WorldSpace Foundation Multimedia Service (WSF-MMS)
General Installation and Service Guide (Africa and Asia)

August 2002 Compilation

Table of Contents

1. SYSTEM BACKGROUND INFORMATION

1.1- About the WorldSpace Foundation (WSF)

The WorldSpace Foundation is a publicly supported 501(c)(3) nonprofit organization headquarted in Washington, DC, USA. Our mission is to help improve the lives of disadvantaged persons in developing regions of the world by providing access to educational, health and development-related information by using a digital satellite radio broadcast. With a special radio receiver, users can receive a variety of audio material. In addition by connecting the receiver to a computer via a special adapter, the same system can be used to deliver multimedia content directly to a user's computer in a form akin to a one-way Internet.

The WorldSpace Foundation currently works with some 200 grassroots civil society organizations in 50 African countries to develop social development and educational content for WSF's award winning services, the Africa Learning Channel (our audio service) and the WSF Multimedia Channel (our data service).

In short by working with international, national, and nongovernmental organizations, the WorldSpace Foundation has a unique capability to provide access to subscription free educational and information programs in remote areas.

1.2- About the WSF Multimedia Channel

The WSF Multi-Media Service was launched in April 2000 as a cost-effective service for our partners working in regions with little or no access to the Internet. The service transmits web-based multimedia documents via satellite to the computers of target audiences. Currently, physicians, community health workers, meteorologists, farmers, community development workers, disaster relief workers, and community broadcasters in Africa receive information via the WSF Multi-Media Service. Some of the material transmitted on the service includes articles from major medical journals, hourly weather updates with accompanying satellite imagery and charts, radio scripts for community broadcasters in rural areas, and the latest news from across the continent.

The WorldSpace Foundation's channels and services are and will remain subscription free, but as the WSF shares the same satellite used by a commercial group, users may notice certain additional services and channels are also available. Some of these are also free, while others require a subscription fee. The other services and channels, although

not associated with the WorldSpace Foundation are potentially available to users in certain African countries willing and capable of paying a subscription fee. Users interested in this commercial service, which is provided through the WorldSpace Corporation, must contact a WorldSpace Coporation Customer Service Representative. The WorldSpace Foundation is unable and will not help to setup commercial accounts.

1.3- Satellite Coverage

Currently the WorldSpace Foundation has multimedia broadcast capacity on the two operational WorldSpace Corporation satellites. These satellites are Afristar and Asiastar, with footprints show below in the coverage map. In Asia broadcast capacity is only available for the WSF on the northwest and southeast beams. The northeast beam covering China and Japan is not currently available to the WSF. On the AsiaStar satellite the WorldSpace Foundation currently provides only a data service -- available as WSF DATA. Of course other non-subscription based audio material provided by the WorldSpace Corporation is still available.

On the AfriStar satellite all three beams shown broadcast the WorldSpace Foundation's Multimedia Service (WSF-MMS), which is a data channel available as ALC DATA . In addition the WorldSpace Foundation produces the Africa Learning Channel audio programming that provides a variety of educational and development related material. Finally, the WorldSpace Foundation also provides capacity on the AfriStar satellite to Canal EF which is a French audio channel dedicated to educational and development related information.

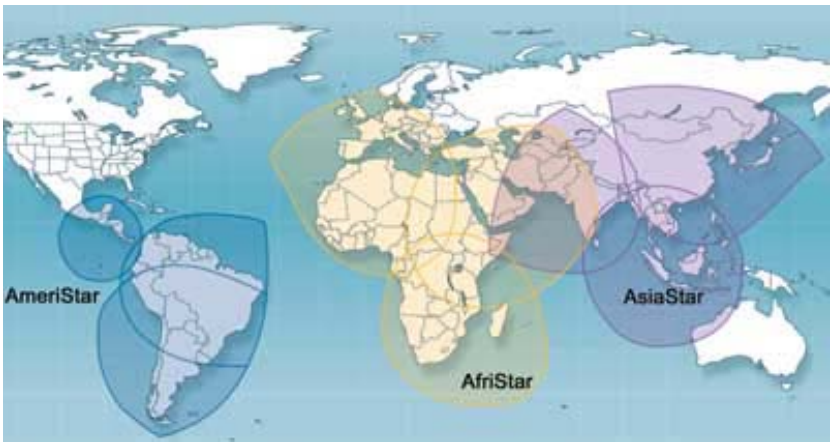


Figure 1: Current and Planned Coverage of WorldSpace Corporation Satellites. The WorldSpace Foundation operates on the AfriStar and portions of the AsiaStar satellites.

