



**AMSAT Italia**

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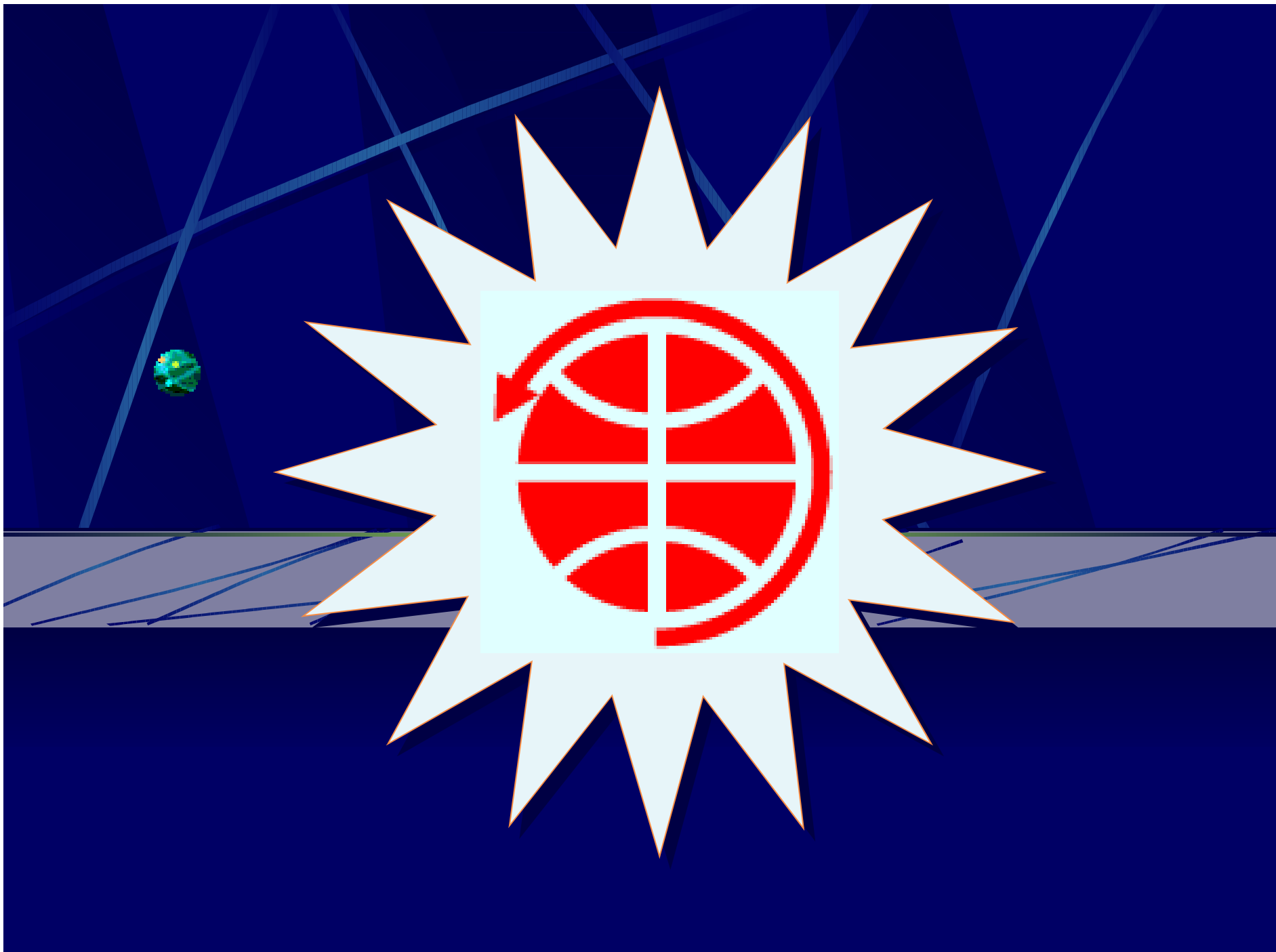


