

AdderLink

# INFINITY

Digital KVM Matrix

ADDERLink INFINITY: Pure digital media extension over IP. Featuring Full DVI, Digital Audio, USB True Emulation, Network Multicast, Device Switching and EPG style user interface.

## Digital Network Media Extension Solution

We have always been well known for our extensive range of KVM and KVMA extenders. The ADDERLink INFINITY now demonstrates our leading IP capability by delivering fluid interaction with computers as far away as your network can extend.

ADDERLink INFINITY allows you to build a flexible infrastructure, the likes of which have not been possible before. Locate computers anywhere you like, share connections to computers, watch the interactions others have with computers, share control, collaborate, switch computers and so on. The ADDERLink INFINITY is also the first device of its kind to allow multicasting across your network.

Adder's expertise in IP based KVM solutions also means that you get the very best video quality and fluid USB based interactions with your computer. Adder's own USB True Emulation technology has also been built into the ADDERLink INFINITY, allowing you to connect all HID (Human Interface Devices) as well as storage devices and many other USB device types too.

Optimized for both HID and Mass Storage devices, the ADDERLink INFINITY uses USB 2.0 technology to deliver reliable and flexible device support.

The ADDERLink INFINITY is available now from Adder and Adder approved channel partners.

## Flexible Usage Architecture

The ADDERLink INFINITY can be configured to deliver the ultimate in system flexibility.

In the diagram opposite, we can see the use of two remote computers resulting in several very distinct usage scenarios:

**Multicasting:** The video output from any transmitter can be multicast to many receivers. The video data only exists once on the network, and each connected user (receiver) can view the output simultaneously.

**Full Control:** This user has full control of computer 1. They are viewing the video output, listening to the audio, using a local USB peripheral and they have full keyboard and mouse control.

**Mixed Receiver:** Here a user is viewing the output video from computer 2 with full keyboard, mouse and local USB device control at the user's desk. At the same time, this user is listening to audio from Computer 1.

**A/V Only:** This user position is configured to display video and play audio only. A/V selection may be from different sources.

**Share Mode:** In share mode, two or more users have simultaneous access to a shared computer enabling collaboration or advanced control applications.

**Any to Any:** In Any to Any mode, connections are fully independent enabling one user to access the first computer whilst another user accesses another computer etc. This mode supports large scalable matrix switching scenarios.

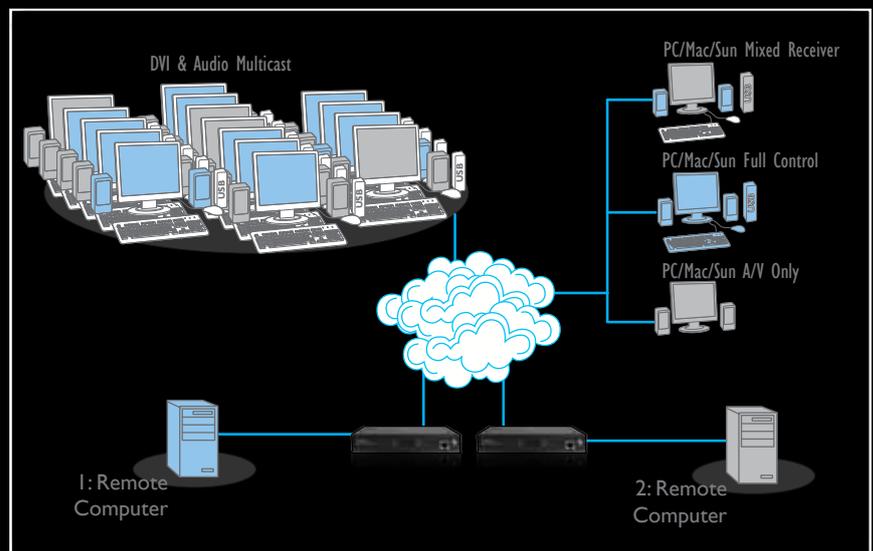
## ADDERLink INFINITY Management System (A.I.M.)