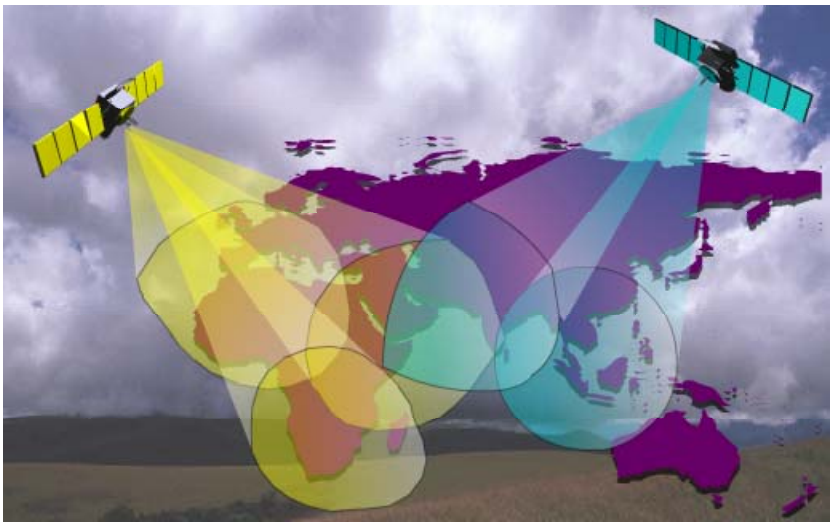


Figure 2: Current Operating Coverage of WorldSpace Foundation Audio and Multimedia Channels. ALC DATA Coverage Over Africa (Yellow/Left). WSF DATA Coverage Over Asia (Blue/Right).

1.4- How the Multimedia Service (Data Channel) Works

The WorldSpace Foundation operates a data service channel on both the AfriStar and AsiaStar satellites. The system relies upon digital satellite radio technology to send what is in essence a one-way internet to computers with inadequate or simply no Internet access. Individual collections of information sent by the WorldSpace Foundation in cooperation with a variety of content producers. Information distributed via the system addresses a host of development issues such as health, agriculture, news, weather and climate, or a variety of other areas.

To access the WorldSpace Foundation content all that is needed is a computer and a WorldSpace Receiver and PC-Adapter Card. Like radio programming, certain content is broadcast at different times each day to update information and provide the site to new users. The geostationary satellite (either AfriStar or AsiaStar) broadcasts content to the receiver, which is saved directly to a computer with the use of an adapter card. As the broadcast is stored directly on the users' local hard drive, information can be viewed at leisure and without the delays associated with downloading content via traditional phone or terrestrial based systems.

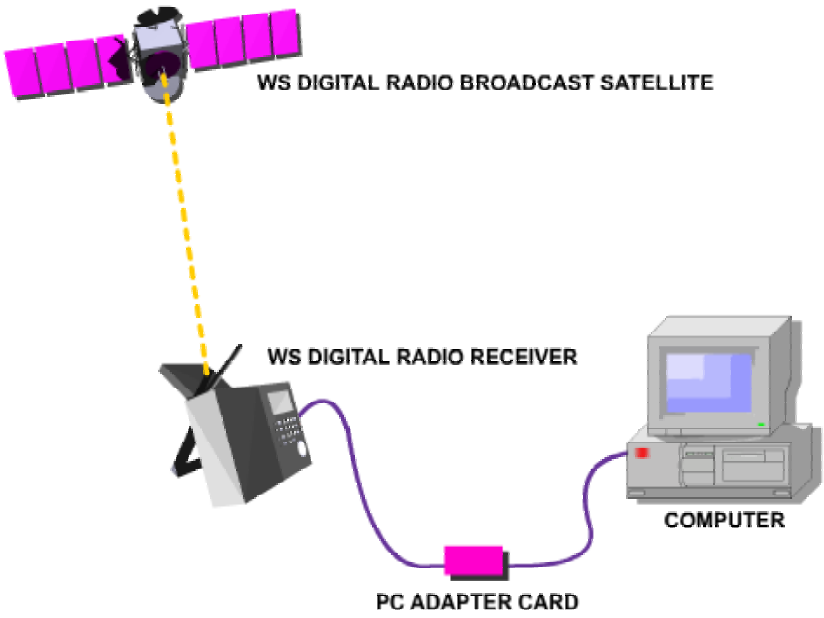


Figure 3- Information is broadcast from the WorldSpace (WS) digital radio satellite. Using a WS Digital Radio Receiver and a special PC Adapter Card, information is automatically saved on user's hard drive where it can be viewed at leisure.

It is important to note that the WorldSpace Corporation and Foundation broadcasts are one-way. It is not possible to do two-way communication with this system alone. Many of our project users and partners couple the WS technology with other networks to create a two way system, but the WorldSpace Foundation broadcasts are not capable of sending e-mail or information requests associated with the Internet.

1.5- Broadcast Capacity

The WorldSpace Foundation data broadcasts are made available on the AfriStar and AsiaStar satellites, as part of an agreement between the WorldSpace Corporation and the WorldSpace Foundation. Part of the capacity granted to the WorldSpace Foundation is then dedicated to both audio and multi-media channels, where the WorldSpace Foundation produces unique content and works with partners to broadcast their own data or audio programming.

The broadcast deliver rate of the data channels, on both the AfriStar and AsiaStar satellites, is 64kbps. This means that the multimedia services can broadcast 28.8 megabytes per hour -- or 480 kilobytes per minute. (8 bits = 1 byte, therefore 64/8 * 60 *60). While the total hour capacity is 28.8 MB, to ensure there is buffer space between

different programming, the WSF currently sets is data channel schedules based on a 21mb hour. The buffer helps to ensure the broadcast maintains its set schedule as content size changes. As the data channels grow and schedules change, the 21mb hour may increase or decrease depending upon needs.

