE 30dB ATTENUATORS (ITEM 31) TO THE HPSSPAS.

9. SEAL ALL CONNECTORS WITH SELF AMALGAMATING TAPE. ENSURE TAPE STARTS AT THE CABLE SHEATH AND CONTINUES ALL THE WAY TO THE FIXED CONNECTOR BODY OF THE EQUIPMENT.

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2:
PARTS LIST UPDATED & NOTE RE ITEM 11 ADDED.
FITTING INSTRUCTION NOTE 3 MODIFIED.
ITEMS 10 & 11 BALLOONS MOVED FOR CLARITY
C/R 30238
GHZ 18-5-06

FILE Name
15\42024A_2.DWG

0.2 x 45° R0.2 max

MATERIAL

FINISH

DIMENSIONS IN mm

SCALE 1:1

DRN	BT	30-08-04
CHKD	NP	31-08-04
APPD	NP	12-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED

LINEAR	±0.25
ANGULAR	±2°
FLATNESS	±0.2
ROUGHNESS 1.6	(umRa)

CODAN

A2

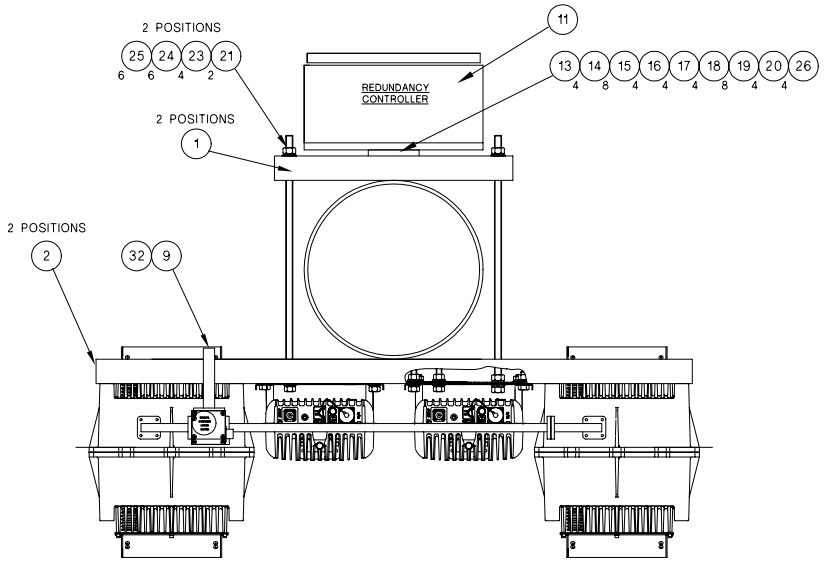
TITLE
FITTING INSTRUCTIONS
C-BAND HIGH-POWER BUC
REDUNDANCY SYSTEM

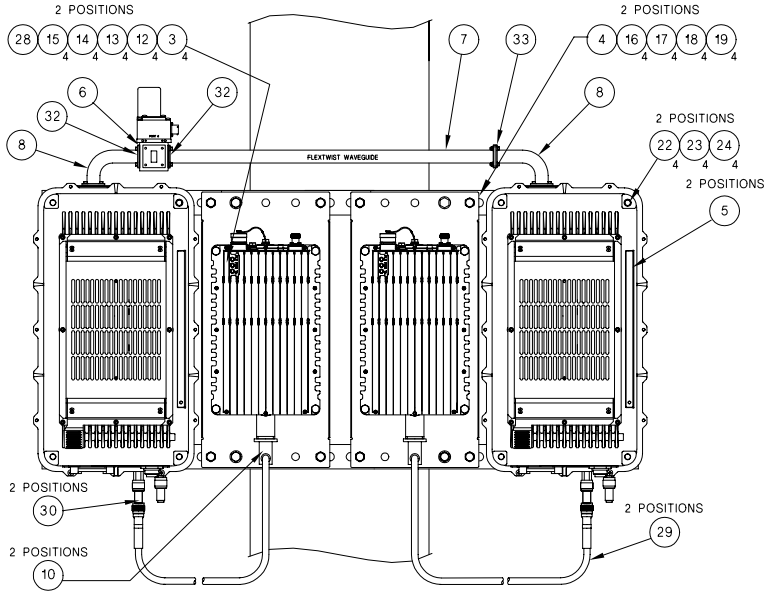
ISS 2

DRAWING/DOC NO.
15-42024-001

SHT. 1 OF 2

DO NOT SCALE





POLE MOUNTED UNITS
SCALE 1:10

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/No	CODAN P/No	QTY
1	SLOTTED CHANNEL, 400mm	-	-	05-07616	2
2	SLOTTED CHANNEL, 1000mm	-	-	05-07117	2
3	SPACER, 65mm	-	-	05-07273	8
4	BRACKET, LBUC MOUNTING.	-	-	05-07430	2
5	HIGH POWER SSPA	-	-	5940	2
6	RELAY, 4 PORT WR75 WAVEGUIDE	SECTOR MICROW	75EOMS	78-18008	1
7	WAVEGUIDE, FLEXGUIDE, WR75, 18"	AMC	FLT206-F1/F2-18-B	78-23029	1
8	WAVEGUIDE BEND, 90° WR75, 3.2" x 2"	AMC	HM206-F1/F1-3.2X2.0-B	78-23019	2
9	WAVEGUIDE TERMINATION, 75W WR75	AMC	MPT206-F1-B	78-23021	1
10	ADAPTOR, WR75 TO N-TYPE	AMC	AML-N-206-F1-B-2.0-A	78-01030	2
11	REDUNDANCY CONTROLLER	-	-	08-06081-001	1
12	M8 x 90 HEX SCREW	-	-	32-00890-080	8
13	M8 SPRING WASHER	-	-	32-00801-280	12
14	M8 FLAT WASHER	-	-	32-00801-080	16
15	M8 HEX NUT	-	-	32-00800-080	12
16	M10 x 40 HEX SCREW	-	-	32-01040-080	12
17	M10 SPRING WASHER	-	-	32-01001-280	12
18	M10 FLAT WASHER	-	-	32-01001-080	16
19	M10 HEX NUT	-	-	32-01000-080	12
20	M8 x 20 HEX SCREW	-	-	32-00804-180	4
21	THREADED STUD M12 x 500mm	-	-	32-01299-980	4
22	M12 SOC HD CAP SCREW	-	-	32-01225-280	8
23	M12 SPRING WASHER	-	-	32-01201-280	16
24	M12 FLAT WASHER	-	-	32-01201-080	20
25	M12 HEX NUT	-	-	32-01200-080	12
26	BRACKET, WIDE SPACING	-	-	05-07264	1
27	ALLEN KEY 10mm A/F	-	-	75-31400-005	1
28	LBUCs	-	-	6900 SERIES	2
29	CABLE, HELIAX 10-15GHz N-N 0.7m	-	-	08-05597-007	2
30	ATTENNUATOR, 30dB, 5W, 18GHz	WEINSCHEL	23-30-34	78-01002	2
31	FLANGE KIT, WR75, UNIVERSAL	-	-	15-40174	1
32	FLANGE KIT, WR75, THICK GROOVE	-	-	15-40172	3
33	FLANGE KIT, WR75, THIN GROOVE	-	-	15-40173	1

NOTE: EXTRA FLANGE KIT (ITEM 31) IS PROVIDED TO SECURE FLEX WAVEGUIDE TO ANTENNA FEED TO RELAY (ITEM 6).