By making use of the ADDERLink INFINITY Management System, you can administrate the entire network and apply a flexible selection of connectivity rules. For example, you may wish to allow only certain users to access video from a remote computer, apply sharing hierarchy to users, or make all users view a predefined channel mixture.

The ADDERLink INFINITY Management system allows you to combine elements from remote computers and save those combinations as 'channels'. Your users can then pull up the advanced EPG (Electronic Program Guide) on their receiver and change channel, in much the same way as you would a digital TV. If two receivers wish to collaborate on a machine, or get technical support, they can both share keyboard and mouse control at the same time.

Screen grouping allows you to switch multiple video feeds together whilst using a single keyboard and mouse, ideal for use on multi-head computers.

The ADDERLink INFINITY Management System is simplicity itself to use, and because it sits on your network, you can access it from anywhere you like, day or night. You can even access usage logs which tell you which receivers have been connected to which transmitters over time, what collaboration has occurred and who is connected at any point in time. For more information see page 11.



## Perfect Digital Video:

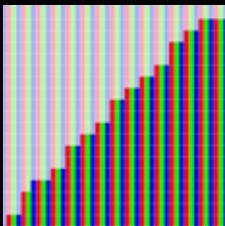
The ADDERLink INFINITY makes use of multiple video encode technologies devised by Adder to deliver the very best picture available. Our encoding systems are spatially lossless, with 1:1 pixel mapping, so the digital video you receive is the same as the digital video leaving the remote computer.

## Intelligent Video Encoding:

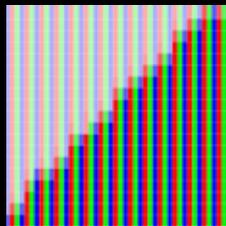
The ADDERLink INFINITY uses optimal spatially lossless compression techniques to minimize network bandwidth usage and maximize the user experience. In most usage scenarios, with typical computer desktop applications, the ADDERLink INFINITY uses remarkably little bandwidth. When it needs to deliver full screen motion video, it has the capability to process full screen moving video in real time.

## Video Colour Accuracy:

The received video colour is the same as the sent colour every time. There is never a loss of clarity with the ADDERLink INFINITY. Because of this, colour controlled environments such as visual media or scientific imaging can collaborate in real time on projects, handing control across seamlessly to other group members.



1:1 Lossless Pixel Mapping maintains pixel clarity



Non pixel mapped video can deliver soft edges

## USB True Emulation:

The ADDERLink INFINITY enables you to connect any USB human interface device from mice and keyboards through to graphics tablets, jog shuttles, joysticks and 3D explorers.

## Network Topology:

You can configure your network topology to best suit your needs. If you simply want to extend one computer Tx to one user Rx, you can do so by connecting both Tx and Rx units via a low cost CATx cable. Distance is not limited - a standard network cable will deliver IP traffic up to 100 metres away. If you want to go further, simply add a network switch in to achieve an additional 100 metres. This can be done many times if you wish.

The ADDERLink INFINITY network is assumed to be a private network which you manage. As such, you can control maximum data rates generated by each Tx unit to ensure absolute stability.

## Wireless Connectivity:

Because of the efficient manner in which ADDERLink INFINITY constructs data for IP transmission, it is perfectly reasonable to make use of standard off the shelf wireless routing to connect either Rx or Tx units to your network. Typical desktop applications (word processing, datasheet etc) will use very little bandwidth.

## Mounting Options:

The ADDERLink INFINITY units can be rack mounted, desktop mounted, wall mounted or attached to the back of your monitor using an optional VESA mounting carriage.

## DVI - Digital Visual Interface:

The ADDERLink INFINITY features full DVI connectivity. DVI delivers native digital video signals from your computer to your digital panel (LCD for example) without the need to convert signal types from the digital domain. By delivering native digital video throughout the ADDERLink INFINITY network, you can be assured of accuracy on each and every pixel.