The overall broadcast capacity is therefore around 3.5 gigabytes of information every week. Information, however, is commonly rotated on a six hour basis and replaces older content in order to protect user's hard drives while ensuring they are able to get the latest broadcast information without having to constantly download from the satellite. We generally estimate that a few hours of download per day is more than enough to ensure the content on the users' hard drive is relatively up to date. Of course users' can optimize and target their downloads based upon the broadcast schedule. At any one time the total amount of content on a users' hard drive does not exceed 400mb. Content is continually updated, overwritten, and eventually deleted.

As a final note, as the signal from the satellite is digital, it means the content carried on the WSF Multi-Media Channel could take any form -- video, audio, text, animation, etc.

2. EQUIPMENT AND CONFIGURATION

2.1- Hardware Requirements

The WorldSpace Foundation Multimedia Service requires users have one of several models of digital radio receiver specifically designed for use with the WorldSpace system. Potential users can visit http://www.worldspace.com to examine the various models. In certain countries local retailers also sell the WorldSpace receivers and accessories. Of course users can also contact the WorldSpace Foundation to see which models are currently available.

In addition to the receiver users of the multimedia service must have an adapter card (such as the SPCA or DDA) that connects the receiver to their computer. If only the WorldSpace Foundation Multimedia Service will be accessed, then it is possible for the system to work on a 486-grade computer, however it is generally recommended to operate on a Pentium II grade or better computer. The operating system should also be Windows 95/98/2000/NT -- users should note however that certain adapter cards are compatible only with certain Windows operating

systems, so for instance the DDA will not work with Windows NT. The users computer should also have at least 500mb of free disk space on the c:\ drive.

The system can also be set up with the WorldSpace Internal PC Card, in which case the card serves to replace both the receiver and adapter card, but this options requires users being able to open their computer and successfully installing an internal card.

Figure 4: Diagram Showing Basic Setup With WorldSpace Receiver and Adapter Card (DDA)

Figure 5: Diagram Showing Basic Setup With WorldSpace Internal PC Card

2.2- Quick Start Guide

Equipment Check

1) Ensure you have a Windows 95/98/2000 machine with at least a 486 processor or better. At least 500mb of free disk space should be available on the c:\ drive.
2) Check that you have one (1) WorldSpace Digital Radio Receiver.
3) Check that you have one (1) WorldSpace PC-Adapter Card -- SPCA or DDA.
4) Check that you have one (1) WorldSpace Software Installation CD, AND Ensure the CD Is Properly Associated With the SPCA or DDA. (If you are running Windows

2000 and installing software associated with the DDA, be sure to have your Windows 2000 installation CDs before attempting to install the system.

Software Installation

1) Insert WorldSpace Direct Media CD into CD-ROM drive -- installation program should start automatically. If it does not start after several seconds, select CD-ROM drive from "My Computer."
2) Generally follow typical instructions. This means clicking next and selecting typical and normal installation. Unless reason to do so, do not install as compact or custom. Two programs (the WorldSpace Content Viewer and WorldSpace Client Services) will be installed, as will supporting software (such as Windows Media Player or Quicktime) if necessary.
3) After installation is completed, restart computer as prompted.

Equipment Setup

1) Ensure that PC-Adapter Card and Receiver have power source. (No power source is needed for the DDA adapter card) Connect cables between PC-Adapter Card and computer, as well as between PC-Adapter Card and Digital Radio Receiver.
2) Attach extension cable for digital antenna to digital radio receiver and digital antenna.
3) Place antenna outside such that it will not be blocked by glass, concrete, or stone structures and that it faces the general direction of the AfriStar satellite. The satellite is basically centered over the African continent, so users in southern Africa should face the digital antenna in a general northerly direction, those in eastern Africa a westerly direction, and in western Africa an easterly direction. The official WorldSpace receiver instructions provide more details to optimize reception.
4) If you need additional extension cable to properly place your antenna for good reception, regular coaxial cable, as that used for televisions will work and is generally very inexpensive.

Software Configuration: SPCA Only

1) Upon start-up for the first time, the WorldSpace Client Services software will prompt you to configure your COM port. Generally you should leave the baud rate alone, and select COM1 as the default port. In some cases computers will have multiple COM ports, therefore you may need to select a different port, and if the download is

unsuccessful, chose a different COM port. Either way, make your selections, save, and then restart the WorldSpace Client Services software.

2) After configuring the COM port, restart the WorldSpace Client Services software and configure the disk cache. Set it to "forever" or at least "7 days" and ensure the disk alert is set to at least 300mb.

3) Users on older machines will likely want to use the ALC Content Viewer, rather than that of the WorldSpace Direct Media Service. To make the viewer available, simply goto "c:\program files\worldspace\DMS\content" and then select alcviewer.exe. (NOTE: You will likely have to download several hours worth of content before the ALC Viewer is downloaded to your computer.) Right click on the alcviewer.exe and create a shortcut. Move the short cut, by dragging, to your desktop. DO NOT MOVE THE ACTUAL ALCVIEWER.EXE FILE.

