



Global Pre-Positioning of Satellite-Based ICT for Disaster Preparedness & Development

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UN-SPIDER Bonn Workshop on Disaster
Management and Space Technology
12-14 October 2010**



The Global VSAT Forum:

Facilitating Connectivity

- **Global Non-Profit Association of Satellite Industry**
- **230+ Member Companies Headquartered in 100+ Countries**
- **Reaching Every Nation in the World**
- **Supporting Satellite Systems/Services Through Multi-Faceted International Programmes:**
 - **Enabling Effective Regulation, Spectrum Management (including support for Tampere Convention)**
 - **Providing Training Worldwide**
 - **Developing Disaster Relief & Development Initiatives (including complimentary ‘Emergency Notices’)**



Pre-Positioning Satellite-Based ICTs:

The Challenge 1

- From hurricanes to earthquakes, from tsunamis to volcanic eruptions, the calculus of cost – in human lives or in financial terms – is being mitigated through new collaborative efforts of public & private sector stakeholders
- Particularly evident in the way that wireless, fibre and other satellite-enabled ICT solutions are being applied by UN aid agencies, NGOs, host nation governments, the military and private sector to address mission-critical disaster preparedness & long-term development requirements



Pre-Positioning Satellite-Based ICTs:

The Challenge 2

- A persistent challenge severely inhibiting public & private sector efforts concerns the need for “pre-positioning” ICT solutions local to the disaster zone & which can be quickly used to support disaster-response efforts
- Additionally, linking those same pre-positioned systems so they can not only be used for disaster response but also re-purposed, following disaster-relief efforts, to achieve longer-term development objectives, has not been realised at a satisfactory level



Pre-Positioning Satellite-Based ICTs: The Challenge 3

Challenges have thwarted comprehensive global programmes for provision of pre-positioned solutions:

- 1. Difficult for organisations to justify investment in pre-positioned communications systems which remain unused or under-utilised most of the time**
- 2. This challenge is significant in one country/region, but overwhelming on a global scale**



Pre-Positioning Satellite-Based ICTs: The Challenge 4

- 3. Maintenance of pre-positioned systems can be costly
- 4. Licenses must be secured & kept current
- 5. Locally-based & trained technicians must be identified & deployed
- 6. Organisations need to develop an ICT approach that can be transitioned into longer-term infrastructure with scalable & commercial potential



Pre-Positioning Satellite-Based ICTs: A Simple Solution Proposal – GVF Disaster Preparedness Registry 1

The GVF has a proposal for a simple solution that can be applied to each of these challenges

(a) With immediate effect

and

(b) At disproportionately small cost



Pre-Positioning Satellite-Based ICTs: A Simple Solution Proposal – GVF Disaster Preparedness Registry 2

- **GVF Membership = world's major bandwidth suppliers + satellite equipment manufacturers + local/international service providers > 1 million earth stations around the world**
- **Systems/services are operated “sustainably” = profitably**
- **Profit creates investment in/expansion of networks, creates more development & supports key applications in agriculture, banking/financial services, education, health, mobile communications, etc**



Pre-Positioning Satellite-Based ICTs:

A Simple Solution Proposal –

GVF Disaster Preparedness Registry 3

- Inherent in this already existing value chain is a powerful solution to address the pre-positioning challenge
 - GVF Members will be invited to identify their systems, services, and other resources that:
 - a. Are currently in operation,
 - b. Can be repurposed for use if/when necessary to support disaster relief efforts,
 - c. Detailing their precise location, and
 - d. Providing contact details where relevant personnel can be reached



Pre-Positioning Satellite-Based ICTs: A Simple Solution Proposal – GVF Disaster Preparedness Registry 4

This information will be in an online GVF Registry, such that when a disaster occurs

- UN, NGO & government disaster-response stakeholders will be able to access the data – at nil cost – to identify systems/services locally available
- Registry listing pre-conditions can be determined in coordination with the UN and NGO communities



Pre-Positioning Satellite-Based ICTs: A Simple Solution Proposal – GVF Disaster Preparedness Registry 5