SUGGESTED FITTING INSTRUCTIONS:

1. FIT THE TWO LBUCS (ITEMS 28) TO THE LBUC MOUNTING BRACKETS (ITEMS 4) USING THE M8 HARDWARE SHOWN (ITEMS 3, 12, 13, 14 & 15). TIGHTEN ALL NUTS.
2. FIT THESE LBUC ASSEMBLIES TO THE TWO MOUNTING RAILS (ITEMS 2) AS SHOWN USING THE M10 HARDWARE PROVIDED (ITEMS 16, 17, 18 & 19). DO NOT FULLY TIGHTEN THE NUTS. ENSURE THE OPEN SLOTS IN THE RAILS (ITEM 2) POINT AWAY FROM THE LBUCS (ITEMS 28).
3. FIT THE 3.2" LEG OF A RIGHT ANGLE (ITEM 8) AND A FLEXGUIDE PIECE (ITEM 7) TOGETHER USING A FLANGE KIT (ITEM 33), ENSURING THAT THE GASKET IS INSTALLED CORRECTLY. THEN FIT THE OTHER END OF THE FLEXGUIDE TO THE WAVEGUIDE RELAY (ITEM 6) USING A FLANGE KIT (ITEM 32 ENSURING THAT THE GASKET IS INSTALLED CORRECTLY. FIT THE OTHER 3.2" LEG OF RIGHT ANGLE PIECE (ITEM 8) TO THE WAVEGUIDE RELAY (ITEM 6) USING A FLANGE KIT (ITEM 32). FINALLY, FIT THE HIGH POWER TERMINATION (ITEM 9) TO THE WAVEGUIDE RELAY (ITEM 6), USING A FLANGE KIT (ITEM 32).
4. FIT THE WIDE SPACING BRACKET (ITEM 26) BETWEEN THE TWO RAILS (ITEM 1) USING THE M10 HARDWARE PROVIDED (ITEMS 16, 17, 18 & 19). ENSURE THE OPEN SLOT IN THE RAIL POINTS AWAY FROM THE BRACKET AND THAT THE FOLDED EDGES ON THE BRACKET POINTS TOWARDS THE RAILS
5. FIT THE LBUC ASSEMBLY TO THE POLE USING THE WIDE SPACING BRACKET ASSEMBLY, THE THREADED STUDS (ITEM 21) AND MISCELLANEOUS M12 HARDWARE (ITEMS 23, 24 & 25). USE THE HOLE SPACING THAT ALLOWS FOR THE THREADED STUDS AS CLOSE TO THE POLE AS POSSIBLE.
6. FIT THE HSSPAS (ITEMS 5) TO THE RAILS AS SHOWN USING THE NECESSARY M12 HARDWARE (ITEMS 22, 23 & 24). ALSO, FIT THE REDUNDANCY CONTROLLER TO THE WIDE SPACING BRACKET. USING THE M8 HARDWARE PROVIDED (ITEMS 13, 14 15 & 20).
7. FIT THE WAVEGUIDE RELAY ASSEMBLY TO THE HPSSPAS (ITEMS 5) AS SHOWN USING THE FLANGE KITS SUPPLIED WITH THE HPSSPAS, ENSURING THE GASKETS ARE INSTALLED CORRECTLY. ENSURE THAT NO UNDUE STRAIN IS APPLIED TO THE WAVEGUIDE COMPONENTS. THE HIGH POWER TERMINATION SHOULD CLEAR THE POLE. FULLY TIGHTEN ALL NUTS.
8. INSTALL THE COAXIAL CABLES (ITEM 29) BETWEEN THE LBUCS AND HPSSPAS AFTER FITTING THE 30dB ATTENUATORS (ITEM 30) TO THE HPSSPAS AND THE WR75 TO N ADAPTORS (ITEM 10) TO THE BUCS.
9. SEAL ALL CONNECTORS WITH SELF AMALGAMATING TAPE. ENSURE TAPE STARTS AT THE CABLE SHEATH AND CONTINUES ALL THE WAY TO THE FIXED CONNECTOR BODY OF THE EQUIPMENT.

ISSUE 1
CHANGE TITLE
C/R 28224
NP 12-10-04

ISSUE 2:
PARTS LIST MODIFIED & NOTE RE ITEM 21 ADDED.
FITTING INSTRUCTION NOTES 3 & 8 MODIFIED
ITEMS 32 & 33 BALLOONS MOVED FOR CLARITY
C/R 30238
GHZ 18-5-06