Software Configuration: DDA Only

1) Follow steps two (2) and three (3) from SPCA configuration.

Downloading

1) Turn on your WorldSpace Digital Receiver and tune it to "ALC DATA", if receiving on the AfriStar satellite. Tune the receiver to "WSF DATA", if receiving on the AsiaStar satellite.

-- ALC-DATA (Africa) - 792

-- WSF-DATA (Asia) - 1190

2) Ensure your adapter card is powered and connected to the receiver and computer.

3) Ensure you are receiving at least three bars in the receiver display window.....ensuring you have ample reception.

4) Start your Client Services software.

5) The Client Services icon in the system try (generally the lower right) of your screen should turn green when content is actively downloading. If the icon does not turn green for even a moment after an hour, then either your reception or installation may be incorrect.

6) Note: It is recommended that you let your PC run with the WorldSpace Client Services program activated for the first 2-6 hours following installation so that you can download a large portion of the content.

2.3- Software Requirements

In order to operate the WorldSpace Foundation Multimedia Service two pieces of software are required. The first and most important is the Client Services software. This comes on a CD passed out with the SPCA, DDA, and Internal PC Card. It is important to note that although each adapter card has uses the Client Services software, each requires a different installation CD. YOU CANNOT USE AN SPCA INSTALLATION CD FOR THE DDA OR INTERNAL PC CARD. The software, although functioning the same, is not transferable.

2.4- Overview of the WorldSpace Client Services Software

The WorldSpace Client Services program provides the following functions:

1) Communication with the PC-Adapter Card (SPCA or DDA) to allow downloads.
2) Monitoring of your hard disk cache to delete old content.

Whenever your wish to download material from a broadcast, it's important that you always have the WorldSpace Client Services program, your computer, the PC Adaptor, and the receiver running. Your computer monitor does not need to be running. And that is important because the monitor requires almost all the electrical power.

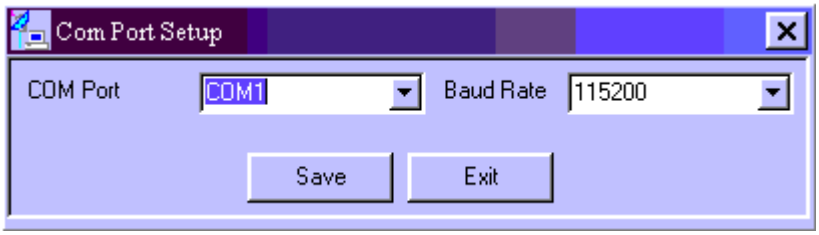
Starting The Program from the Start Menu

You can start the WorldSpace Client Services program in one of two methods. The first method is to use the Start Menu (we will start it via the second method at the end of this page). With the mouse, select Start menu, then Programs, then WorldSpace, then WorldSpace Client Services, as shown below.

Selecting the COM Port

The first time you run the WorldSpace Client Services program, it will prompt you to select a COM, or serial, port number, as shown below.

Click on OK. The configuration screen will appear, as shown below.



If your system had only one serial port, select COM1. If you have more than one, select the one into which that you inserted your serial cable. Note that if your computer labels the port A, B, etc., port A corresponds to COM1, port B corresponds to COM2, etc. As for the baud rate, you should leave it at 115,2000. After you make your selections, click on Save. The system will prompt you to shut down the Client Services program to let the changes take effect, click on Yes.

Note: this screen can be accessed at any time by running the *WorldSpace Client Services* program, double-clicking on its PC and satellite dish icon in the system tray (next to the clock on the lower right of the PC screen, and then selecting "COM Port" under the "Configure" pulldown menu.

Starting the Program from the Desktop

After having configured the WorldSpace Client Services program, you will need to start it again for the next part of the tutorial. To do so, let's use the desktop icon, as shown below.

Downloading Content with the WorldSpace Client Services Program

Note: please disable any screen savers during download. This is because the operating system allows the screen saver to use all the CPU resources during portions of its operation. When this happens, the *WorldSpace Client Services* Program cannot download content properly . The result will be errors in the transmission. To avoid these errors, simply turn off the screen saver during download.

Monitoring the Download

When you have the receiver tuned to the proper channel, the PC Adaptor-64K connected correctly and power on, and the WorldSpace Client Services program running, you will see the status light on the PC Adaptor-64K flashing.

You can monitor the download by running the WorldSpace Client Services program, double-clicking on the PC and antenna icon in the system tray next to the time in the lower right corner of your PC screen, and then double-clicking on the PC and antenna icon in the left side of the "WorldSpace Client Background Tasks" screen. Doing so will bring the MMDR-View screen, as shown below.