Thereafter, if the responder – or others with whom they are involved – wants to continue to use the systems/services for any purpose, they can enter into a standard commercial negotiation with the vendor

The resources that can potentially be included in the GVF Registry include a vast array of fixed and mobile satellite-based solutions, including all terrestrial systems that work in tandem with satellite communications

e.g. GSM/3G, WiFi, WiMAX, fibre, picocells, femtocells, and more



Pre-Positioning Satellite-Based ICTs:

A Simple Solution Proposal – Key Advantages of the GVF Disaster Preparedness Registry 1

1. Systems/services/other resources are already pre-positioned in 100,000s locations
2. Systems/services/other resources in most cases are already instrumental in promoting local development
3. Systems/services/other resources are in many cases operated & maintained by local companies
4. GVF already has a public database which could be linked to the GVF Registry & which includes hundreds of Certified VSAT installers throughout the world, who can be contacted to support disaster-response deployments



Pre-Positioning Satellite-Based ICTs:

A Simple Solution Proposal – Key Advantages of the GVF Disaster Preparedness Registry 2

5. Once applied, the Registry's resources can be more closely coordinated for first-responder preparedness, but also for reconstruction efforts
6. This will include “leave-behind” infrastructure for local partners to use to jump-start host-nation ICT infrastructure recovery & provide commercial opportunities to seed economic revitalisation
7. GVF already has partnership agreements with NGOs, UN aid agencies and other stakeholders which would utilise the resource