## USB 2.0:

The ADDERLink INFINITY uses USB 2.0 connectivity to interface with your keyboard and mouse, and any other peripheral you wish to use. USB is the most broadly used computer peripheral interface standard available.

## Digital Stereo Audio:

ADDERLink INFINITY delivers crystal clear stereo audio digitally across the network. This ensures continuous fidelity and channel separation between the Tx and Rx units, or even in Multicast environments.

## RS232 Interface:

The ADDERLink INFINITY includes a bidirectional RS232 interface which can be used to connect devices such as touch screens, simple printers or to control external equipment, and feedback remote data sources.



## Medical Imaging, Collaboration and Consultation

### Medical

Medical centres and hospitals utilizing the latest technology require quick distribution of high quality images to staff located across large facilities.

Doctors and staff located at any ADDERLink Infinity user station can view images and

interact with the computers as required. Shared access and limitless multicast enables essential medical data to be distributed to exactly the right place in an instant.

One of the key advantages of ADDERLink INFINITY is that it utilises the standard

Ethernet networking equipment that may already be approved and installed for applications that require galvanic isolation.



## Banking and Trading

### Trading

A bank trader typically has several screens on their desk, along with a single keyboard and mouse used to interact with the systems.

Normally the trader interacts with the systems using a specialist keyboard. Sometimes additional screens are displaying

information that the trader uses but does not always interact with. Often other users will also be viewing these information feeds at the same time.

When the trader is required to interact with any of the other computers, they use a Hotkey on the trader keyboard to select

another computer whilst not interrupting the feeds on any of the others.

ADDERLink INFINITY Tx units are connected to the trading computers and the Rx units are connected to each of the monitors. The trading keyboard and mouse connects to one of the Rx units.



## Command and Control

### Research and Control

A number of computers are connected to separate viewing and controlling devices such as cameras or microscopes.

The data captured by the local computers is then multicast by the ADDERLink INFINITY Tx units across the network to ADDERLink INFINITY Rx stations placed behind LCD display walls and also to user stations in the control room.

Users can interact with any of the computers using separate keyboards, mice

and DVI displays situated at disparate points in the control room. ADDERLink INFINITY enables a totally flexible system to be introduced with no limitations on distance or video quality. Control can be exclusive or shared, private or multicast.

### Traffic Control

Computers monitoring the movement of traffic provide controllers the essential information to maintain smooth movement. Computers providing this information are securely housed drawing their information

from a variety of resources.

Viewing and control stations are housed in the traffic control centres often located elsewhere. ADDERLink INFINITY Tx units attached to the computers transmit the information simply point-to-point or point-to-multi-point across the network. Traffic controllers can then view and interact with the computers and their resources whilst the image remains displayed across large video arrays.



## Media Production, Post, Design and Architecture

### Post Production

A post production facility has a machine room and a number of editing suites where editors, colourists and animators can edit and create digital content.

Machine rooms can be used to store all the media assets and hardware used throughout the facility, and using ADDERLink INFINITY, they can be distributed throughout the installation. Editors can collaborate instantly with animators and colourists located anywhere on the network in real time. Producers and Directors can monitor the progress directly, and discuss direction with the edit team throughout the project.

ADDERLink INFINITY also gives you the ability to hot swap suites, taking the channel selection you require with you at all times. Expensive hardware can also be shared

between all the suites negating the need for duplicate investment.

The fanless design of ADDERLink INFINITY means facility designers no longer need to audio isolate machinery, which in turn opens up a broader hardware selection.

Facility engineers can also take control of any piece of equipment they need to, in order to diagnose and fix problems. This can be done from a single location, allowing the engineer to cover more hardware in a shorter time.

Because you can connect to anything from anywhere, ADDERLink INFINITY opens up new possibilities, such as making changes on the fly from a screening room, meanwhile discussing a project with your client to

ensure both parties are reading from the same page.

### Design

In design environments, art directors can interface directly with designers, take control remotely, or discuss concepts with clients which may be in production, or complete.

Similarly, in Architecture, multiple specialists can collaborate directly on the same project.