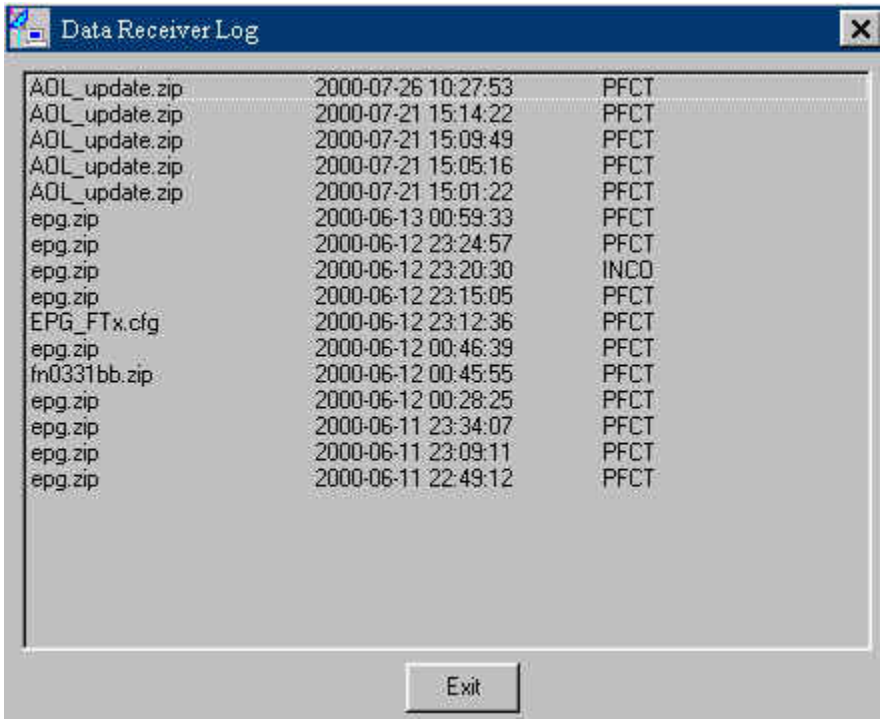
You will see the names of the files being downloaded. All files on the ALC queue on zero. You will see the file names appear as they are being downloaded and the % done will increase from 1 to 100. The File Status will appear upon full download:

PFCT - transmission without errors. The content is stored on your PC hard drive.
INCP - transmission with errors. The content is not be stored on your PC hard drive.
ABRT - transmission with errors. The content is not be stored on your PC hard drive.

Checking the Log Files

You can check the status of past downloads by checking the Data Receiver log file. This screen can be accessed by selecting "Data Receiver" under the Log Files pulldown menu, as shown below.

You will see the data receiver log screen, as shown below. Each entry represents a file for which a download was attempted. The statuses are as explained above.



Changing the Cache Setting

After content has been downloaded onto your PC hard disk cache, the WorldSpace Client Services program will periodically delete older content and warn you if the amount of free space of your hard disk is getting too low. You can set the number of days that content will be stored before it is deleted and the amount of free disk space before the WorldSpace Client Services program begins to warn you of the situation.

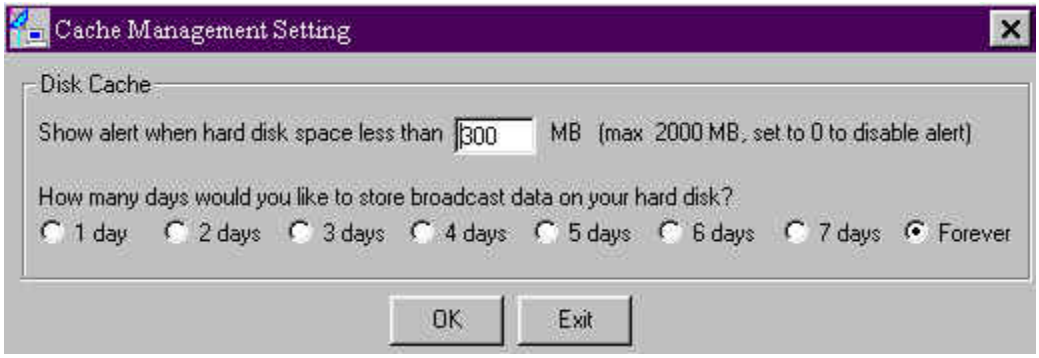
Warning: while content has automatic overwrite functions, it is important that you periodically delete old content and maintain sufficient free disk space. Overloading your computer may cause your computer to crash.

Invoking the Cache Setting Screen

From the main WorldSpace Client Services program, you can invoke the screen that enables you to set the parameters by selecting Cache Setting under the Configure pull-down menu, as shown below.

Setting the Free Space Limit

On the Cache Managament Settings page, shown below, enter the value (in megabytes) for the low cache warning threshold. This is the value below which the WorldSpace Client Services program will remind you that you are running of our free disk space. If you keep downloading content despite this warning, there is a chance that the system may lock up or crash. Please do not download content when the warning level has been reached.



Setting the Days to Keep Content

Also on the Cache Management Settings screen is a value for the number of days to keep content before the WorldSpace Client Services deletes it. This value is designed to ensure that you have plenty of free disk space to download new content. If you click on "Forever", the content will never be deleted. Although this is potentially a dangerous setting if you are downloading content via commercial services, the overall size of the Africa Learning Channel is purposefully kept very small. Moreover, in order to utilize all of its broadcast space while accomodating several users, only portions of the provider content is broadcast at any one time. It is therefore critical to viewing content that the setting be put to "Forever." Otherwise key links and pages to material will be deleted.