FILE Name
15\42024B_2.DWG

0.2 x 45° R0.2 max

MATERIAL

FINISH

DIMENSIONS IN mm

SCALE 1:1

DRN	BT	DATE 31-08-04
CHKD	NP	31-08-04
APPD	NP	12-10-04

TOLERANCES
UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

TITLE
FITTING INSTRUCTIONS
Ku-BAND HIGH-POWER BUC
REDUNDANCY SYSTEM

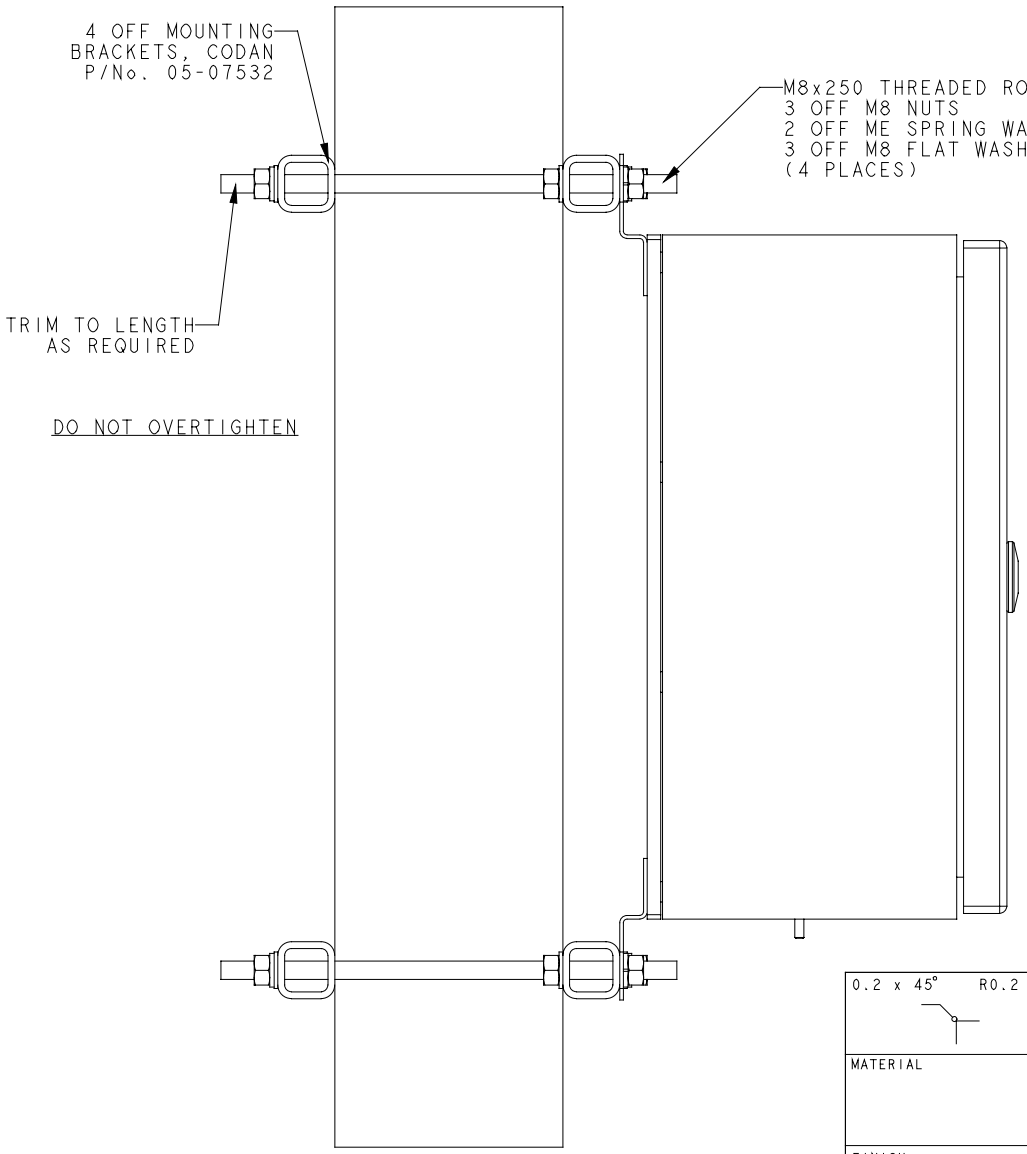
A2

ISS 2

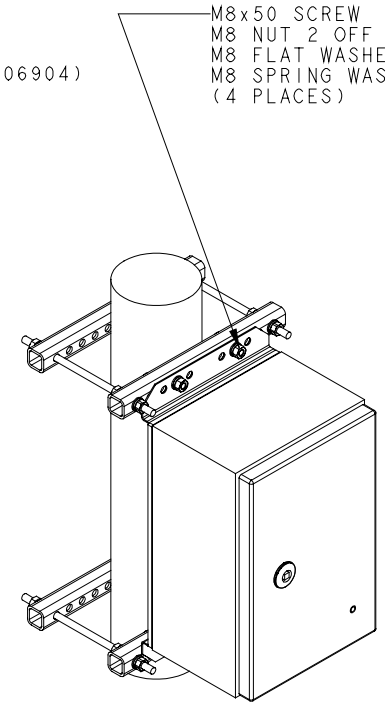
DRAWING/DOC NO. 15-42024-001

SHT. 2 OF 2

DO NOT SCALE



SCALE 1:2



POWER SUPPLY VIEW

SCALE 1:5

ISSUE 2:
BALLOONS DELETED
PART DESCR ADDED
C/R 24686
DB 08-08-96

ISSUE 3:
TITLE WAS "SUPPLY MODULE/ ETC" 5580/ 5581 POWER SUPPLY
ISO VIEW ADDED.
C/C25153
28-10-97 DB

ISSUE 4:
TITLES MADE GENERIC
C/R 26542
02-08-01 GHZ

ISSUE 5:
NEW MOUNTING BRACKETS ADDED
CR 30077
GHZ 31-03-06

DIMENSIONS IN mm

0.2 x 45° R0.2 max

MATERIAL

FINISH

SCALE 1:1

DRN	DB	DATE 28-06-95
CHKD	DBr	29-06-95
APPD	CM	01-11-95

TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ± 0.2
ANGULAR ± 0.5°
FLATNESS ± 0.2
ROUGHNESS 1.6 µmRa

CODAN

A3

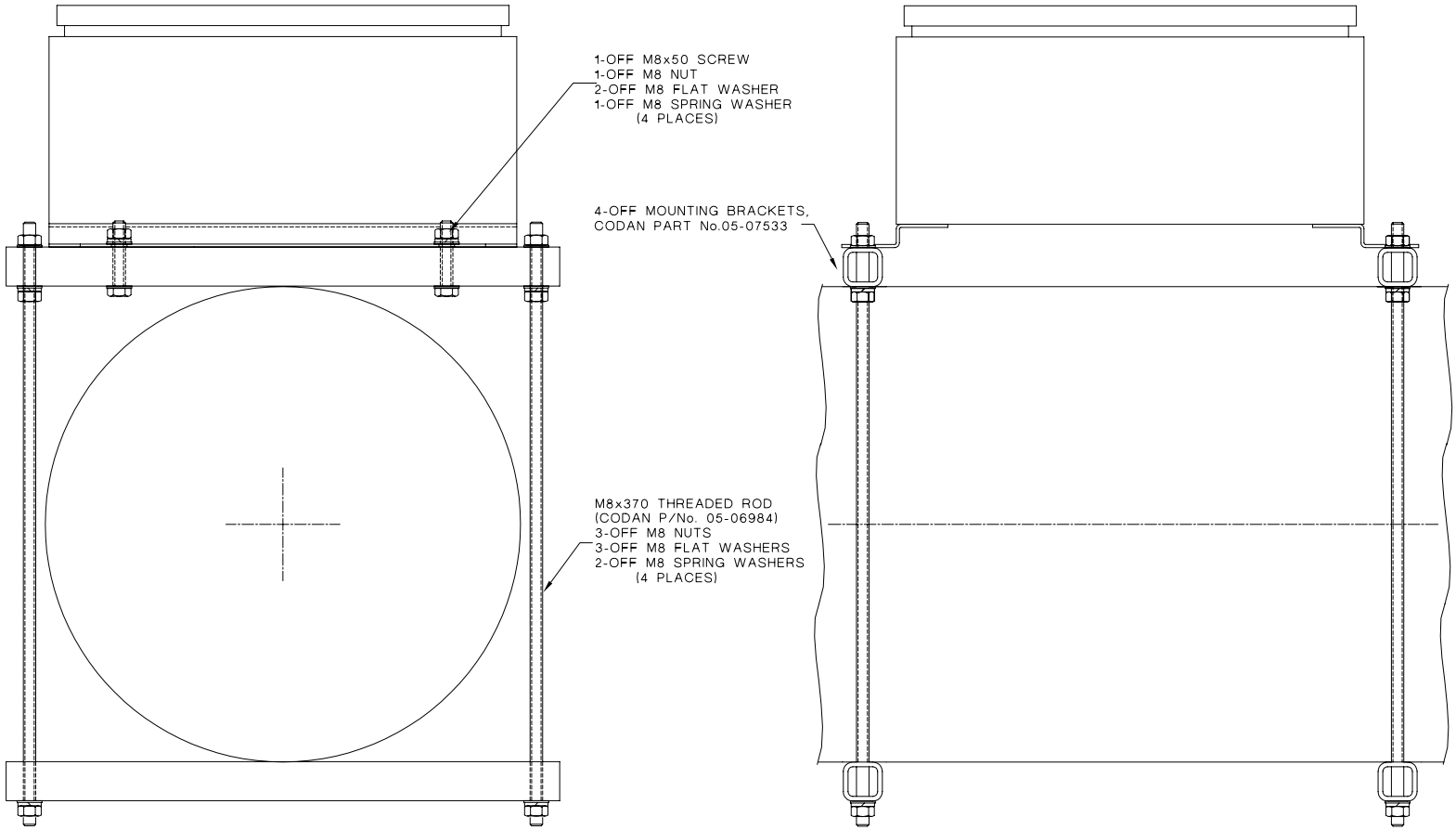
TITLE
POWER SUPPLY/RED. CONTROLLER FITTING INSTRUCTIONS

ISS 5

DRAWING/DOC NO. 15-40128-001

SHT.1 OF 1

DO NOT SCALE



ISSUE B
TITLE WAS 'FITTING INSTRUCTION, SUPPLY/ CONTROLLER 12" POLE', NOTE 2 ADDED.
C/R 25308
1-4-98 DB

ISSUE 2
NEW MOUNTING BRACKETS ADDED
C/R 28686
TJM 05-09-05

NOTES:

1. DO NOT OVERTIGHTEN.
2. FOR HIGH POWER SSPA's, IT MAY BE NECESSARY TO USE M12 FLAT WASHERS IN ADDITION TO THE M8 HARDWARE AT THEIR MOUNTING POINTS (4 PLACES).