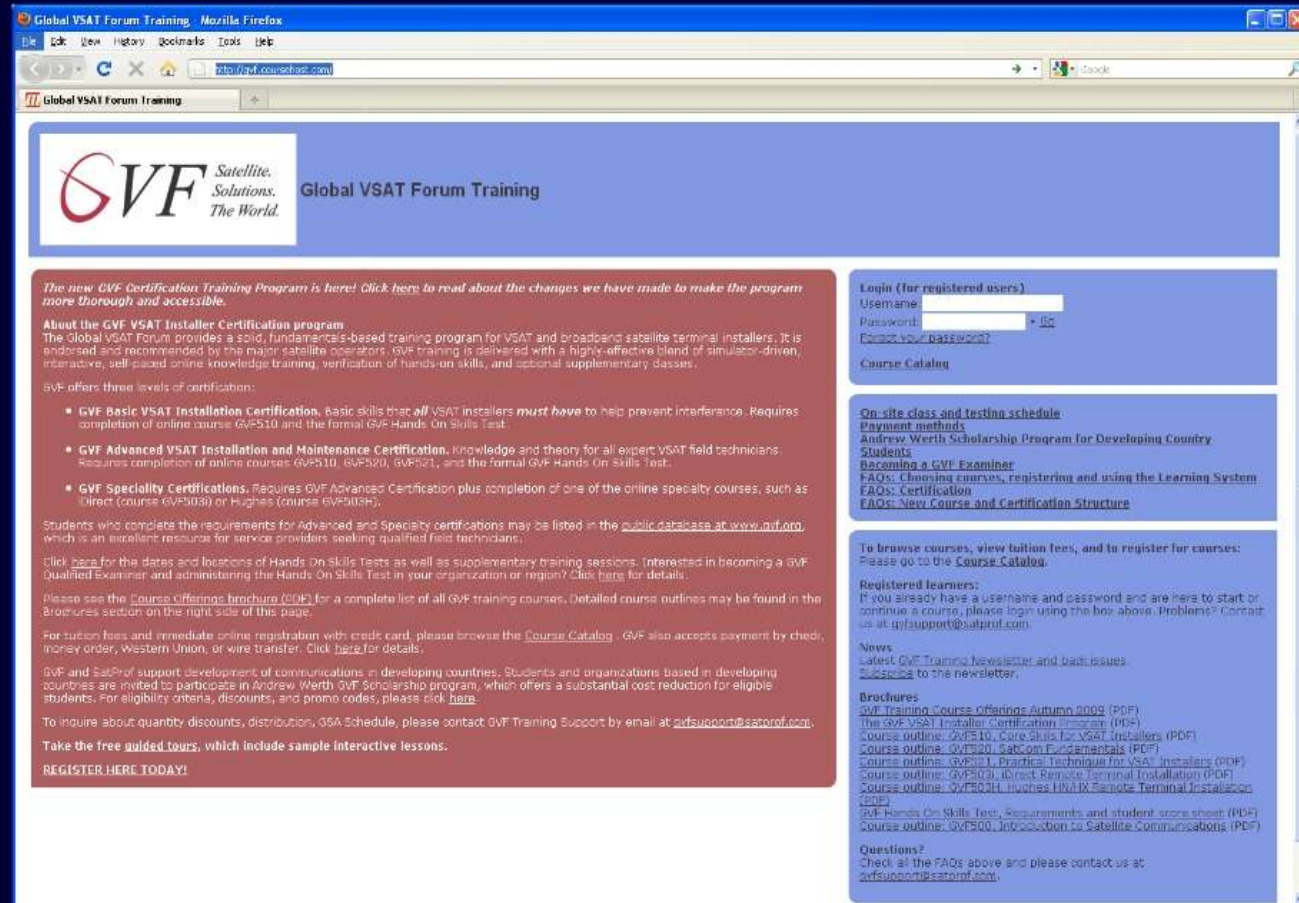


GVF Training Programme Management

<http://gvf.coursehost.com>

The GVF Training Portal at gvf.coursehost.com provides:

- ▶ Student log-in
- ▶ Self registration
- ▶ Tuition payment
- ▶ Course catalog
- ▶ Classroom schedules
- ▶ Newsletter archives
- ▶ Guided tour
- ▶ Brochures
- ▶ Certificates



The screenshot shows the GVF Training Portal website. The browser window title is "Global VSAT Forum Training - Mozilla Firefox". The address bar shows "http://gvf.coursehost.com". The website header features the GVF logo and the text "Global VSAT Forum Training".

The new GVF Certification Training Program is here! Click here to read about the changes we have made to make the program more thorough and accessible.

About the GVF VSAT Installer Certification program
The Global VSAT Forum provides a solid, fundamentals-based training program for VSAT and broadband satellite terminal installers. It is endorsed and recommended by the major satellite operators. GVF training is delivered with a highly-effective blend of simulator-driven, interactive, self-paced online knowledge training, verification of hands-on skills, and optional supplementary classes.

GVF offers three levels of certification:

- **GVF Basic VSAT Installation Certification.** Basic skills that **all** VSAT installers **must have** to help prevent interference. Requires completion of online course GVF510 and the formal GVF Hands On Skills Test.
- **GVF Advanced VSAT Installation and Maintenance Certification.** Knowledge and theory for all expert VSAT field technicians. Requires completion of online courses GVF510, GVF520, GVF521, and the formal GVF Hands On Skills Test.
- **GVF Speciality Certifications.** Requires GVF Advanced Certification plus completion of one of the online specialty courses, such as Direct (course GVF503) or Hughes (course GVF505H).

Students who complete the requirements for Advanced and Specialty certifications may be listed in the [public database at www.gvf.org](http://www.gvf.org), which is an excellent resource for service providers seeking qualified field technicians.

Click [here](#) for the dates and locations of Hands On Skills Tests as well as supplementary training sessions. (Interested in becoming a GVF Qualified Examiner and administering the Hands On Skills Test in your organization or region? Click [here](#) for details.)

Please see the [Course Offerings brochure \(PDF\)](#) for a complete list of all GVF training courses. Detailed course outlines may be found in the [Brochures](#) section on the right side of this page.

For tuition fees and immediate online registration with credit card, please browse the [Course Catalog](#). GVF also accepts payment by check, money order, Western Union, or wire transfer. Click [here](#) for details.

GVF and SatProf support development of communications in developing countries. Students and organizations based in developing countries are invited to participate in Andrew Werth GVF Scholarship program, which offers a substantial cost reduction for eligible students. For eligibility criteria, discounts, and promo codes, please click [here](#).

