

## CARTOSAT-1 PRODUCT OFFERING DESCRIPTIONS AND PRICING

### 1. Product Descriptions

#### **CARTOSAT-1 PRODUCTS**

Cartosat-1 data products are of two categories:

- \* Standard product (radiometrically corrected, georeferenced)
- \* Precision product (ortho rectified product)

Standard products are generated after accounting for radiometric and geometric distortions while precision products are ortho rectified. Ortho rectified products are corrected for terrain distortions and camera tilt effects with the help of control points and using Stereo Strip Triangulation (SST) based DEM (only for Indian region). All Cartosat-1 data products are supplied with 10 bit radiometry for both PAN Fore and Aft cameras.

#### **AREA OF INTEREST (AOI) BASED STANDARD PRODUCTS**

One or more scenes covering the user's area of interest, specified as a single polygon in the form of an ESRI shapefile, are provided as tiled products (not mosaiced). The user-specified polygon (order polygon) is padded outside with extra buffer distance to ensure the area coverage, considering the accuracy specifications of the system corrected product. The modified polygon boundaries are used to define each constituent full/sub-scene product. The different tiles are not radiometrically matched. The minimum order area is 25 km x 25 km. The location accuracy of these products is better than 250m. All AOI based products are provided as digital products (CD/DVD) only. AOI products are available for only radiometrically corrected or Georeferenced data.

#### **STANDARD PRODUCTS**

S. No	Type of Product	Correction Applied
01	Radiometrically corrected / Basic Stereo	Stagger corrections, line loss corrections, radiometric correction at the scene level
02	Standard Georeferenced	Radiometric and geometric corrections (north-oriented) at scene level using System knowledge
03	Orthokit products (Mono)	Radiometric corrections along with Rational Polynomial Coefficients (RPCs)
04	Ortho Product	Terrain corrected products using TCPs and DEM from SST software only for Indian region

## STANDARD PRODUCT SPECIFICATIONS

S. No	Area Coverage (Scene based / Float)	Level of Processing	Digital data Format	Media	Accuracy Specifications		Remarks
					Location Accuracy	Internal Distortion	
01	Scene/Float Mono/Stereo *	RAD	LGSOWG	CD- ROM/DVD	250m	Terrain dependent	Basic stereo pair
02	Scene/Float (Mono) *	RAD	Orthokit ###	CD- ROM/DVD	250m	Terrain dependent	RAD product with RPC file
03	Scene/Float (Mono) *	Standard § Corrections Applied ##	LGSOWG * GeoTIFF Fast Format	CD-ROM	250m	Terrain dependent	Geo- Referenced product
04	Scene/float Mono *, AOI §	Standard Corrections Applied #	GeoTIFF	CD-ROM	250m	Terrain dependent	Geo- Referenced product

- # Includes AOI
- ## All standard corrections products are Geo-Referenced
- ### Include RPC file and Meta file
- § Minimum area of AOI is 25km x 25km. supplied with Meta file
- \* Restricted Area Masking is done, whenever required

### **ORTHOKIT PRODUCTS**

Ortho kit products are supplied with only radiometric corrections. A file consisting of the rational polynomial coefficients (RPC) is also provided for further processing at user's end. An orthokit product consists of an image file (GeoTIFF format), an RPC file (text file) and a metadata file.

Orthokit products facilitate the user to produce high precision products by using control points / external DEM in the commercially available off-the-shelf (COTS) software. It is recommended to use software packages, certified by Department of Space, for better results.

### **STEREO PRODUCTS**

Scene based stereo products are supplied with only radiometric corrections. Stereo data are supplied as digital products only. These products can be supplied in LGSOWG format and in GeoTIFF format with RPCs.

In the case of stereo data in LGSOWG format, radiometrically corrected data from both Fore and Aft cameras are provided. Stereo data in GeoTIFF format comprise of radiometrically corrected data from both Fore and Aft cameras and an RPC file.