## Digital Signage and Advertising Networks

### Digital Signage

As part of a digital signage network, the ADDERLink INFINITY delivers real flexibility.

Using the Multicast feature, you can transmit your content from a single play-out device via DVI and deliver the same content to as many screens as you like.

What's more, it's really simple to install, all you need to run around the installation is an IP network. There are no skew issues, no softening, no RF signal drop over distance. Because of the enormous flexibility

ADDERLink INFINITY offers, you could also use it to switch between multiple video sources.

For example, signage in a supermarket could be re-configured instantly to show content from multiple playout servers on any mix of screens. In the same way, a business could use the INFINITY to enable employees to switch between different computers, and a corporate TV station or information channel, or in the event of a fire, switch all screens to an evacuation alert channel from the management suite.

Because each receiver supports USB, the ADDERLink INFINITY will also allow bi-directional communication, giving your viewers the ability to interact with the displays either via keyboard/mouse, or touch screen.

The A.I.M. suite also allows timed switching of receivers, so you can automatically switch between airport arrivals and departures for example, or create site wide/grouped alerts.



## A/V Installations

### Audio/Video

ADDERLink INFINITY is ideal for A/V installations in businesses, government, education and healthcare to name a few.

An example use could be meeting rooms and board rooms where users may require access to devices outside of the room. For example, when giving presentations, it would be possible to run directly from the

employees own computer elsewhere on the network.

### Museums and Installations

ADDERLink INFINITY is ideally suited to public spaces that want to deliver a rich media experience to their visitors. Flexibility means that as time goes on, you can simply reconfigure your implementation to achieve

new customer goals and requirements.

Operational simplicity makes the ADDERLink INFINITY incredibly intuitive to use, so very little, if any training is required. A.I.M. allows you to configure a specific installation in a user friendly way, applying meaningful names and descriptions to the channels you create.

## Flexibility

The ADDERLink INFINITY delivers the ultimate KVM toolset. Its behaviour is defined by the way you install and

configure it. It is a KVM switch, it is a sharing portal, it is a DVI extender, it is a digital signage network, it is a secure

installation and it is a broadcasting tool. Below we look a few example scenarios.

## Point to Point

### ADDERLink INFINITY as an extender

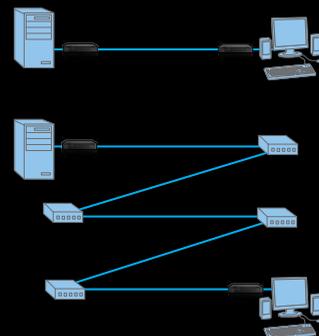
In its simplest form, you can use the ADDERLink INFINITY as a point to point extender. Simply connect a Tx to an Rx using CAT6 cable up to 100m in length. This will deliver DVI, Audio and USB perfectly.

### What if I need to extend beyond 100m?

For longer cable runs, simply add another network device such as a switch

every 100m, delivering a DVI, audio and USB extender capable of extraordinary distances. The great thing is, you can easily branch off to multiple screens at any point, or build new functionality in over time by adding additional units.

The diagram on the right shows the delivery of a 500 metre extension using 4 low cost routers.

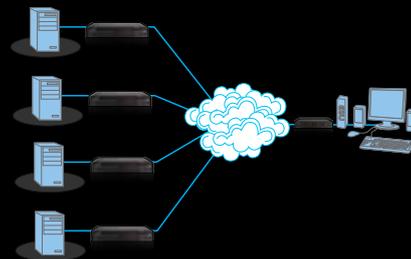


## Switching Network

### Switching between targets

With the ADDERLink INFINITY, your network becomes your KVM switch. By changing channels on the receiver, you are switching DVI, USB and Audio while the transmitters not in use continue to emulate the previously connected devices.

By turning your network into a switch, you could potentially create a KVM switch of any size you like, you can add users simply by adding receivers, and even share USB devices at the same time. By creating mixed channels, you can combine video, audio and USB from different destinations.