To inquire about quantity discounts, distribution, GSA Schedule, please contact GVF Training Support by email at info@satprof.com.

Take the free guided tours, which include sample interactive lessons.

REGISTER HERE TODAY!

Login (for registered users)
Username:
Password: [Forgot your password?](#)

Course Catalog

On-site class and testing schedule
Payment methods
Andrew Werth Scholarship Program for Developing Country Students
Becoming a GVF Examiner
FAQs: Choosing courses, registering and using the Learning System
FAQs: Certification
FAQs: New Course and Certification Structure

To browse courses, view tuition fees, and to register for courses:
Please go to the [Course Catalog](#).

Registered learners:
If you already have a username and password and are here to start or continue a course, please login using the box above. Problems? Contact us at qtsupport@satprof.com.

News
Latest GVF Training Newsletter and back issues.
[Subscribe to the newsletter.](#)

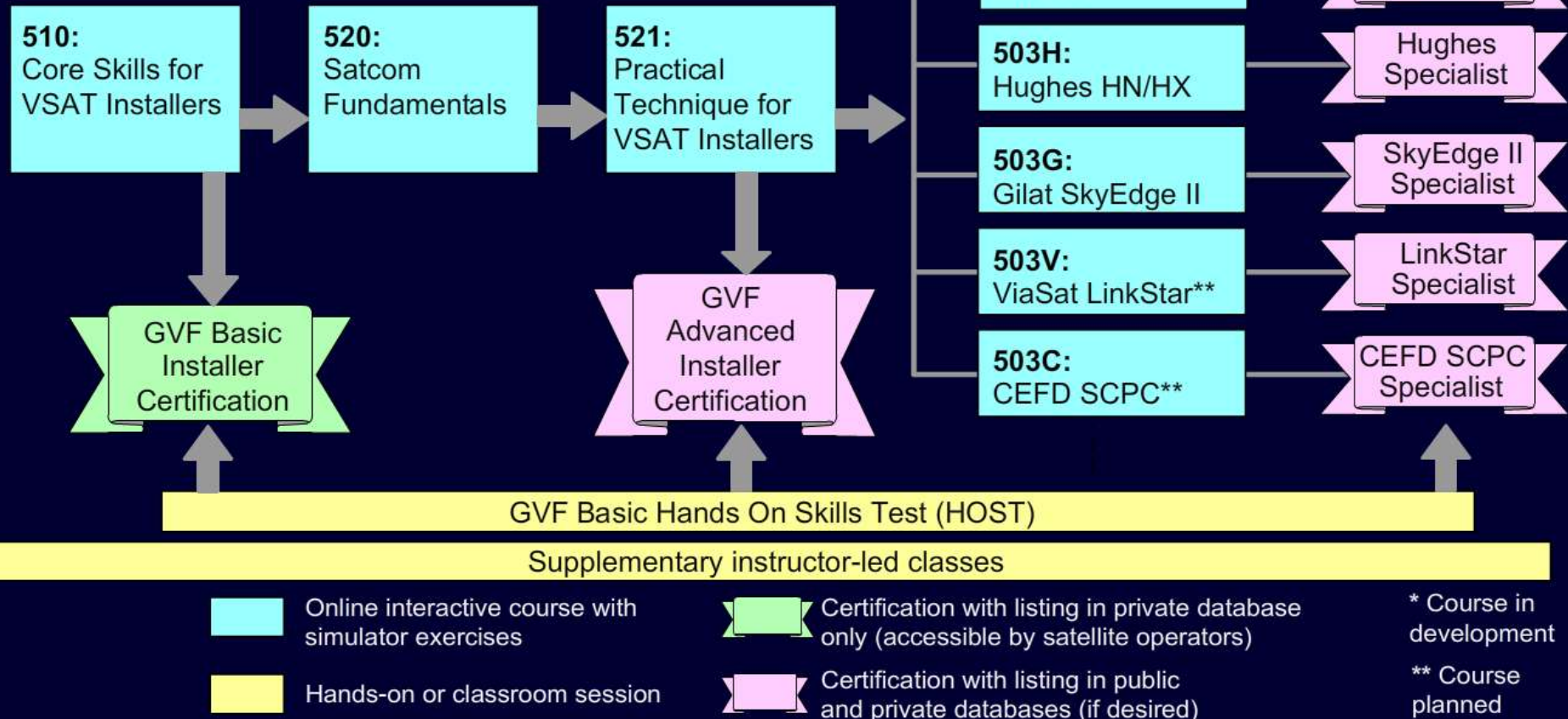
Brochures
[GVF Training Course Offerings Autumn 2008 \(PDF\)](#)
[The GVF VSAT Installer Certification Program \(PDF\)](#)
[Course outline: GVF510, Core Skills for VSAT Installers \(PDF\)](#)
[Course outline: GVF520, Satcom Fundamentals \(PDF\)](#)
[Course outline: GVF521, Practical Techniques for VSAT Installers \(PDF\)](#)
[Course outline: GVF503, Direct Remote Terminal Installation \(PDF\)](#)
[Course outline: GVF505H, Hughes HNA-M Remote Terminal Installation \(PDF\)](#)
[GVF Hands On Skills Test, Requirements and student access sheet \(PDF\)](#)
[Course outline: GVF500, Introduction to Satellite Communications \(PDF\)](#)