REMOVE BURRS & SHARP EDGES

DIMENSIONS IN mm

FILE No. 15\40147__2.DWG

CODAN

MATERIAL

FINISH

SCALE 1:2

DRN	SMC	DATE 22/10/96
CHKD	DB	23-10-96
APPD	DJM	13-08-98

TOLERANCES UNLESS OTHERWISE STATED

2 PLACES DEC.	±0.25
1 PLACE DEC.	±0.5
0 PLACE DEC.	±1
ANGULAR	±2°

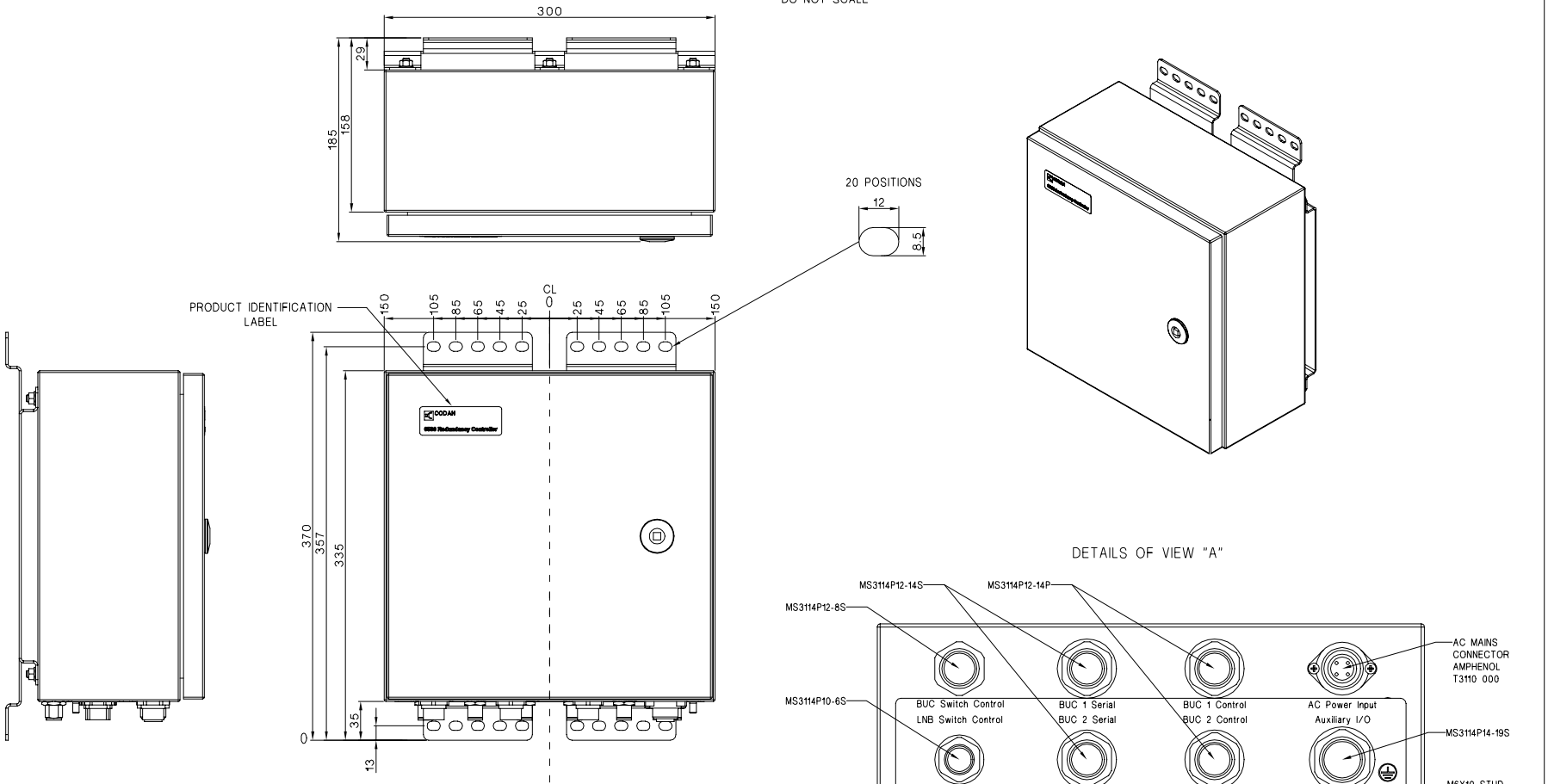
TITLE
FITTING INSTRUCTION, PSU/CONTROLLER/ SSPA 12" POLE

DRAWING/DOC NO.
A2 15-40147-001

ISS 2

SHT. 1 OF 1

DO NOT SCALE



DETAILS OF VIEW "A"

DIMENSIONS IN mm

0.2 x 45° R0.2 max.		SCALE	1:2
MATERIAL	DRN BT	DATE	01-09-04
	CHKD NP		02-09-04
FINISH	APPD		

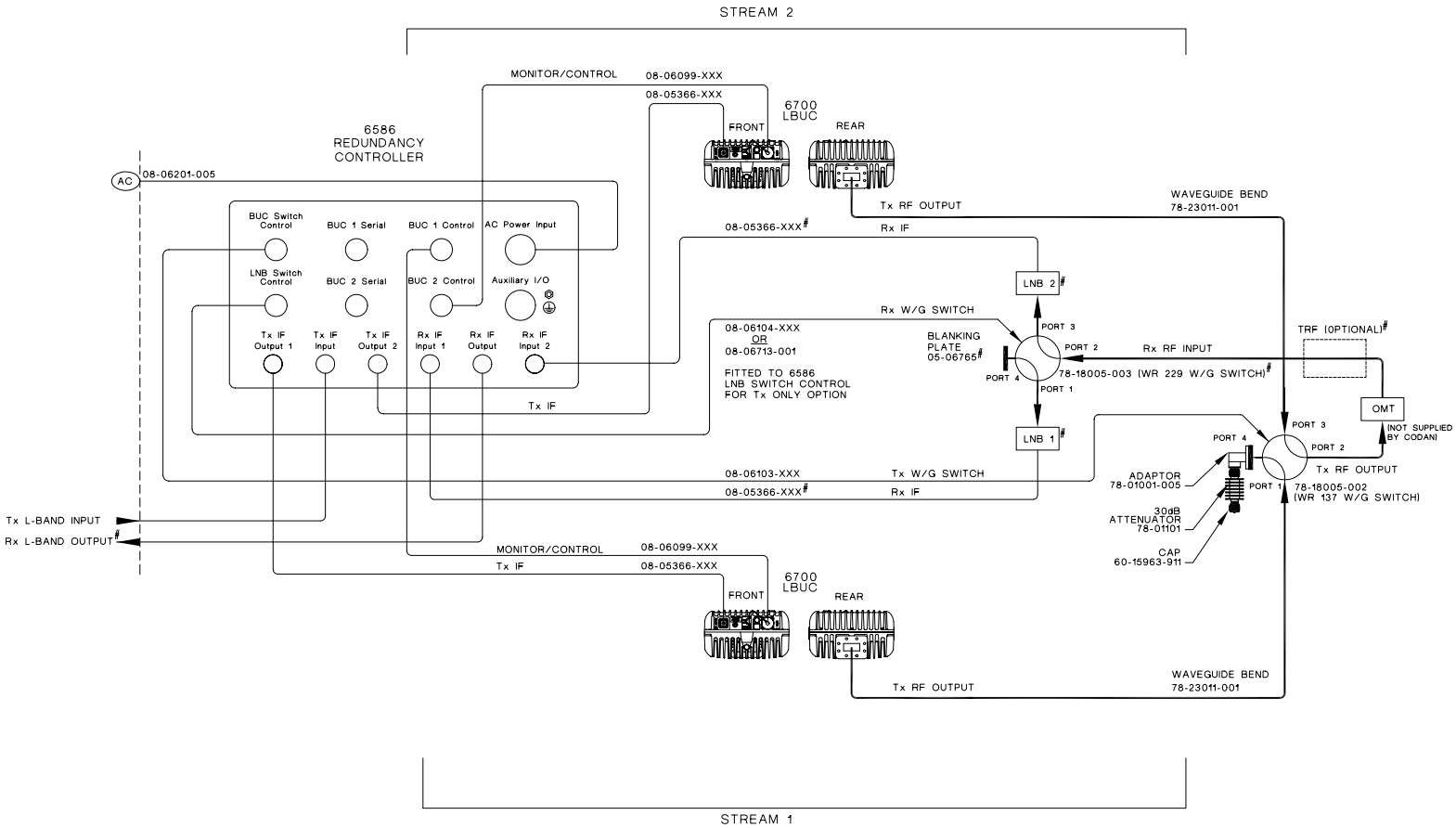
TOLERANCES UNLESS OTHERWISE SPECIFIED
LINEAR ±0.25
ANGULAR ±2°
FLATNESS ±0.2
ROUGHNESS 1.6 (umRa)

CODAN

TITLE	ICD, BUC REDUNDANCY CONTROLLER, 6586	
A1		
ISS A	DRAWING/DOC NO. 01-01205	SHT. 1 OF 1

FILE Name 01\01205_A.DWG

DO NOT SCALE



NOTES:
1. # DENOTES NOT REQUIRED FOR Tx ONLY OPTION.