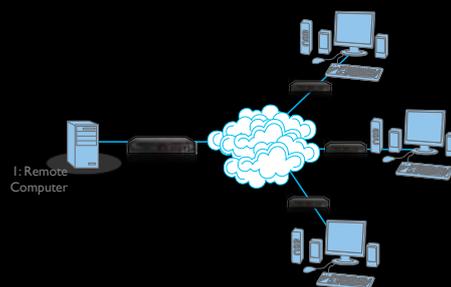


## Sharing Topology

### Sharing a single target

The ADDERLink INFINITY has been designed to allow multiple users to share a single remote computer. You are given three ways to connect; View only (shows video only), Shared (presents an open connection that others can use

at the same time) or Exclusive (once selected, no other user can either view, or share with the exception of system administrators - configurable).

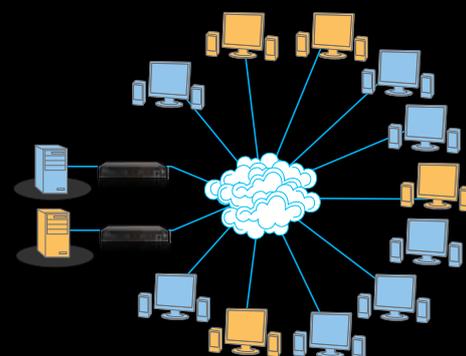


## Multicasting

### Multicasting to many receivers

A unique feature of ADDERLink INFINITY is its ability to multicast video and audio across the network. When a channel is being multicast, it does not create any additional traffic, instead, all receivers latch onto the same IP data flowing across the network.

With the ADDERLink INFINITY you have the capability to multicast content to as many receivers as you like, there is no limit, and no limit on distance (network dependent).



AdderLink

# INFINITY

AdderLink

# INFINITY dual

## TECHNICAL SPECIFICATIONS

### Hardware compatibility

All computers with DVI (inc. dual head and dual link), USB, Audio, RS232 - requirement dependent

### Software compatibility

All known operating systems

### Computer connections Transmitter (Tx)

DVI-D x 2, Audio 3.5mm in, Audio 3.5mm out, USB type B, RS232 9 pin D-Type

### Computer connections Receiver (Rx)

Video: DVI-D x 2, Audio 3.5mm in, Audio 3.5mm out, USB type A x 4, RS232 9 pin D-Type

### Physical design

1U compact case, robust metal construction. 198mm/7.92" (w), 44mm/1.76" (h), 150mm/6" (d), 1.1kg/2.7lbs.

### Power

2.5mm DC jack (power adapter included), 100-240VAC 50/60Hz, 0.4A, input to power adapter, 5VDC 12.5W output from power adapter

### Operating temperature

0°C to 40°C / 32°F to 104°F

### Approvals

CE, FCC

### Order Codes

xx= Mains Lead Country Code:  
UK = United Kingdom  
US = United States  
EURO = Europe  
AUS = Australia

**ALIF2000/P-xx** (pair - Rx & Tx)

**ALIF2000/T-xx** (transmitter only)

**ALIF2000/R-xx** (receiver only)

### Rackmount Options

**RMK 4S** : 1 unit per 1U 19 inch

**RMK 4D**: 2 units per 1U 19 inch

**RMK 4V**: VESA mount, can also be used to secure to walls/surfaces.

**SFP Fibre Module**: Single mode

**SFP Fibre Module**: Multimode

**Fibre Patch cables**: Single mode/Multimode

## PRODUCT IN BRIEF

ADDERLink INFINITY dual allows you to build a flexible infrastructure, the likes of which have not been possible before. Locate computers anywhere you like, share connections to computers, watch the interactions others have with computers, share control, collaborate, switch computers, and so on.