2.5- ALC Content Viewer

The ALC Content Viewer is an alternative to accessing content downloaded via the ALC DATA or WSF DATA channel. Users can use the WorldSpace Content Viewer, however many have noted that the viewer does not work on older machines or is very slow to load. If you only use the ALC Multimedia Service, then you may find the ALC Viewer as a better way to access content made available by the WSF -- particularly if your computer is a Pentium I grade or even a 486. The ALC Viewer is simply a start-up program that opens your default Internet browser with the first page being the WorldSpace Foundation Africa Learning Channel main page.

The ALC Content Viewer is automatically downloaded to your computer when you download content from the ALC Data Channel during the WSF broadcast time. Generally this material downloads several times each day. (Check the ALC schedule for details.) Users first starting their system may wish to simply install, configure, and run the Client Services programming. After several hours of download, the ALC Content Viewer should be available for installation.

To install/run the program you simply need to run a downloaded .exe file. To do so navigate to the location where material is downloaded to your computer. This location is generally **c:\program files\WorldSpace\DMS\content.** Once you've navigated to this location, open the "alcsoft" folder if using the AfriStar broadcast or "asialcsoft" if using the AsiaStar broadcast. Then navigate to "software" and finally click on the installation (.exe) file. This should automatically install the software with the following shortcut/icon on your desktop, as well as in the Start menu.

The shortcut should look something like this.

If you are unable to find the installation .exe, after several hours of download simply click on the index.html file located under c:\program files\WorldSpace\DMS\content\alcsoft for AfriStar users and c:\Program Files\worldspace\DMS\content\asialcsoft for AsiaSoft users. Then navigate under the

system management section of the web page that opens to the link for the ALC Viewer installation. Clicking on this link will automatically start the installation. If you receive an error message when clicking the installation link, then you likely need to continue downloading for some time until the ALC Content Viewer installation is downloaded. Again, refer to the broadcast schedule.

2.6- Adequate Reception

The WorldSpace Digital Receiver must have adequate reception in order to successfully download material from the various content providers on the Africa Learning Channel. As a general rule at least four (4) reception bars are required, however three (3) may be adequate. The reception bars are displayed in the window of the digital receiver, just below where the currently tuned channel is displayed. Each bar consists of two small rectangles. For instance, the following is equal to one (1) bar. *(Reception indicators may vary from model to model, so please refer to the receiver's user manual for details if the above and following does not apply.)*

To improve reception the receiver antenna should be placed outside away from concrete and glass structures. Also, the antenna should be pointed toward the satellite. More detailed instructions are available in the instruction manual of the digital radio receiver, however as general guidance as the satellite is over the central part of the African continent, users in southern Africa should direct the antenna to the north, in western Africa to the east, and in eastern Africa to the west.

3. Frequently Asked Questions (FAQs) About the WorldSpace Foundation Multimedia Services

Question 1: My WorldSpace software alerts me that "your trial version has expired", can I still view and receive the WorldSpace Foundation Multimedia Content?

Answer 1: Yes, despite this alert message, you can still, and will always be able to, view the content provided on the ALC Multimedia Services broadcast channel ("ALC Data"). As a public service channel, no fees or subscription to the ALC is required. The

WorldSpace software (Client Services and Content Viewer) are designed for commercial purposes associated with the WorldSpace corporation. The alert message refers to commercially available subscriptions which are not a part of ALC Data. If you have subscribed to these services and still receive this alert, then you should contact your nearest WorldSpace Corporation sales representative.

Q2: How do I know if I have successfully received an update??

A2: Content on the ALC Multimedia channel updates according to the schedule of the various information providers. In some cases this is every few hours, while other providers update content every few days or weeks. So remember that although the system broadcasts nearly every hour, the content may not have changed since you last downloaded.

The easiest way to check for updated content is to examine the "Last Updated" and "What's New?" section of the content provider's pages. If this is not available, however, start the Client Services software and to check the log file. From this you can see when you last downloaded information and if you successfully downloaded an entire file. This record, however, will only remain for several days. To check this log, start the Client Services software, and then double-click the computer and satellite icon which typically appears in the lower right of your computer screen. This area is called the system tray. The icon may be red or green depending upon whether or not you are currently downloading information. Once double-clicked a new window will appear. From here you can select the "log file" option (and then sub-options) to see if a data file was successfully downloaded and written to your hard drive.

Q3: Sometimes my download time seems to be slow, while other times it finishes quickly. Is this a problem with my computer? the radio?

A3: You should expect the download times to vary somewhat, as the broadcast content changes every day or two. This means that sometimes the update is very small, while other times the update is very large. The larger the update (i.e.: the more megabytes), then the longer the download time. In short, as long as you are receiving the updates without trouble, it is unlikely that anything is wrong with your computer or the receiver. If, however, your downloads are frequently fragmented or you are unable to download any data content, then please read the following FAQ (Q4).

Q4: I cannot download content or the download is often fragmented and therefore unusable. How can I fix this?

A4: There could be several reasons why you are not downloading complete files. The most common is related to the radio setup and placement, while the other reason might be the port settings on your computer.