DIMENSIONS IN mm

CHANGE REQUEST
ISSUE 1 CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205). C/R 28224 NP 06-10-04
ISSUE 2: ATTEN 78-01101 WAS 78-01005-001 STREAM 1 ADDED C/R 30048 POF 18-10-05
ISSUE 3: NOTE 1 & "#" ADDED. ALT CABLE & NOTE ADDED TO Rx W/G SWITCH CABLE C/R 30034 P.F. 1-3-06

FILE Name
03\01161_3.DWG

N/A		N/A
MATERIAL	-	
	-	
FINISH	-	
	-	

		SCALE 1:2
DRN	BT	DATE 25-08-04
CHKD	NP	31-08-04
APPD	NP	06-10-04

TOLERANCES
UNLESS OTHERWISE SPECIFIED

LINEAR	±0.5
ANGULAR	N/A
FLATNESS	N/A
ROUGHNESS	N/A (umRa)

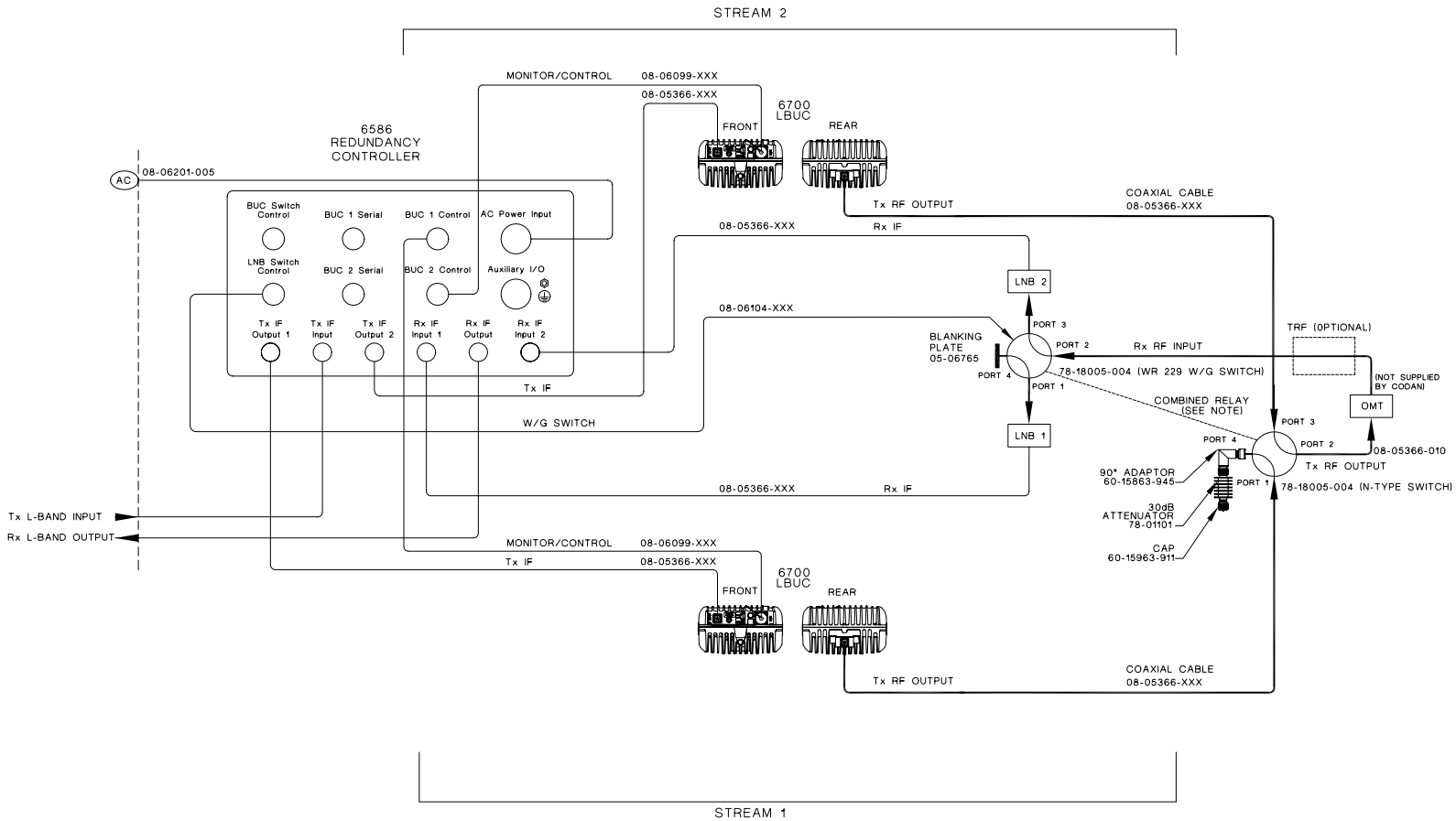
CODAN

A3

TITLE
INTERCONNECTION DRAWING, C-BAND LBUC REDUNDANCY SYSTEM (W/G)

ISS	DRAWING/DOC NO.	SHT. 1 OF 1
3	03-01161	

DO NOT SCALE



NOTES:
1: THE W/G SWITCH (78-18005-004) COMPRISES AN N-TYPE AND W/G SWITCH IN ONE UNIT.
2: NO Tx ONLY OPTION AVAILABLE.

DIMENSIONS IN mm

CHANGE REQUEST
ISSUE 1 CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205). C/R 28224 NP 06-10-04
ISSUE 2: ATTEN 78-01101 WAS 78-01005-001 C/R 30048 POF 18-10-05
ISSUE 3: NOTE 2 ADDED. C/R 30034 P.F. 1-3-06

FILE Name
03\01162__3.DWG

N/A	N/A	
MATERIAL	- -	
FINISH	- -	

		SCALE 1:2
DRN	BT	DATE 25-08-04
CHKD	NP	31-08-04
APPD	NP	06-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED

LINEAR	±0.5
ANGULAR	N/A
FLATNESS	N/A
ROUGHNESS	N/A (umRa)