*“Now featuring copper and fibre IP connectivity”*



AdderLink

# INFINITY

## TECHNICAL SPECIFICATIONS

### Hardware compatibility

All computers with DVI, USB, Audio,  
RS232 - requirement dependent

### Software compatibility

All known operating systems

### Computer connections Transmitter (Tx)

DVI-D x 1, Audio 3.5mm in, Audio 3.5mm  
out, USB type B, RS232 9 pin D-Type

### Computer connections Receiver (Rx)

Video: DVI-D, Audio 3.5mm in, Audio  
3.5mm out, USB type A x 4, RS232 9 pin  
D-Type

### Physical design

1U compact case, robust metal  
construction. 198mm/7.92" (w),  
44mm/1.76" (h), 120mm/4.8" (d),  
0.75kg/1.65lbs. 1 per 1U or 2 per 1U  
rackmount kits available. Also VESA  
mount/wall mount adapter chassis  
available.

### Power

2.5mm DC jack (power adapter  
included), 100-240VAC 50/60Hz, 0.4A,  
input to power adapter, 5VDC 12.5W  
output from power adapter

### Operating temperature

0°C to 40°C / 32°F to 104°F

### Approvals

CE, FCC

### Order Codes

xx= Mains Lead Country Code:  
UK = United Kingdom  
US = United States  
EURO = Europe  
AUS = Australia

**ALIFI000/P-xx** (pair - Rx & Tx)

**ALIFI000/T-xx** (transmitter only)

**ALIFI000/R-xx** (receiver only)

### Rackmount Options

**RMK 4S** : 1 unit per 1U 19 inch

**RMK 4D**: 2 units per 1U 19 inch

**RMK 4V**: VESA mount, can also be used to  
secure to walls/surfaces.

## PRODUCT IN BRIEF

The first ADDERLink INFINITY device to be launched, this device delivers single link DVI across a standard gigabit IP network together with USB, audio and RS232. Both ADDERLink INFINITY and ADDERLink INFINITY dual are cross compatible and will work happily together in the same installation and with the A.I.M. management suite.



AdderLink

INFINITY

AIM  
MANAGEMENT SERVER

ADM

USR

UNC

ETH1

ETH2

ADM

USR

UNC

ETH1

ETH2

MANAGEMENT SERVER

AIM

ADM

USR

UNC

ETH1

ETH2

*Manage your installation from anywhere,  
take complete control in an instant.*

# A I M MANAGEMENT SERVER

## Making the apparently complicated, simple

The EPG style on screen display (shown right) is a window which appears in front of the users screen detailing the channels available to them. An administrator can specify different channels and permissions for each user. The user then has the option to connect in one of three ways (again dependent upon the way the channels have been configured). The connection methods are: View only (no USB), Shared (all users have video, audio and

USB control) and exclusive use (the channel is locked for all other users).



*Electronic Program Guide on screen display is intuitive to use, and gives a feeling of familiarity to the user.*

## ADDERLink INFINITY Manager (A.I.M.)

The ADDERLink INFINITY management suite is a set of tools to allow you to remotely configure all your connected Rx and Tx units. You can define new content channels, restrict and enable access privileges, push control, disable specific USB device classes, log user activity and so on.

A.I.M. is delivered as a single box you

plug into your network, and can access from any other device on the network. The A.I.M. hardware runs silently and is easily rackmounted.

Once plugged into the network, your administrators/managers can begin configuring devices, users and channels to fit your unique needs. Below are some examples of the A.I.M. interface in use.

### How does it work?

The A.I.M. suite is located in a small hardware device. This essentially acts as

a web server on your network. You can view the A.I.M. interface directly through a standard web interface.

When you update a receiver or transmitter (e.g. asking the receiver to change channel remotely), A.I.M. sends a configuration file/ticket to the unit specified which upon receipt carries out the new configuration (in this case changing to a different channel address).

Further to simple tasks like changing channel, the A.I.M. suite can also be used to apply new firmware to Rx and Tx units. This could be a task performed across a very large number of Rx/Tx devices at once.

### Dashboard

The A.I.M. Interface features a useful dashboard which gives you a current overview of the system. The A.I.M. interface is continually refreshed so you can always be sure that what information is given is correct.

In the screen on the left you can see a dashboard configured to show key data. You will also see a small blue box which is giving additional detail about a data item, in this case, the user details of user ID 11. This is displayed when you hover over the text.