Questions?
Check all the FAQs above and please contact us at info@satprof.com.



GVF Certification Paths

GVF offers a sequence of VSAT installer training courses leading to certifications ranging from Basic to Advanced and various specialties.



Pre-Positioned Satellite-Based ICTs: Training Programme Status

Training program status

- ▶ Program began in 2003
- ▶ Initially all classroom based
- ▶ Accelerated by SatProf partnership in 2006 (interactive, online courses)
- ▶ Restructured 2009 for greater emphasis on core interference-preventing skills with intensive simulator skills exercises and tests
- ▶ As of the end of 2009, over 2300 students have taken one or more GVF training courses
- ▶ More than 850 have completed certification
- ▶ About 1/3 pay for their own tuition as individuals



*All required instruction is taken on-line in self-paced, interactive lessons, including realistic simulation exercises. A high-speed Internet connection is **NOT** necessary.*

For achieve certification, every student must demonstrate critical hands-on skills.



Pre-Positioned Satellite-Based ICTs: GVF Installer Training

Global VSAT Forum, GVF: an association of key companies involved in the VSAT in... Page 1 of 3



Oil & Gas Communications: South East Asia

Crane Plaza Mufara, Kuala Lumpur, November 23rd & 24th, 2010



G V F Training

Certified Installers

GVF offers the only industry-wide certification program for VSAT and broadband satellite installations. After successfully completing a series of theory courses and demonstrating required hands-on skills, the candidates receive the **Advanced Certification**. Students may go on to take additional specialist certifications.

Since its inception over 2000 students have received GVF online training and over 800 have achieved the GVF **Advanced VSAT Installer Certification**.

For more information and to register, visit the GVF Training Portal at <http://gvf.courseshost.com>.

If you are listed in this directory and wish to update your contact information, please log in to the GVF training portal (gvf.courseshost.com) and edit your Profile. Changes will be reflected in this directory within 7 days. If you have any questions, contact gvf@courseshost.com.



Global VSAT Forum Certified Installers

<http://www.gvf.org/training/index.cfm?item=installers>

Global VSAT Forum Certified Installers

<http://www.gvt.org/training/index.cfm?Item=installers>

06/18/2010



Pre-Positioned Satellite-Based ICTs:

Example Trainee Feedback

- ▶ Found the course to be effective: **100%**
- ▶ Did a good job teaching how to avoid uplink interference installing a VSAT: **100%**
- ▶ Dish pointing simulation was OK or realistic: **> 90%**
- ▶ Would take more online courses like this: **> 90%**
- ▶ Course was well written, or graphics answered my questions: **100%**



"Very good. I have over 21 years in the satellite industry and I learned a new thing or two here. Excellent job!!"

"The course is a very good one. I thank GVF making available these kind of courses for people even in remote areas like me."

"It was well presented and on a level that anyone could understand."