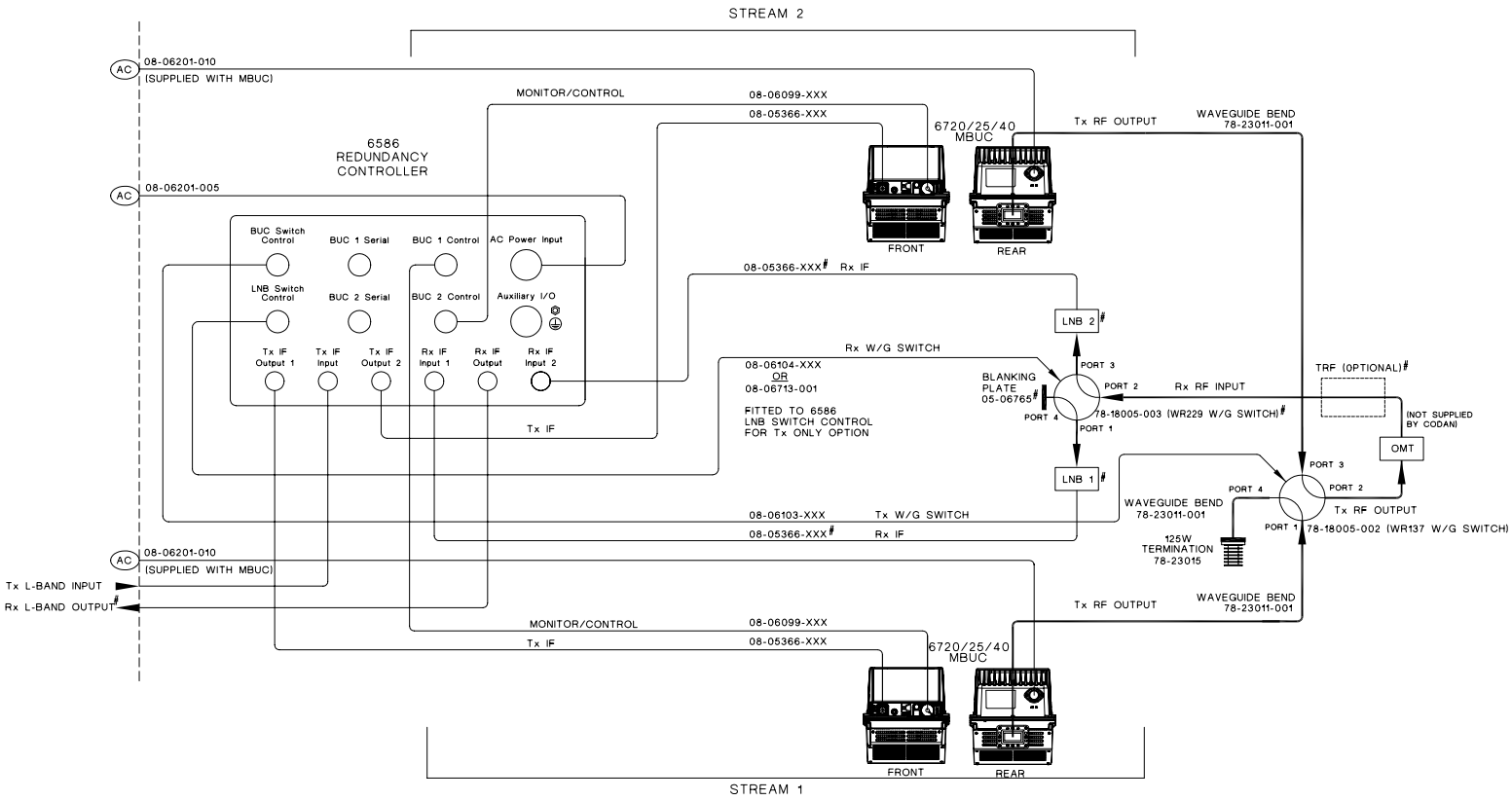
CODAN

A3

TITLE
INTERCONNECTION DRAWING, C-BAND LBUC REDUNDANCY SYSTEM (N-TYPE)

ISS	DRAWING/DOC NO.	SHT. 1 OF 1
3	03-01162	

DO NOT SCALE



NOTES:
1. # DENOTES NOT REQUIRED FOR Tx ONLY OPTION.

CHANGE REQUEST

ISSUE 1
CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205).
C/R 28224
NP 06-10-04

ISSUE 2
SHT 2 ADDED FOR UPDATE FOR NEW MBUCS
C/R 30077
TJM 05-09-05

ISSUE 3
NOTE 1 & "#" ADDED. ALT CABLE & NOTE ADDED TO Rx W/G SWITCH CABLE.
C/R 30034
P.F. 1-3-06

ISSUE 4:
REFER SHT 2
C/R 30238

FILE Name
03\01164A_4.DWG

N/A	N/A	
MATERIAL	-	-
FINISH	-	-

DIMENSIONS IN mm

SCALE 1:2

		DATE
DRN	BT	10-08-04
CHKD	NP	17-08-04
APPD	NP	06-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED

LINEAR	±0.5
ANGULAR	N/A
FLATNESS	N/A
ROUGHNESS	N/A (umRa)

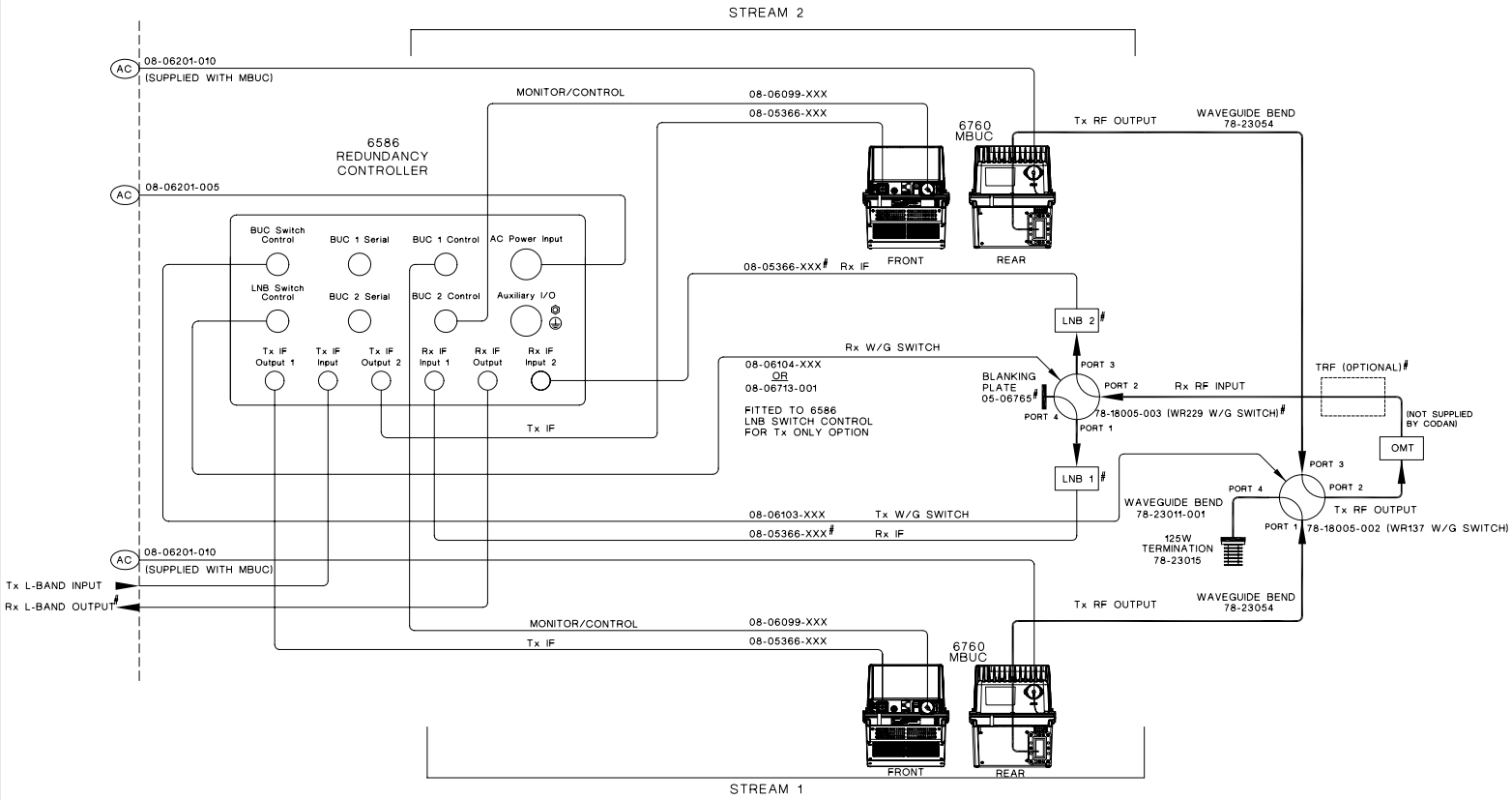
CODAN

A3

TITLE
INTERCONNECTION DRAWING, 20W/25W/40W C-BAND MBUC REDUNDANCY SYSTEM (W/G)

ISS	DRAWING/DOC NO.	SHT. 1 OF 2
4	03-01164	

DO NOT SCALE



NOTES:
1. # DENOTES NOT REQUIRED FOR Tx ONLY OPTION.

