


	<p><b>Atacama Large Millimeter / submillimeter Array</b></p>	
--	--	--

## **ALMA-05.11.35.91-0001-A-REP**

### **Incoming Inspection Report for Symmetricon XL-GPS SN1331C00739**


Version A  
2013 Sep 12

<b>Prepared By:</b>	<b>Organization</b>	<b>Signature</b>
R. Treacy	APP CORL PA	
<b>Approved By:</b>	<b>Organization</b>	<b>Signature</b>
R.Lacasse	APP CORL Lead	

	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 2 of 13
	<b>Incoming Inspection          Report for Symmetricon          XL-GPS SN1331C00739</b>	


## Change Record

Version	Date	Reason/Initiation/Remarks
A1	2013-Sep-12	Initial draft

	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 3 of 13
	<b>Incoming Inspection          Report for Symmetricon          XL-GPS SN1331C00739</b>	

## Table of Contents

1. SCOPE .....	4
2. REFERENCE DOCUMENTS .....	6
3. INITIAL CONDITION AND CHECKOUT.....	6
3.1. Received Condition.....	6
3.2. Communication Interfaces .....	6
3.3. Initial Status on Power Up .....	7
3.4. Checkout of Unit Inputs and Outputs .....	7
3.5. Antenna and Lightning Arrestor .....	7
3.6. Received Signal Lock .....	7
APPENDIX Related Documents.....	9

	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 4 of 13
	<b>Incoming Inspection          Report for Symmetricon          XL-GPS SN1331C00739</b>	

## 1. Scope

This report documents receipt, condition, and functional test of the Symmetricon XL-GPS unit. Unit was received on or about 2013 Aug 19.

Items received under this procurement (OP34224) are listed with photos that follow:

- 1530-602-1 XL-GPS Receiver
  - Includes antenna w/ 50' cable
  - Documentation on CD ROM, printed Quick Start Guide (also on CD)
  - AC Power Cord, serial cable (9 pin D Fem-Fem), RJ45 Ethernet cable
  - Mechanical hardware kit
- 150-705 Lightning Arrestor and 25' cable






# ALMA Project

## Incoming Inspection Report for Symmetricom XL-GPS SN1331C00739

Doc #: ALMA-05.11.35.91-0001-A-REP  
Date: 2013-Sep-10  
Page: 5 of 13



	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 6 of 13
	<b>Incoming Inspection          Report for Symmetricon          XL-GPS SN1331C00739</b>	



## 2. Reference Documents

The original quotation, packing list, and certificates of compliance are attached as appendices.

## 3. Initial Condition and Checkout

### 3.1. Received Condition


The outer packaging was clean and showed no signs of damage or abuse. The inner packaging was intact and properly protecting the unit and accessories.

The unit was registered on the Symmetricon website for warranty purposes on 2013 Sep. 11.

### 3.2. Communication Interfaces

- Front panel command entry and local display verified as functional

Printed versions of this document are **For Reference Only**. The latest released electronic version is located in the ALMA Electronic Document Management (EDM) system accessible through the internet at: <http://edm.alma.cl>

	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 7 of 13
	<b>Incoming Inspection          Report for Symmetricon          XL-GPS SN1331C00739</b>	

- RS-232 cable connected and serial port interface verified as functional at 19200 baud
- TCP/IP connection through RJ45 verified as functional (disconnected after brief test)

### 3.3. Initial Status on Power Up

- Status display shows an incrementing clock, GPS status unlocked
- Front panel LED is initially flashing green during attempt to acquire satellites
- Front panel LED changes to RED after failure to acquire, even after 30 minutes or more (antenna is placed indoor)
- A general survey of front panel and serial port commands indicate unit is responding properly to the user interface

### 3.4. Checkout of Unit Inputs and Outputs

Exhaustive testing to verify specifications was not performed. Unit checkout simply involved functional tests to confirm the operation looked reasonable. Outputs were verified with an oscilloscope.


- J1 – TI/ET Input option – not tested
- J2 – Rate Outputs were verified for each of the programmable steps from 1PPS to 10MPPS in the F111 utility @ 2.4V into 50 Ohms
- J3 – Frequency Measurement Input (option not installed)
- 1PPS Output (CPU) – Verified at 20uSec rising edge pulse, TTL level
- Code Output – Presence of two time code output streams was verified (IRIG B000 1344 and B120 1344), however neither of these streams were decoded. Levels are mode dependent (B000 is TTL, B120 is 3Vp-p, both into 50 Ohms)
- Alarm (Open Collector) Output – not tested
- Discrete 10MHz Output – Output verified @ 3Vp-p into 50 Ohms (+13dBm) (Allan Variance not verified)
- Discrete 1PPS Output – verified @ 2.4V ~28ns rising edge pulse into 50 Ohms

### 3.5. Antenna and Lightning Arrestor

- The antenna supplied with the unit was used and a lock achieved
- The lightning arrestor was not connected or tested in any way

### 3.6. Received Signal Lock

The unit was tested at ground level at the NTC and was able to acquire 4-5 satellites, but failed to lock even after more than 45 minutes of acquisition time. Signal strengths was typically -160dB or weaker.