### **PRECISION GEO-REFERENCED PRODUCTS**

These are mosaiced and ortho rectified products. These products can be supplied with different area coverages – 7 ½' x 7 ½' (both Survey of India (SOI) mapsheet based and floating), 5' x 5', 3.75' x 3.75' and 2.5' x 2.5'. All these products are supplied as a single product. Best efforts are made to

provide the data with seamless radiometry in case the area is covered on two different dates. The location accuracy of these products will be better than 25m. For global users, these products can be supplied with the help of GCPs provided by the user.

**PRECISION ORTHO PRODUCTS**

S. No	Area Coverage	Level of Processing	Digital data Format	Media	Accuracy Specifications		Remarks
					Location Accuracy	Internal Distortion	
01	Mapsheet based /Float 7.5' x 7.5' *	Precision (ortho) Terrain Corrected	GeoTIFF	CD-ROM	≤ 25m	~ 10m	Using DEM and TCPs
02	Float 5' x 5" *	Precision (ortho) Terrain Corrected	GeoTIFF	CD-ROM	≤ 25m	~ 10m	Using DEM and TCPs
03	Float 3.75' x 3.75' *	Precision (ortho) Terrain Corrected	GeoTIFF	CD-ROM	≤ 25m	~ 10m	Using DEM and TCPs
04	Float 2.25' x 2.25' *	Precision (ortho) Terrain Corrected	GeoTIFF	CD-ROM	≤ 25m	~ 10m	Using DEM and TCPs

**NOTE:** All Geocoded products are orthorectified  
 \* Restricted Area Masking is done whenever possible.

## 2. Product Pricing

### CARTOSAT-1 PRICING (Effective 1-1-09)

#### A. Standard Product Pricing

S. No	Area Coverage (Scene based / Float)	Accuracy Specifications		Remarks	Volumes	Price
		Location Accuracy	Location Accuracy			
1	Scene/Float Mono/Stereo *	250m	Terrain dependent	Basic stereo pair	< \$50K	\$ 2280
					\$50K - \$100K	\$ 2150
					> \$100K	\$ 2020
2	Scene/Float (Mono) *	250m	Terrain dependent	RAD product with RPC file	< \$50K	\$ 1200
					\$50K - \$100K	\$ 1095
					> \$100K	\$ 1045
3	Scene/Float (Mono) *	250m	Terrain dependent	Geo- Referenced product	< \$50K	\$ 1200
					\$50K - \$100K	\$ 1095
					> \$100K	\$ 1045
4	Scene/float Mono *, AOI §	250m	Terrain dependent	Geo- Referenced product	< \$50K	\$ 1.70/SKM
					\$50K - \$100K	\$ 1.50/SKM
					> \$100K	\$ 1.40/SKM

**NOTE:** § Minimum area of AOI is 25km x 25km. supplied with Meta file  
\* Restricted Area Masking is done, whenever required

#### B. Precision Ortho Product Pricing

S. No	Area Coverage (Scene based / Float)	Level of Processing	Remarks	Volumes	Price
1	Mapsheet based /Float 7.5' x 7.5' *	Precision (ortho) Terrain Corrected	Using DEM and TCPs	< \$50K	\$880
				\$50K - \$100K	\$820
				> \$100K	\$785
2	Float 5' x 5" *	Precision (ortho) Terrain Corrected	Using DEM and TCPs	< \$50K	\$735
				\$50K - \$100K	\$684
				> \$100K	\$655
3	Float 3.75' x 3.75' *	Precision (ortho) Terrain Corrected	Using DEM and TCPs	< \$50K	\$590
				\$50K - \$100K	\$550
				> \$100K	\$525
4	Float 2.25' x 2.25' *	Precision (ortho) Terrain Corrected	Using DEM and TCPs	< \$50K	\$590
				\$50K - \$100K	\$550
				> \$100K	\$525

**NOTE:** All Geocoded products are orthorectified  
\* Restricted Area Masking is done whenever possible.