**AMSAT**

**un'organizzazione mondiale tra passione  
radioamatoriale e professione spaziale**

Convegno AMSAT-Italia/CISAR "Spazio e Radioamatori"  
Roma, 02-12-2006



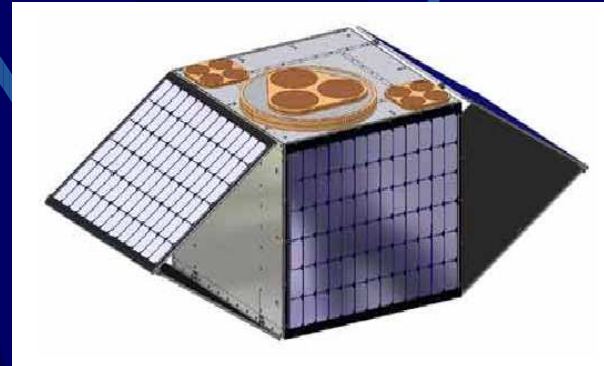


# L'organizzazione

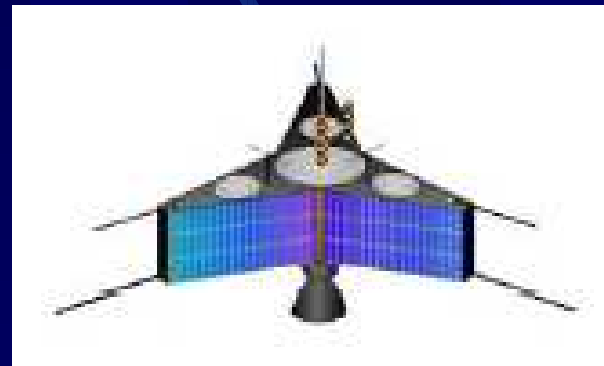
- raggruppa i Radioamatori interessati alle comunicazioni spaziali
- no profit ("Ham Spirit")
- fondata negli USA nel 1965
- primo satellite amatoriale (OSCAR-1) lanciato nel 1961
- affiliate in molti paesi
- assiste sia la IARU che i gruppi di progetti per l'assegnazione delle frequenze

# Orbiting Satellite Carrying Amateur Radio

- Dal 1961, le AMSAT hanno sviluppato e messo in orbita più di 50 satelliti.
- I vari satelliti sono definiti secondo “Fasi”
- Il lavoro continua ...



Eagle – AMSAT-NA - 2007



P3E – AMSAT-DL – 2007/8

- ①
- Experimental,
  - Short Lifetime
  - Low Earth Orb.

- ②
- Dev. & Oper.nal,
  - Long Lifetime
  - LEO

- ③
- Operational
  - Long Lifetime
  - HEO

- ④
- Operational,
  - Long Lifetime
  - GEO

- ⑤
- Lunar or Planetary

# Le “Fasi”



# Il gruppo di Volontariato

- costituito nel 1997
- ± 100 Soci (anno 2006)
- distribuito su tutto il territorio Italiano
- mezzi di comunicazione :
  - bollettino “AMSAT-I News” (bimestrale)
  - sito web : [www.amsat.it](http://www.amsat.it)
  - lista Gruppo Yahoo
  - ... satelliti

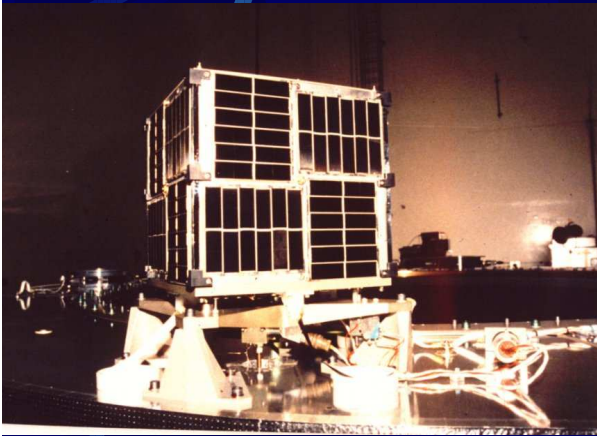
# Attività

- Introduzione alla radio satellitare
- Ricerca e Sviluppo
- Supporto a progetti
- Collegamenti ISS/Scuole
- Partecipazioni a Fiere radiantistiche

