



CGMS-36, CMA-WP-10
Prepared by CMA
Agenda Item:
Discussed in WG-IV

Access to Fengyun Satellite Data

Summary of the Working Paper.

CM-WP-12 is given in response to Action Item 35.28. The paper summarizes the methods disseminating the Fengyun satellite data. It states that Fengyun satellite data is made available through DB service: the FY-1 polar orbiting satellite transmits the S-band CHRPT Data, the FY-3 transmits the S-band AHRPT and the X-band MPT data; the FY-2 geostationary satellite broadcasts the S-VISSR data. CMA uses DVB-S technology as an alternative method to disseminate FY data, and for this purpose, the FengyunCast system has been developed that uses the C- band of AsiaSat-4 satellite at 122.2E to broadcast near-real time data to Asia-Pacific region. Online access to Fengyun data is also made possible at the address <http://satellite.cma.gov.cn>. However, as the result of a temporary measure that attempted to protect CMA network from being attacked during the Beijing Olympics, the website has become inaccessible since June 2008.

Access to Fengyun Satellite Data

The mechanism that CMA disseminates data and products to users include:

1. Direct Dissemination

User equipped with dedicated reception station can receive the image data directly from the Fengyun satellite.

FY-1 Satellite Data Transmission

High Resolution Picture Transmission (HRPT): direct read-out for the AVHRR at full resolution in digital form at S-band frequencies. Main features:

- frequencies: 1700.4MHz; bandwidth: 5MHz; polarization: right-hand circular
- antenna diameter~ 2m, G/T~ 6.0dB/K, data rate ~ 1.33 Kbps

FY-3 Satellite Data Transmission

MPT (Medium-resolution Picture Transmission), for full information in X-band. Main features:

- frequency: 7775 MHz; bandwidth: 45 MHz; polarisation: right hand circular
- antenna diameter ~ 3 m, G/T ~ 21.4 dB/K, data rate 18.7 Mbps;

AHRPT (Advanced High Resolution Picture Transmission) for selected information in S-band. Main features:

- frequency: in the range 1704.5 MHz; bandwidth: 6.8 MHz; polarisation: right hand circular
- antenna diameter ~ 3 m, G/T ~ 6.8 dB/K, data rate 4.2 Mbps.

FY-2 S-VISSR Transmission

S-VISSR Data Transmission: Main features:

- frequency: 1687.5 MHz; bandwidth: 2.0 MHz; polarisation: linear
- antenna diameter ~ 3 m, G/T ~ 12 dB/K, data rate 660 kbps.

2. FengyunCast

FengyunCast system uses DVB-S technology to distribute image data and derived products from Fengyun satellites. Also it provide access to the data and services of several external data providers.

Satellite	Satellite owner	Position	Band	Coverage
Asiasat-4	Asiasat Co.	122.2E	C	most of Asia-Pacific Region

User terminals adopt the industrial standard technology. The broadcasting center includes a server, packer, DVB-IP router, PC and software for display and management. The user reception station consists of an antenna, receiver, DVB router, PC and software for data reception and application. The aperture of antenna can be 1.2 m, 1.8m, 2.4m, but 1.8m in most cases.

3. Online Access to FY Data

Real-time FY satellite data and the data archived since 2005 that have been reprocessed are made available on website <http://satellite.cma.gov.cn> . *

* From June 2008 the website became inaccessible as the result of a temporary measure by CMA that tries to keep the network safe from being attacked. Interior users can use <http://10.24.16.5> to logon the website.