	<b>ALMA Project</b>	Doc #: ALMA-05.11.35.91-0001-A-REP Date: 2013-Sep-10 Page: 8 of 13
	<b>Incoming Inspection Report for Symmetricon XL-GPS SN1331C00739</b>	

The unit as moved to the roof of the NTC building and acquired a few more satellites with signal levels typically between -155 dB and -145 dB. A signal lock was achieved within the expected time frame of 20~25 minutes.

## APPENDIX

Documents that follow in this appendix:

The quote used for procurement and generation of the purchase order  
The packing list supplied with the unit  
Certificate of Conformance/Compliance  
Certificate of RoHS compliance







**ALMA Project**

**Incoming Inspection  
Report for Symmetricom  
XL-GPS SN1331C00739**

Doc #: ALMA-05.11.35.91-0001-A-REP  
Date: 2013-Sep-10  
Page: 10 of 13

Page 2

**Symmetricom**

Quote # LB130416-2B  
Salesman: Lee Bailey

Date: 5/1/2013 QUOTE ADDENDUM / Terms and Conditions

Symmetricom's full Terms and Conditions apply to this quote; available upon request.

Please reference this quote number on PO: LB130416-2B

Fax purchase orders to 949-361-0312, attention: Order Entry.  
Or email PO to Denise@gmasales.com and copy your sales representative at lee@gmasales.com

Make PO out to:  
Symmetricom, Inc.  
2300 Orchard Parkway  
San Jose, CA 95131

Remit To address is:  
Symmetricom Inc  
PO Box 39000  
Department number 34371  
San Francisco, CA 94139

To place a credit card order - please call 949-361-0212. We accept Visa, MasterCard and American Express.

Thank you! *Lee Bailey*

Warranty: The standard warranty for all Timing, Test & Measurement products is one year parts and labor. Extended Warranties are available at time of purchase in addition to our standard one year warranty. Standard warranty on Network Time Service products is two years. Extended Warranty is calculated based on sale price if purchased at time of original order. Pricing is as follows:

1 year - add 10 % (\$250 Minimum)

2 year - add 15 % (\$450 Minimum)

Please consult Symmetricom for Details

Ship Via: Determined at time of purchase order placement. (Not insured unless requested.)

Shipping date is an estimate based upon availability at time of quote. Shipping is subject to change without notice until receipt of confirming purchase order.

Lead Time:

Terms:

Net 30 Days Upon Approved Credit,  
Delivery Terms: Ex-Works. Freight PPD  
and add.

**Please reference the above quote number.**

This quote is valid for thirty (30) days, at which time it must be renegotiated.

Prices shown herein are not intended as firm offers or an offer at which price Seller would sell in all events. Seller endeavors to maintain prices at this approximate level or will notify you of any change, but assumes no legal responsibility. If prices herein are increased or are for any reason not in line with standard charges of Seller for like items at time of receipt of your order, Seller may at its option accept order at prices shown herein or refuse to accept such an order.

PO Box 71554 Richmond, VA 23255  
Telephone No. ( 804) 934-0634 Fax No. (804) 934-0633



**ALMA Project**

**Incoming Inspection  
Report for Symmetricon  
XL-GPS SN1331C00739**

Doc #: ALMA-05.11.35.91-0001-A-REP  
Date: 2013-Sep-10  
Page: 11 of 13



6 Lathew Drive  
Derry, NH 03038  
UNITED STATES

**PACKING SLIP**

**BILL TO:**  
ASSOCIATED UNIVERSITIES  
NATIONAL RADIO ASTRONOMY  
OBSERVATORY  
PO BOX 2  
GREEN BANK WV 24944  
UNITED STATES

**SHIP TO:**  
NATIONAL RADIO ASTRONOMY  
OBSERVATORY  
1180 BOXWOOD ESTATE ROAD  
CHARLOTTESVILLE, VA 22903  
UNITED STATES

**ORDER NUMBER** : 12085740  
**CUSTOMER PO** : 342242  
**SHIP DATE** : 19-AUG-13  
**DELIVERY ID** : 466651  
**FREIGHT CARRIER** : SYMM SHIP SELECT  
**FREIGHT TERMS** : Prepay & Add  
**INCOTERMS** : EXWORKS