"I really learned a lot from this course! I knew nothing about satellites, and now I feel like a pro. Thanks!"

"I never believed that online learning could be more effective than classroom purely based on slides and animations. I am very impressed."



Pre-Positioned Satellite-Based ICTs:

Example Training Online Pages 1 – Pointing Simulator

Exercise: find and peak

In this exercise you must **find** the satellite and perform the initial **peak in azimuth and elevation**. You may assume the following:

Your location is 160 deg E, 50 deg N.

The satellite is at 134 deg E.

The VSAT will use H downlink polarization.

Pointing angles from your look angle calculator:

True azimuth = 213, Elevation = 28, Pol = 20

Remember your steps:

1. Preset the polarization. Use the Quick Reference Sheet to help make sure you are turning the right way.
2. Preset your elevation.
3. Scan coarse az to find the satellite. Step elevation up and down and scan az again if needed
4. Peak it with the el and fine az adjusters.
5. **Lock the coarse azimuth** but leave the **fine az, el, and pol locks loose**.

When you are ready (or if you need a hint), click the SHOW MY RESULTS button to see how well you did. If you are having trouble, click the HELP button.

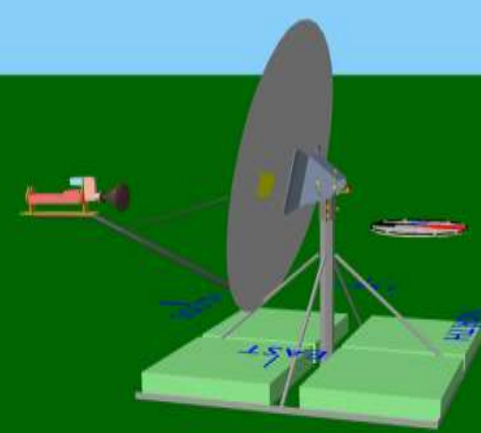
? HELP

SHOW MY RESULTS

Pointing29
© 2009 SatProf, Inc.

Total power 10
ID signal
Signal ID Meter Gain

Compass 180



Viewpoint: +, -, Antenna, Az/El, Feed
Look at: ☒ Compass, ☐ Labels, Pencil mark, Remove tool

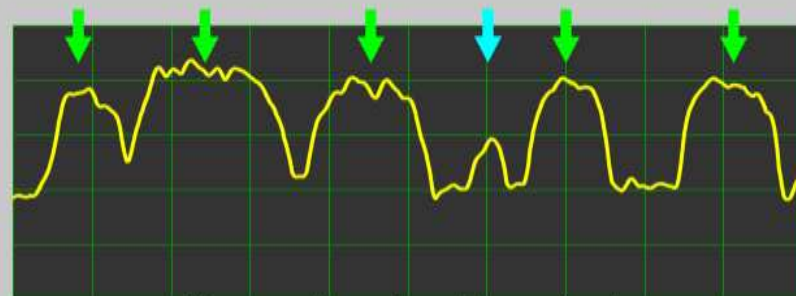


Pre-Positioned Satellite-Based ICTs:

Example Training Online Pages 2 – Cross-Pol Alignment

Core skill: cross-pol alignment

Let's rotate the feed left and right, and watch how the cross-pol interference gets stronger and weaker.



