



U.S. Department  
of Transportation

**Research and  
Special Programs  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

**SEP 15 2004**

DOT-E 13036  
(FOURTH REVISION)

EXPIRATION DATE: August 31, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Symmetricom  
(FORMER GRANTEE: Datum)  
Beverly, MA
2. PURPOSE AND LIMITATION:
  - a. This exemption authorizes the transportation in commerce of DOT Specification 3E cylinders containing hydrogen in metal hydride as an integral part of a hydrogen maser (atomic clock). This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  - c. Party status will not be granted to this exemption.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.301(f) and 173.222(b)(3) in that the DOT Specification 3E cylinder is fitted with pressure relief devices that do not meet the requirements of CGA Pamphlet S-1.1, and § 173.301(d) in that the material within the cylinder has the potential to endanger the cylinder's serviceability.

5. BASIS: This exemption is based on the application of Symmetricom dated September 1, 2004 submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hydrogen absorbed in metal hydride*	2.1	NA9279	N/A
Dangerous goods in machinery	9	UN3363	N/A

\* This proper shipping name must be used for cylinders shipped separately from the hydrogen maser.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a stainless steel DOT Specification 3E cylinder containing hydrogen absorbed in metal hydride. The cylinder is shipped separately or as an integral part of a hydrogen maser (atomic clock). The cylinder must be in conformance with the following:

(1) The maximum service pressure must be 1,800 psig. The maximum water capacity is 150cc.

(2) The cylinder must be equipped with a CGA C-7 pressure relief valve with a rated start to discharge pressure of 450 psig.

(3) The cylinder must be equipped with an internal configuration that prevents the metal hydride within from exerting detrimental forces on the cylinder. The internal design must be as described in the Datum application for exemption on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA).

(4) The cylinder must be helium leak tested and there must be no sign of leakage before the cylinder is charged with hydrogen gas.

SEP 15 2004

b. TESTING - There is no requirement to periodically retest the DOT Specification 3E cylinder.

c. OPERATIONAL CONTROLS -

(1) The hydrogen maser (atomic clock) or the separate cylinder must be shipped in strong outside packaging in accordance with § 173.301(a)(9).

(2) The cylinder is not authorized to be refilled.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modification or change is made to the package or its contents and it is reoffered for transportation in conformance with this exemption and the HMR.

b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

c. MARKING -

(1) Each cylinder must be plainly and durably marked "DOT-E 13036".

(2) The outside of each package must be marked "INSIDE PACKAGING COMPLIES WITH DOT-E 13036".

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a copy of this exemption to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

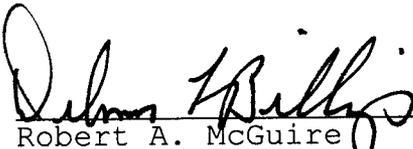
No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

**SEP 15 2004**

(DATE)

*for*   
 \_\_\_\_\_  
 Robert A. McGuire  
 Associate Administrator for  
 Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
 Attention: DHM-31.

**SEP 15 2004**

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: CWF/AM