Often we have found that people with this problem have poor radio/receiver placement and/or cable connections. Even if the system was initially setup correctly, wind or other factors might have loosened cable connections or altered the placement of the receiver. The first, easy step to solve this problem is to make sure all cables are well connected and that your power source, either battery or socket, is adequate. When you have selected the ALC Data channel, make sure there are at least four (4) black bars. If you have less, then the data transfer maybe interrupted. (Note: The audio channel will function very well on only three (3) bars, however the data channels really should have four.) These bars are indicators of your reception strength. Remember, buildings, walls, and other stone, glass and concrete structures can reduce your reception. You will likely have to experiment with several receiver placements to see which is optimal. Be sure to protect your receiver from the sun and heat with a wooden or styrofoam box. The box will not decrease your reception, however heat and direct sunlight may harm some receivers. Some groups have used gourds and other materials to protect their receiver.

Also, you may want to place the receiver in an area where there is little people or animal traffic. We have heard stories of flocks of birds and people that stand next to receivers blocking/interupting reception.

Another reason may be the channel you have selected on the digital radio. Make sure the radio displays “ALC Data.” If it displays only “ALC,” then you are on the audio channel and not the data channel. The audio channel transmits only voice. The data channel sends only data. If you see neither “ALC Data” or “ALC”, then you are likely on another data or audio channel. (see Q5 if you see a “4” rather than “ALC Data”)

You should also have the radio tuned to ALC DATA and have the Client Services software running 5 minutes before the broadcast of the content you wish to download. If you begin downloading after the broadcast initiates, then you will have to wait till the next broadcast. If you only get a partial broadcast, then you will not receive an update.

But if everything is connected properly, and you have managed to get four bars while having selected the data channel, then you may need to change your port settings.

To do so start the Client Services software and then double-click the icon, which appears in the system tray. (Typically the lower right of your screen.) From here you will want to choose the "configure" option and then "com port." When configure your port, you may also need to select something other than "COM1". One is the default, but if you have multiple communications ports, then you may need to select a different COM port. Of course if you have successfully downloaded before, then you should not change the port settings unless you have in some way altered your hardware.

Q5: There is a "4" on my radio display where it use to list ALC DATA, or I cannot find the ALC DATA channel, or it is not sending information?

A5: The digital satellite broadcast provided by the WorldSpace Foundation is exceptionally reliable and sturdy, however, due to routine and scheduled maintenance needs, or the unlikely and rare event that a problem arises, the ALC Data channel may need to stop broadcasting for a short period of time. In the case of the daily maintenance, the satellite is serviced every mid-night for ten minutes GMT. Larger maintenance is rare and usually takes less than a day. Moreover, this is often done late in the night so that it does not interupt broadcasts. When the ALC Data channel is taken off-line, the default setting is for it to display the number "4." Check back every now and then to see if it comes on-line again. If the problem persists, or you would like to know when the system will be operational again, please contact us.

Q6: I can see that some data channels are available, other than the ALC Data or WSF Data (AfriStar and AsiaStar respectively), but I'm unable to access these.

A6: The WorldSpace Foundation provides public/non-subscription based programming via its audio and data channels. As such no subscription to receive this content is or ever will be required, however the WSF is granted capacity on AfriStar and AsiaStar satellites via the WorldSpace Corporation which is a for profit entity. While much of their audio content is available for free, the data services of the WorldSpace Corporation are generally subscription based and often private channels. Users interested in the services provided by the WS Corporation should contact them directly.

Q7: Can the WorldSpace system be used for e-mail or other web activities?

A7: The WorldSpace technology, used by the WorldSpace Foundation, is a broadcast technology. As such it is a one-way system that delivers audio and data-based content. But as a one-way broadcast technology it is not setup to receive two-way or multipoint communications necessary for e-mail and other web browsing purposes. Simply the WorldSpace system does not provide an Internet connection, but rather allows content to be downloaded where connectivity does not exist, is slow, or where augmenting an Internet based system makes sense.

4. CONTENT PROVIDER GUIDELINES

4.1- Applicability of Your Content

Once you have become familiar with the broadcast system used by the WorldSpace Foundation, you may feel that it is a useful way for you to disseminate information to users within your program or activity. As the WorldSpace Foundation is always looking for well produced, relevant, and locally developed content, it is certainly worth approaching the WorldSpace Foundation with a plan to disseminate your information.

The following guidelines for producing content should help you get a feel for what would be required should you become a content provider. In short, however, as a content producer you will need access to the Internet in order to load content to the broadcast server. Additionally you and/or your team of producers will need basic skills in HTML or web production. While the WorldSpace system does not work like the Internet, it relies upon Internet based standards to provide transparent access to information. Also, before approaching the WorldSpace Foundation about broadcast of content, consider the applicability of your informaiton within the WorldSpace Foundation Multimedia Services goals. Specifically, is your content oriented toward educational, development, or related purposes? Additionally, as a non-profit, the WorldSpace Foundation does not carry commercial content, therefore you should not carry advertisement, or plan on using the system for commercial purposes.

Finally, while we encourage content providers to use the system to let people know what their organization does, we are always looking for content to be immediately usable and relevant, therefore your content should be more than an introduction to your organization, ts goals and activities. While we encourage content providers to produce information that is continually updated, the WorldSpace Foundation does look favourably upon reports, documents, and other materially which is 'evergreen' -- never changing but always useful and do not require updates.