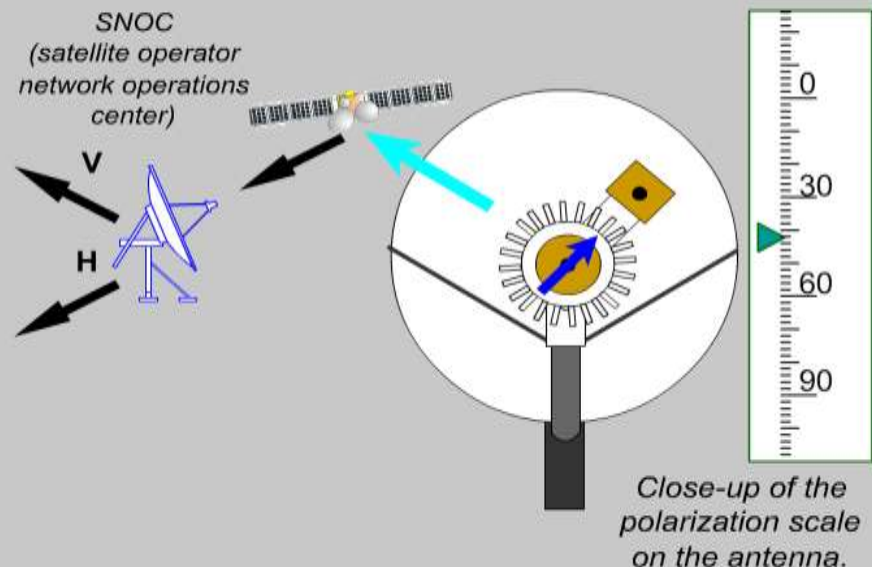
Transponder assigned to our signal



Transponder on opposite polarization

Legend:

↑ Other users' signals
 ↑ Our VSAT uplink
 ↑ Cross-pol interference



7



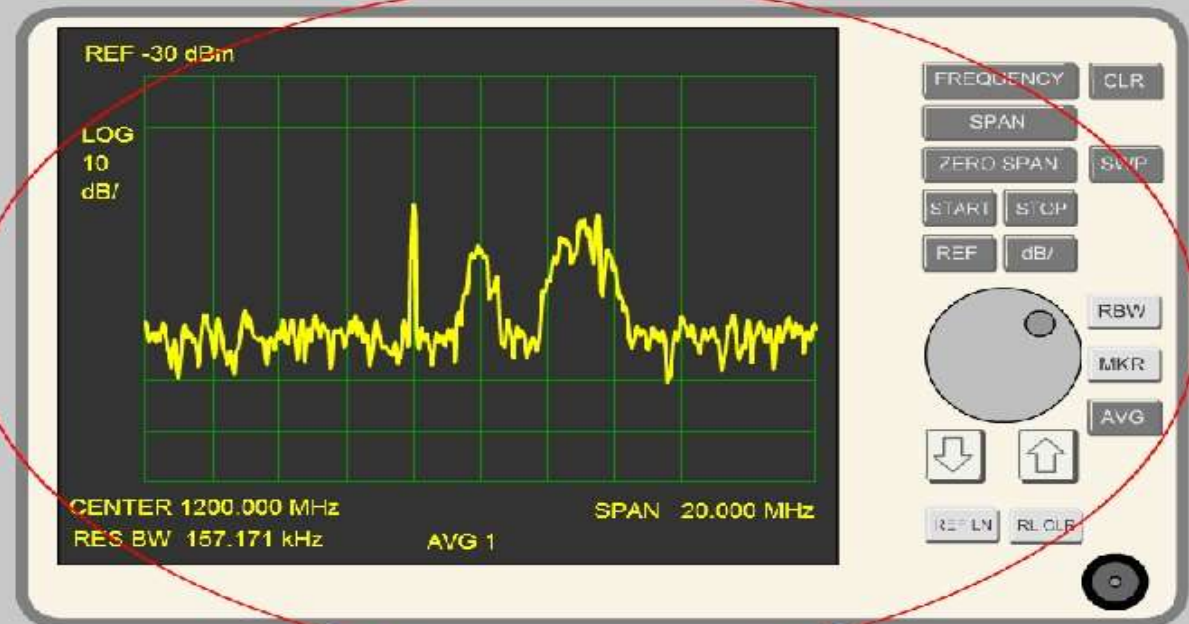
Pre-Positioned Satellite-Based ICTs:

Example Training Online Pages 3 – Spectrum Analyser

Spectrum analyzer tour

The display layout and the buttons and dial on our simulator are generally similar to a conventional Agilent (HP) laboratory SA.

Other analyzers will have different appearances and may have more or fewer functions, but the general behavior of the controls will be similar.



PREV



NEXT



RESET ALL SETTINGS



Thank You

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Management and Space Technology
12-14 October 2010**