**CUSTOMER CONTACT** : DEVY MOORE  
**CONTACT PHONE** :

LINE #	SYMMETRICON PART #	CUSTOMER PART #	ITEM DESCRIPTION	UNIT	QUANTITY		HTN
					ORDERED	SHIPPED	
1.000	1530-602-1		ASSY XL-GPS TIME AND FREQUENCY RECEIVER (V2)	EA	1	1	9030.89.0100
2.000	150-709		LIGHTNING ARRESTOR KIT, TNC(F) W/25 FT. 9104 TNC(M)-TNC(M)	EA	1	1	8535.40.0000
WAY BILL#: GROSS WEIGHT: 19 LB					# OF BOXES: 0		

LINE #	SYMMETRICON PART # (* is installed part #, - is consisting of part #)	CUSTOMER PART #	SERIAL NUMBERS
1.000	1530-602-1		1331C00739

This is a domestic shipment. Symmetricon is not to be indicated as an exporter/re-exporter of record on any shipping paperwork and/or shipping documentation. If you are exporting and/or re-exporting this product out of the United States you may need an export license. Please contact the Bureau of Industry and Security (Export Administration Regulations) and/or the Department of State - DDTIC (ITAR regulations) in Washington, D.C.

1530-602-1  
SN 1331 006739



**ALMA Project**

**Incoming Inspection  
Report for Symmetricon  
XL-GPS SN1331C00739**

Doc #: ALMA-05.11.35.91-0001-A-REP  
Date: 2013-Sep-10  
Page: 12 of 13



6 Larkew Drive  
Derry, NH 03038  
UNITED STATES

**CERTIFICATION OF  
CONFORMANCE/COMPLIANCE**

**BILL TO:**  
ASSOCIATED UNIVERSITIES  
NATIONAL RADIO ASTRONOMY  
OBSERVATORY  
PO BOX 2  
GREEN BANK WV 24944  
UNITED STATES

**SHIP TO:**  
NATIONAL RADIO ASTRONOMY  
OBSERVATORY  
1180 BOXWOOD ESTATE ROAD  
CHARLOTTESVILLE, VA 22903  
UNITED STATES

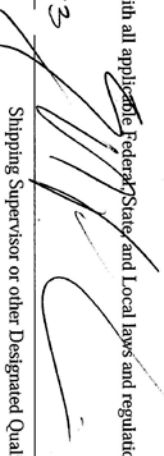
**ORDER NUMBER** : 12085740  
**CUSTOMER PO** : 342242  
**SHIP DATE** : 19-AUG-13  
**DELIVERY ID** : 466651  
**FREIGHT CARRIER** : SYMM SHIP SELECT  
**FREIGHT TERMS** : Prepay & Add  
**INCOTERMS** : EXWORKS

LINE #	SYMMETRICON PART #	CUSTOMER PART #	ITEM DESCRIPTION
1.000	1530-602-1		ASSY XL-GPS TIME AND FREQUENCY RECEIVER (V2)
2.000	150-709		LIGHTNING ARRESTOR KIT. TNC(F) W/25 FT. 9104 TNC(M)-TNC(M)

LINE #	SYMMETRICON PART # (* is installed part #, - is consisting of part#)	CUSTOMER PART #	SERIAL NUMBER(S)
1.000	1530-602-1		1331C00739

This is to certify that the items supplied per the referenced Purchase Order were manufactured in accordance with, and conform to, all of the applicable material/product drawings and specification requirements and that all standard Quality Assurance practices and procedures were complied with. Test and inspection data is available in accordance with Symmetricon's Quality Assurance Program.

I certify that the item(s) supplied have been manufactured, inspected and shipped in accordance with all applicable Federal, State and Local laws and regulations.

Date: 8-15-13  
  
 Shipping Supervisor or other Designated Quality Representative



**ALMA Project**

---

**Incoming Inspection  
Report for Symmetricom  
XL-GPS SN1331C00739**

Doc #: ALMA-05.11.35.91-0001-A-REP  
Date: 2013-Sep-10  
Page: 13 of 13

# 中國 RoHS 證明 China RoHS Certificate

**China RoHS Declaration  
中國 RoHS 聲明**

This Symmetricom product is compliant to the requirements of the China Ministry of Information Order #39, "Administrative Measures on the Control of Pollution Caused by Electronic Information Products (China RoHS) and the Packaging Recycling Marks Standard GB 18455-2001.

此 Symmetricom 產品是符合標準的資訊秩序 # 39，中國衛生部要求"污染引起的電子資訊產品 (中國 RoHS) 控制的行政措施及包裝回收標誌標準 GB 18455-2001 年。

Name of Part: 部份的名字:	Pb 鉛	Hg 汞	Cd 鎘	Cr6+ 六价鉻	PBB 多溴聯苯	PBDE 多溴二苯醚
Synchronization Equipment 同步設備	X	0	0	0	0	0

Symmetricom China RoHS Certificate  
P/N 057-00651-01 Rev. B 12 September 2012

Printed versions of this document are **For Reference Only**. The latest released electronic version is located in the ALMA Electronic Document Management (EDM) system accessible through the internet at: <http://edm.alma.cl>