**Latest Channels:**  
Summary of latest channels added to the network

**Latest User Registrations:**  
Recently added new user information

**Latest Receivers:**  
Recently added receivers

**Active Connections:**  
Continually refreshed list of connections as they are made and closed

**Latest User Logins:**  
The last 5 users to have logged in to the network

**Latest Transmitters:**  
Recently added transmitters

**Latest Channel Changes:**  
Last 5 channel changes, detailing: time, user, receiver used and channel

### ADDERLink A.I.M.

ADDERLink INFINITY network management suite

#### PRODUCT IN BRIEF

ADDERLink INFINITY transmitter and receiver units allow multiple remote users to access host computers in a very flexible manner. Such flexibility requires management and coordination - that is where A.I.M. (ADDERLink INFINITY Manager) becomes a mandatory requirement.

A.I.M. is designed to promote the most efficient use of ADDERLink INFINITY units by allowing central control over any number of transmitters (more commonly referred to as 'Channels' within A.I.M.) and receivers. Using the intuitive A.I.M. web based interface, one or more administrators can manage potentially thousands of users who are interacting with an almost unlimited number of devices.

Adder INFINITY Management operates from a self-contained compact server unit that can be situated anywhere within your network.

The A.I.M. server is supplied pre-loaded and is straightforward to deploy, requiring only a network connection and a power input to begin operation.

#### FEATURES

##### Access privilege

Gives users permission to only access specific channels, for example, management may want to access all channels, whereas specific work groups may only be allowed to access specific channels.

##### EPG style interface

Enables the user to display the advanced EPG (Electronic Program Guide) on any receiver unit in order to change channel/s in much the same way as a digital TV.

##### Channels

Allows the user to combine various elements from remote computers, e.g. Video, Audio and USB, and save these preferred combinations.

##### Sharing

If two receivers wish to collaborate on a machine, or get technical support, the keyboard and mouse can be shared and controlled at the same time.

##### Multicasting

Allows the screening of the same content on multiple receivers simultaneously in a single transmission.

##### Connections Reports

Allows the user to produce reports showing all connections, channel communications and logins at any given time.



##### Dashboard

The A.I.M. interface features a useful dashboard which gives the current overview of the system to show key data e.g. latest channels, latest user logins, latest transmitters, etc. across the network. Additional details can be found by selecting individual headings of key data.

##### Backup Protocol

The A.I.M. server is delivered pre-configured to automatically identify ADDERLink INFINITY units, to work with and maintain existing LDAP structures via integrated system backup protocols.

##### Refresh Protocol

The A.I.M. interface is continually refreshed so the information given is always up to date.

##### Firmware Upgrade

Allows the user to upgrade all connected units centrally.



ADDERTechnologyLtd. infinity2011\_7\_051212.indd. Some images used with kind permission from BARCO

#### ADDER TECHNOLOGY

Head Office  
Tel: +44 (0)1954 780044 Fax: +44 (0)1954 780081  
email: sales@adders.com www.adders.com

#### ADDER AMSTERDAM

Benelux, Western and Southern Europe  
Tel: +31 (0)297 753625 Fax: +44 (0)1954 780081  
email: sales@adders.com www.adders.com

#### ADDER CORPORATION

USA and Canada  
Tel: +1 888 932 3337 Fax: +1 888 275 1117  
email: usasales@adders.com www.adders.com

#### ADDER BERLIN

Central and Eastern Europe, Russia, CIS  
Tel: +49 (0)30 8849 67-50 Fax: +49(0)308849 6748  
email: vertrieb@adders.com www.adders.com

#### ADDER ASIA

Asia Pacific  
Tel: +65 6288 5767 Fax: +65 6284 1150  
email: asiasales@adders.com www.adders.com

#### ADDER STOCKHOLM

All Nordic Countries  
Tel: +46 (8) 574 210 95 Fax: +46 (8) 574 211 95  
email: sales@adders.com www.adders.com