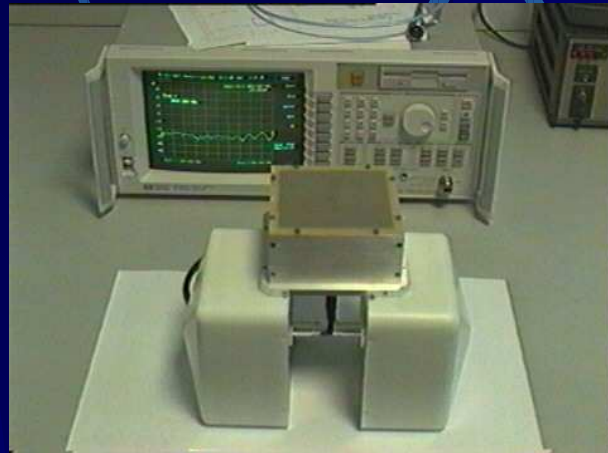




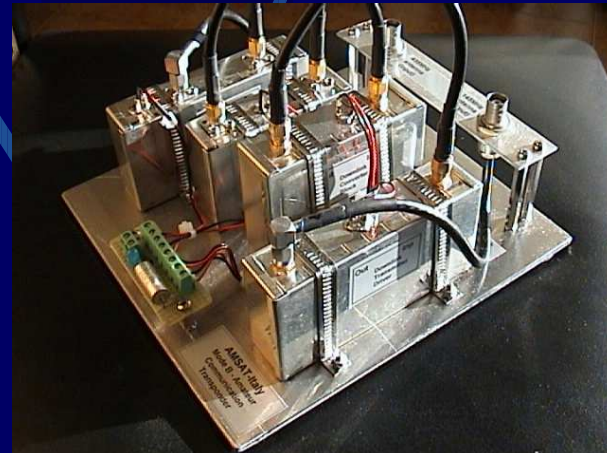
# Principali realizzazioni



Itamsat  
(1993)



ARISS  
(2002)



VUsat  
(2003)

# Progetti in corso

- ARISS : radio sul Modulo Europeo Columbus
- Razzo “Stratosfera” (computer di bordo e sistema di telemetria, controllo)
- SkyWave, Ionosfera, RATS





# ***Essere Radioamatore***

# Una serie di passioni ...

- Per la tecnica (elettronica, radio, ...)
- Per la scienza (propagazione, spazio, ...)
- Per la pratica !
- Per i contatti sociali (associazioni, DX, ...)
- Per le gare (Awards, ...)



(potenziale) RADIOAMATORE

# I Radioamatori

## ● Persone :

- con varie passioni
- con vari interessi
- autorizzate (licenza)
- operano i “Servizi di Radioamatori”
- con “Ham Spirit”
- affiliate o non
- Membri di una Comunità di 1 milione di persone nel Mondo

# I “Servizi”

- *"Amateur Service: A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest." [RR 1.56]*
- *"Amateur-Satellite Service: A radio-communication service using space stations on Earth satellites for the same purposes as those of the amateur service." [RR 1.57]*

# Le frequenze radioamatoriali

● Varie bande assegnate al servizio Radioamatoriale

● Gestite/protette dalla IARU verso la ITU

● Una risorsa da usare e **CONDIVIDERE!**

## US Amateur Bands

**ARRL** The national association for **AMATEUR RADIO**

June 1, 2003

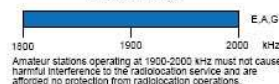
### Novice, Advanced and Technician Plus Allocations

New Novice, Advanced and Technician Plus licenses are no longer being issued, but existing Novice, Technician Plus and Advanced class licenses are unchanged. Amateurs can continue to renew these licenses. Technicians who pass the 5 wpm Morse code exam after that date have Technician Plus privileges, although their license says Technician. They must retain the 5 wpm Certificate of Successful Completion of Examination (CSCE) as proof. The CSCE is valid indefinitely for operating authorization, but is valid only for 365 days for upgrade credit.