DIMENSIONS IN mm

CHANGE REQUEST

ISSUE 1
CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205).
C/R 28224
NP 06-10-04

ISSUE 2
UPDATE FOR NEW MBUCS
C/R 30077
TJM 05-09-05

ISSUE 3
NOTE 1 & "#" ADDED. ALT CABLE & NOTE ADDED TO Rx W/G SWITCH CABLE.
C/R 30034
P.F. 1-3-06

ISSUE 4:
PART No. OF WAVE-GUIDE BENDS WAS 78-23004-001
C/R 30238
GHZ 18-5-06

FILE Name
03\01164B_4.DWG

N/A N/A	SCALE	1:2
MATERIAL - -	DRN BT	DATE 10-08-04
	CHKD NP	17-08-04
FINISH - -	APPD NP	06-10-04
	TOLERANCES UNLESS OTHERWISE SPECIFIED	
	LINEAR	±0.5
	ANGULAR	N/A
	FLATNESS	N/A
	ROUGHNESS	N/A (umRa)

CODAN

A3

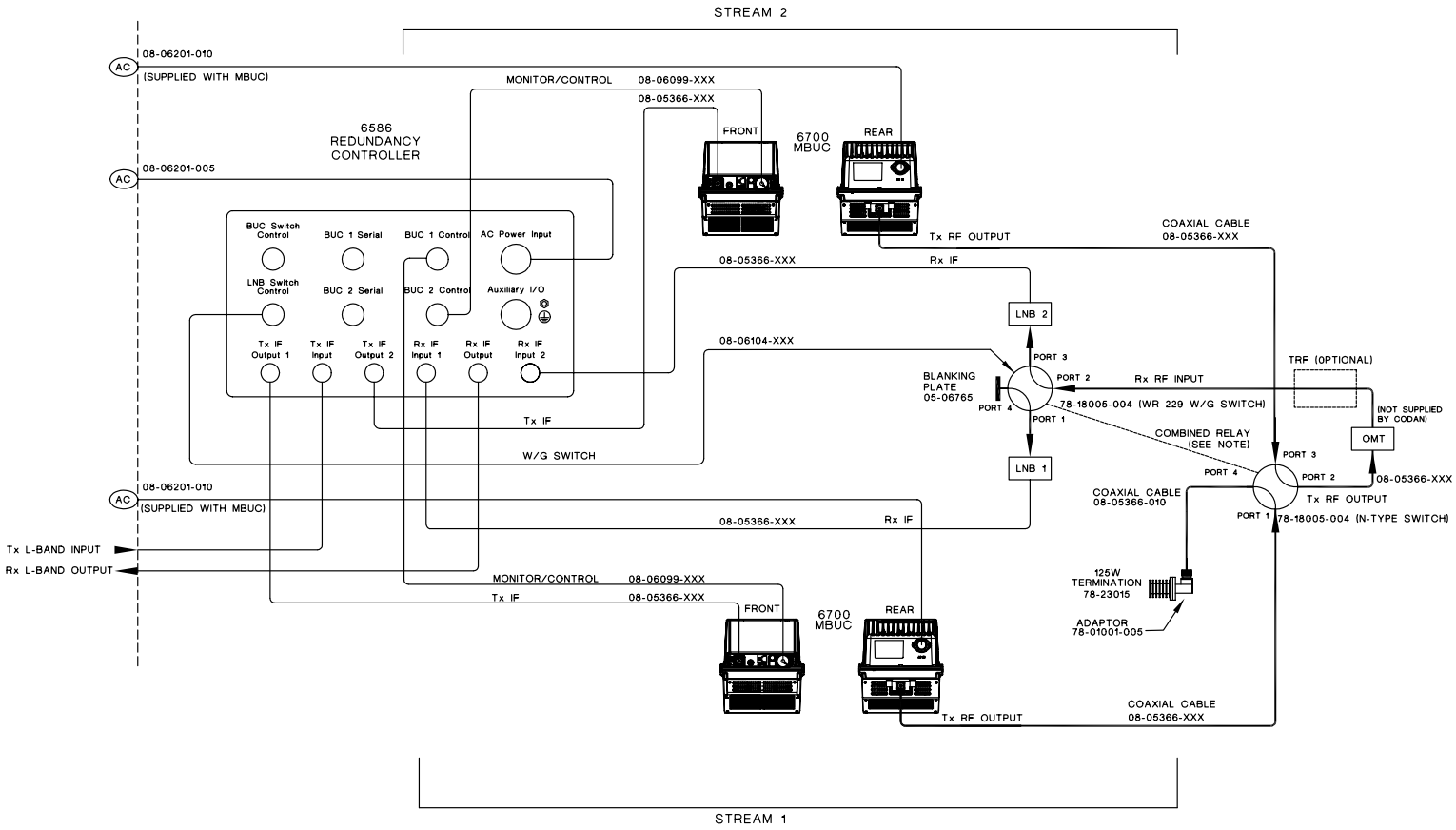
TITLE
INTERCONNECTION DRAWING, 60W C-BAND MBUC REDUNDANCY SYSTEM (W/G)

ISS 4

DRAWING/DOC NO.
03-01164

SHT. 2 OF 2

DO NOT SCALE



NOTES:
1. THE W/G SWITCH (78-18005-004) COMPRISES AN N-TYPE AND W/G SWITCH IN ONE UNIT.
2. NO Tx ONLY OPTION AVAILABLE.

DIMENSIONS IN mm

CHANGE REQUEST

ISSUE 1
CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205).
C/R 28224
NP 06-10-04

ISSUE 1
NOTE 2 ADDED.
C/R 30034
P.F. 1-3-06

FILE Name
03\01165__2.DWG

N/A	N/A	
MATERIAL		
-		
-		
FINISH		
-		
-		

SCALE		1:2
DRN	BT	DATE 12-08-04
CHKD	NP	17-08-04
APPD	NP	06-10-04

TOLERANCES
UNLESS OTHERWISE SPECIFIED

LINEAR	±0.5
ANGULAR	N/A
FLATNESS	N/A
ROUGHNESS	N/A (umRa)

