



Direct Replacement Cesium Beam Tubes

KEY FEATURES

- Renews Cesium Tube Life Span
- Restores Cesium Tube Performance
- Replacement for Symmetricom, Datum, Agilent & FEI models
- Replacement Tube Meets or Exceeds Original Performance Specifications
- Choice of Cesium Beam Tube Warranty
- Choice of Standard Performance or High Performance Tube
- Commercial, Military & Telecom Stratum 1 Installations
- Installations and Service Available

OVERVIEW

Symmetricom's cesium beam tube replacement services offer you both time and cost savings. Installation of a replacement tube restores your cesium instrument's tube performance and can extend your cesium instrument's life span at a fraction of the cost of a new instrument. The appropriate high or standard performance replacement cesium beam tube meets or exceeds the original performance levels when all other components of the instrument perform to original specifications. We offer cesium beam tube replacement for many models of cesium instruments manufactured by Agilent®, FEI®, Datum and Symmetricom.

REPLACEMENT TUBES FOR OTHER MANUFACTURERS

Symmetricom offers tube replacement for cesium instruments manufactured by Agilent and FEI. For some of these instruments, our replacement tubes are smaller

and lighter than the original. In addition to our replacement tubes, our kits include key electrical parts, bracket adapters, as well as detailed retrofit and alignment procedures, all enabling the replacement tube to successfully operate within the instrument. Installation typically requires no mechanical changes to the original instrument's configuration and the kit's mechanical adapter brackets may incorporate storage for the original hold-down clamps.

QUALITY GUARANTEED INSTALLATION

Some direct replacement cesium beam tube installations may require minor modifications. Symmetricom Global Services coordinates the engineering and factory retrofit work necessary for your particular instrument. This ensures proper installation and verification by our expert staff. All work is done in accordance with our quality system, which is certified to ISO-9001/2000. Cesium instrument repairs are also available.



Symmetricom's Direct Replacement Cesium Beam Tube

Direct Replacement Cesium Beam Tube Specifications

STANDARD PERFORMANCE CESIUM BEAM TUBES

• Replace for:	Warranty
Symmetricom: FTS 4060 FTS 4040A	8-Year
Symmetricom: FTS 4065 series FTS 4040A/RS	8-Year
Agilent: HP 5061A/B	8-Year
FEI: FE 1824/U FE 1824A/U* FE 5450A	8-Year
*May require option 0/1824A/U consult factory.	
• Accuracy to: ¹	<1.0E-12
• Stability (Allan Deviation) to: ²	
1	<1.2E-11
10	<8.5E-12
100	<2.7E-12
1,000	<8.5E-13
10,000	<2.7E-13
100,000	<8.5E-14
5 Days	<5.0E-14

¹ & ² Indicates typical cesium beam tube stability and accuracy when installed in a cesium frequency standard. Actual performance is dependent on the cesium frequency standard's oscillator and electronics.

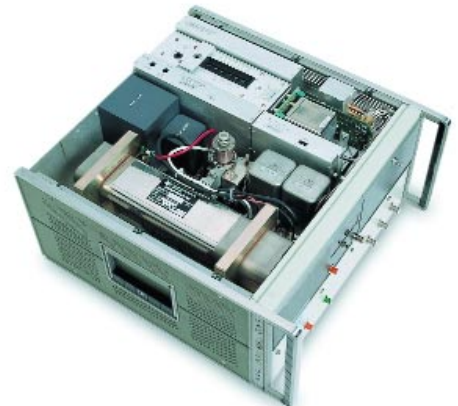
HIGH PERFORMANCE CESIUM BEAM TUBES

• Replace for:	Warranty
Symmetricom: FTS 4065A/B FTS 4040A/RS	3-Year
Hewlett Packard: HP 5061A/B	3-Year
• Accuracy to: ³	<1.0E-12
• Stability (Allan Deviation) to: ⁴	
1	5.0E-12
100	2.7E-12
1,000	8.5E-13
10,000	2.7E-13
100,000	8.5E-14

³ & ⁴ Indicates typical cesium beam tube stability and accuracy when installed in a cesium frequency standard. Actual performance is dependent on the cesium frequency standard's oscillator and electronics. 5.0E-14



Replacement Cesium Beam Tube installation in FEI instrument



Replacement Cesium Beam Tube installation in Agilent instrument



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