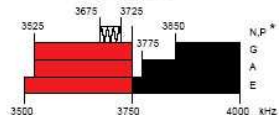
#### US AMATEUR POWER LIMITS

At all times, transmitter power should be kept down to that necessary to carry out the desired communications. Power is rated in watts PEP output. Unless otherwise stated, the maximum power output is 1500 W. Power for all license classes is limited to 200 W in the 10, 100-10, 150 MHz band and in all Novice subbands below 25, 100 kHz. Novices and Technicians are restricted to 200 W in the 28, 100-28,500 kHz subbands. In addition, Novices are restricted to 25 W in the 222-225 MHz band and 5 W in the 1270-1295 MHz subband.

#### 160 METERS



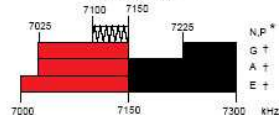
#### 80 METERS



#### 60 METERS

General, Advanced, and Amateur Extra licensees may use the following five channels on a secondary basis with a maximum effective radiated power of 50 W PEP relative to a half wave dipole. Only upper sideband suppressed carrier voice transmissions may be used. The frequencies are 5335.5, 5345.5, 5355.5, 5371.5 and 5403.5 kHz. The occupied bandwidth is limited to 2.8 kHz centered on 5332, 5348, 5368, 5373, and 5405 kHz respectively.

#### 40 METERS

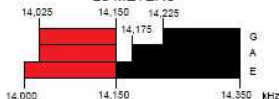


† Phone and image modes are permitted between 7075 and 7100 kHz for FCC licensed stations in ITU Regions 1 and 3 and by FCC licensed stations in ITU Region 2 West of 130 degrees West longitude or South of 20 degrees North latitude. See Sections 97.305(c) and 97.307(f)(11). Novice and Technician Plus licensees outside ITU Region 2 may use CW only between 7050 and 7075 kHz. See Section 97.301(e). These exemptions do not apply to stations in the continental US.

#### 30 METERS



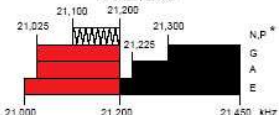
#### 20 METERS



#### 17 METERS



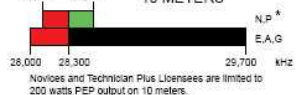
#### 15 METERS



#### 12 METERS



#### 10 METERS



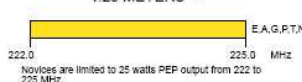
#### 6 METERS



#### 2 METERS



#### 1.25 METERS \*\*\*



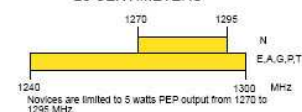
#### 70 CENTIMETERS \*\*



#### 33 CENTIMETERS \*\*



#### 23 CENTIMETERS \*\*



#### KEY

- CW, RTTY and data
  - CW, RTTY, data, MCW, test, phone and image
  - CW, phone and image
  - CW and GSB phone
  - CW, RTTY, data, phone, and image
  - CW only
- E = AMATEUR EXTRA  
A = ADVANCED  
G = GENERAL  
P = TECHNICIAN PLUS  
T = TECHNICIAN  
N = NOVICE

\* Technicians who have passed the 5 wpm Morse code exam are indicated as 'P'.

\*\* Geographical and power restrictions apply to all bands with frequencies above 430 MHz. See The ARRL's FCC Rule Book for more information about your area.

\*\*\* 219-220 MHz allocated to amateurs on a secondary basis for fixed digital message forwarding systems only and can be operated by all licensees except Novices.

All licensees except Novices are authorized all modes on the following frequencies:

- 2300-2310 MHz
- 2390-2450 MHz
- 3300-3500 MHz
- 8680-8925 MHz
- 10.0-10.5 GHz
- 24.0-24.25 GHz
- 47.0-47.2 GHz
- 75.5-76.0, 77.0-81.0 GHz
- 119.99-120.02 GHz
- 142-149 GHz
- 241-250 GHz
- All above 300 GHz



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