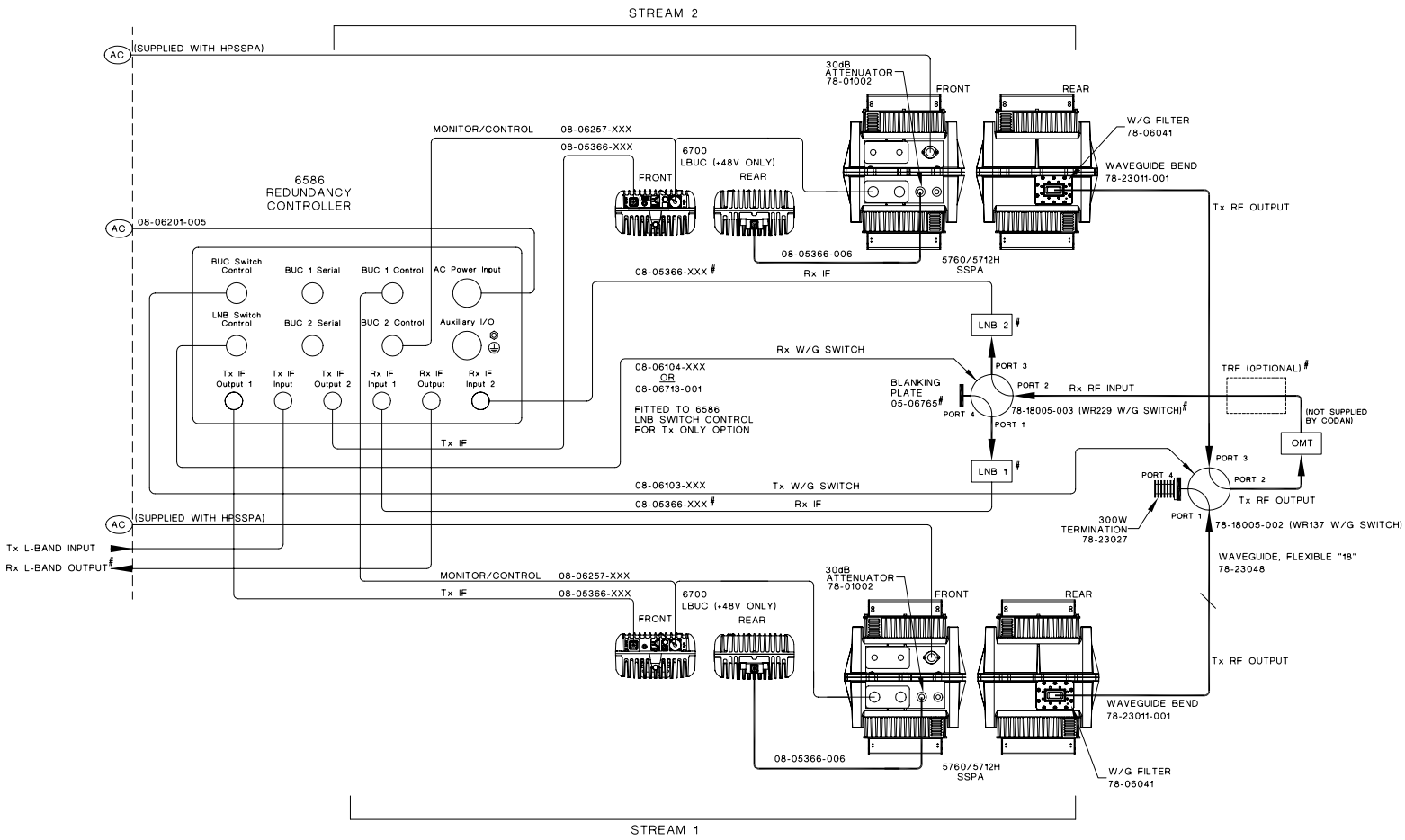
CODAN

A3

TITLE
INTERCONNECTION DRAWING,
C-BAND MBUC
REDUNDANCY SYSTEM (N-TYPE)

ISS	DRAWING/DOC NO.	SHT. 1
2	03-01165	OF 1

DO NOT SCALE



NOTES:
1. # DENOTES NOT REQUIRED FOR Tx ONLY OPTION.

DIMENSIONS IN mm

CHANGE REQUEST

ISSUE 1
CHANGE SIGNAL NAMES TO MATCH 6586 ICD (01-01205).
C/R 28224
NP 06-10-04

ISSUE 2
NOTE 1 & "#" ADDED.
ALT Rx W/G SWITCH CABLE & NOTE ADDED.
C/R 30034
P.F. 1-3-06

ISSUE 3:
PART No. OF ATTENUATORS WAS 78-01065
PART No. OF W/G FILTERS WAS 14-0465
C/R 30238
GHZ 18-5-06

FILE Name
03\01167__3.DWG

N/A	N/A	
MATERIAL		
-		
-		
FINISH		
-		
-		

		SCALE 1:2
DRN	BT	DATE 17-08-04
CHKD	NP	31-08-04
APPD	NP	06-10-04

TOLERANCES UNLESS OTHERWISE SPECIFIED

LINEAR	±0.5
ANGULAR	N/A
FLATNESS	N/A
ROUGHNESS	N/A (umRa)

CODAN

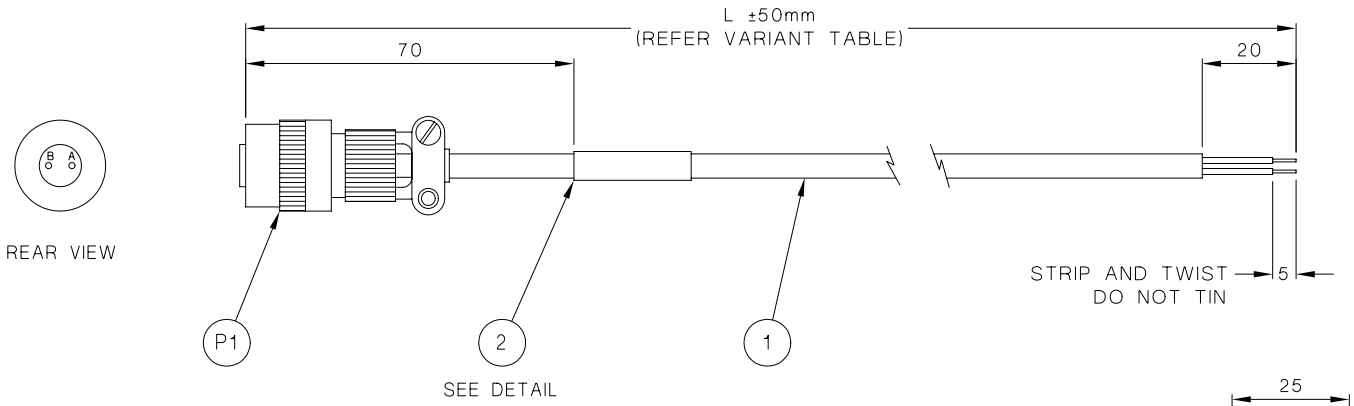
A3

TITLE: INTERCONNECTION DRAWING, C-BAND HIGH-POWER BUC REDUNDANCY SYSTEM

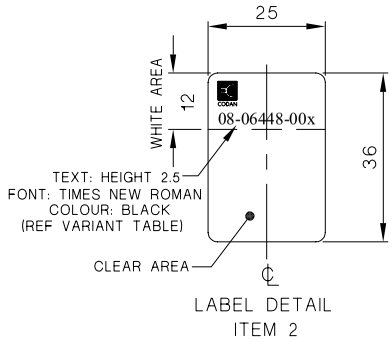
ISS	DRAWING/DOC NO.	SHT.
3	03-01167	1 OF 1

DO NOT SCALE

ISSUE B:
VARIANT TABLE ADDED.
C/R 28655
DMT 16-08-05



COLOUR	FROM	TO
RED	P1/A	-
BLACK	P1/B	-



LABEL DETAIL
ITEM 2

PARTS LIST

ITEM	DESCRIPTION	MANUFACTURER	MANUFACTURER'S P/N	QTY
P1	CONNECTOR	VGL ALLIED CONNECTORS	62IN-16F-8-2S	1
1	CABLE 2 x 0.85mm^2 RED/BLACK	TYCAB	AWC 216026	A/R
2	LABEL	EPC	E151-SB5S	1

VARIANT TABLE

ASSEMBLY	CABLE LENGTH L
08-06448-001	1 METRE
08-06448-005	5 METRES

NOTES:
1. COMPLETED ASSEMBLY SHALL CONFORM TO THE REQUIREMENTS OF EU DIRECTIVE 2002/95/EC ON ROHS NO LATER THAN 01 JULY 2006. MANUFACTURERS SHALL SUPPLY A COMPLIANCE CERTIFICATE TO CODAN AS PROOF.

DIMENSIONS IN mm

ASSY: 08-06448 - (REFER VARIANT TABLE)

FILE Name
08\06448_B.DWG

0.2 x 45° R0.2 max

MATERIAL

FINISH

SCALE 1:1

DRN	DOW	DATE 01-08-05
CHKD	DEP	01-08-05
APPD	-	

TOLERANCES
UNLESS OTHERWISE SPECIFIED

LINEAR	±2
ANGULAR	±2°
FLATNESS	±0.2
ROUGHNESS 1.6	(umRa)

CODAN

A3

TITLE
CABLE, LBUC
EXTERNAL DC I/P

ISS B

DRAWING/DOC NO.
08-06448

SHT. 1 OF 1

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