4.2- Basics

The WorldSpace Foundation Multi-Media Channel transmits information via a digital L-Band radio signal carried by the WorldSpace AfriStar and AsiaStar satellite. This information can then be received by anyone within the broadcast area who possesses a digital radio receiver. Since the broadcast is in a digital format, content can easily take forms other than voice, and by attaching the radio receiver to a multi-media card/adapter and then to a standard Windows operating computer, the user can download content directly to their computer's hard drive, thereby allowing them to view content either too large to be received via the Internet or where the Internet is not available. Information delivered to users' computers is sent on the WorldSpace Foundation as the ALC DATA channel on the AfriStar satellite and as WSF DATA on the AsiaStar satellite.

4.3- Formatting Content

Content sent via the WorldSpace Foundation Multi-Media Service is designed to be IE 4.0+compliant. In short most information sent over the system is standard HTML and associated graphics. It is important to note that since the system is a one-way broadcast, all Internet or external hyperlinks should be removed; or well documents so users understand they need an Internet connection to view linked content.

In addition the links should be made relative and not absolute. For instance a link to a file should not be http://www.mysite.org/myfolder/myfile.html. Nor should it be c:\\Program Files\WorldSpace\Content\mysite\myfolder\myfile.html but rather should simply be truncated to be myfolder/myfile.html. Use the "../" to navigate links to higher order folders.

Also, since the system is one way, content providers should ensure content operates client side. For instance server side scripts and backends (such as ASP, Perl, or PHP) should be removed.

Although client side scripting is allowed, we strongly recommend against it unless it has been tested on older machines, and multiple versions of IE and Netscape. As the system is designed to operate on 486 or better Windows machines, the processor capability, as well as versions of IE, will vary considerably. Moreover, users may have Javascript turned off in their browser and may not know how to turn it back on. So although some DHTML will certainly add features to your site, unless these actually improve the operability of the system, or are crucial to a specific function, you are advised to avoid these as well as other DHTML techniques.

The WSF Multi-Media Service has tested Flash content on multiple systems and current supports its use. The Flash 5.0 player is distributed via the system, so users should be able to view any Flash content. Where interactivity, sound, or other DHTML-type functions are desired, Flash (or any content supported by the Flash Player -- .swf) may be an appropriate alternative. When developing Flash content, however, keep in mind that not all users will have speakers, so you should create a presentation which is equally valuable without sound. Additionally, avoid processor intensive animations as not all users will have system capable of handling such animations.

As a final note, when designing your HTML pages, ensure that you either rely on text wrapping or that your pages are no more than 600 pixels wide. Many of the monitor resolutions of our users may not be able to display content (without side scrolling) should it be wider than 600 pixels. Generally we encourage our content providers to design for screen resolutions of 640 x 480, which means creating a web page with a width of <600 pixels. A good design standard is 580 pixel width resolution.

4.4- Sound and Video

Any sound or video presentation supported by QuickTime or by the Flash Player is supported on the WSF Multi-Media Service. Providers should be sensitive to the fact that processor speeds of users vary considerably, as well as the fact that many, if not most users, lack speakers on their desktop systems.

4.5- Documents

Content providers are free to send information in PowerPoint or Microsoft Word format as long as their broadcast space is not overrun. Generally it is strongly recommended that these documents be converted to HTML. Not only does this save considerable memory space, but it ensures that all users can view the documentation. If Microsoft Word or PowerPoint documents are broadcast, ensure that they are saved as an older version.

If you must send documents rather than HTML, consider sending PDFs. Often these occupy less room, and as the Acrobat Reader is available via the system, all users will be able to view this content. Conversion to a PDF is relatively simply as it requires basic software and the action of printing the document through the Adobe PDF Writer.

4.6- Databases

In short content providers should be aware that databases or spreadsheets sent in MS Access or Excel formats may or may not be viewable. Moreover, it should just be assumed that formats such as Crystal Reports and File Maker Pro are not viewable by the majority of users. If a database, more importantly a database with searchable features, is necessary to your project, please consider using Flash and local text files/XML standards. Contact the WSF Multi-Media Coordinator to discuss options in more detail.

4.7- Placing Content on the System

Information processed by content providers is either sent directly to servers of the uplink station in South Africa (AfriStar) and Singapore (AsiaStar), or, depending upon needs and through special arrangement, can be processed by the WorldSpace Foundation in Washington, DC and then sent to the uplink station. Some content providers, such as in China, may use different upload stations/servers.

Sending information to the uplink station occurs through regular FTP and therefore requires an Internet connection and basic familiarity with FTP. ALL FILES SENT TO THE SERVER ARE ZIPPED. (.zip)

To upload content please contact the WSF Multimedia Coordinator to ensure zipped formats are correct and to receive your password and file destination. As brief guidance, however, all content should be placed in a single folder. This folder should then be

zipped such that the zip file contains paths for each file. Paths should be relative. For instance if the main folder were labeled “mysite”, then each path would begin with “mysite” and look something like this “mysite/myfolder/myfile.html.”

5. CONTACT INFORMATION

Multimedia Coordinator, ksponber@worldspace.org

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