

TVPrintCast - Synchronously Delivering Printable Data along with Television signals on Existing Television Broadcast Networks



Summary

In countries like India, currently Television broadcasting is much more pervasive than the Internet. For instance, India had 500 million television viewers as opposed to 6.5 million Internet users in 2005. In addition, Television has a broad geographic reach and delivers the “last mile” link virtually everywhere. However, though television has excellent attention capture characteristics, it often falls short on information retention characteristics. Print media (e.g. Newspapers, leaflets) on the other hand, has good information retention characteristics but is not great on attention capture. If the best characteristics of both these media could be combined, it could result in a new kind of experience.

This is what TVPrintCast, new technology from HP labs, is all about - leveraging the existing broadcast networks to deliver a new media experience which brings together the attention grabbing ability of television and the information retention of print to deliver more persistent messages, by delivering printable data on the existing Television broadcast networks. Using Television as a delivery mechanism for print documents (in general as a multicast medium) is hence an attractive option. Also, the incremental cost of delivering data through the TV mechanism is relatively low.

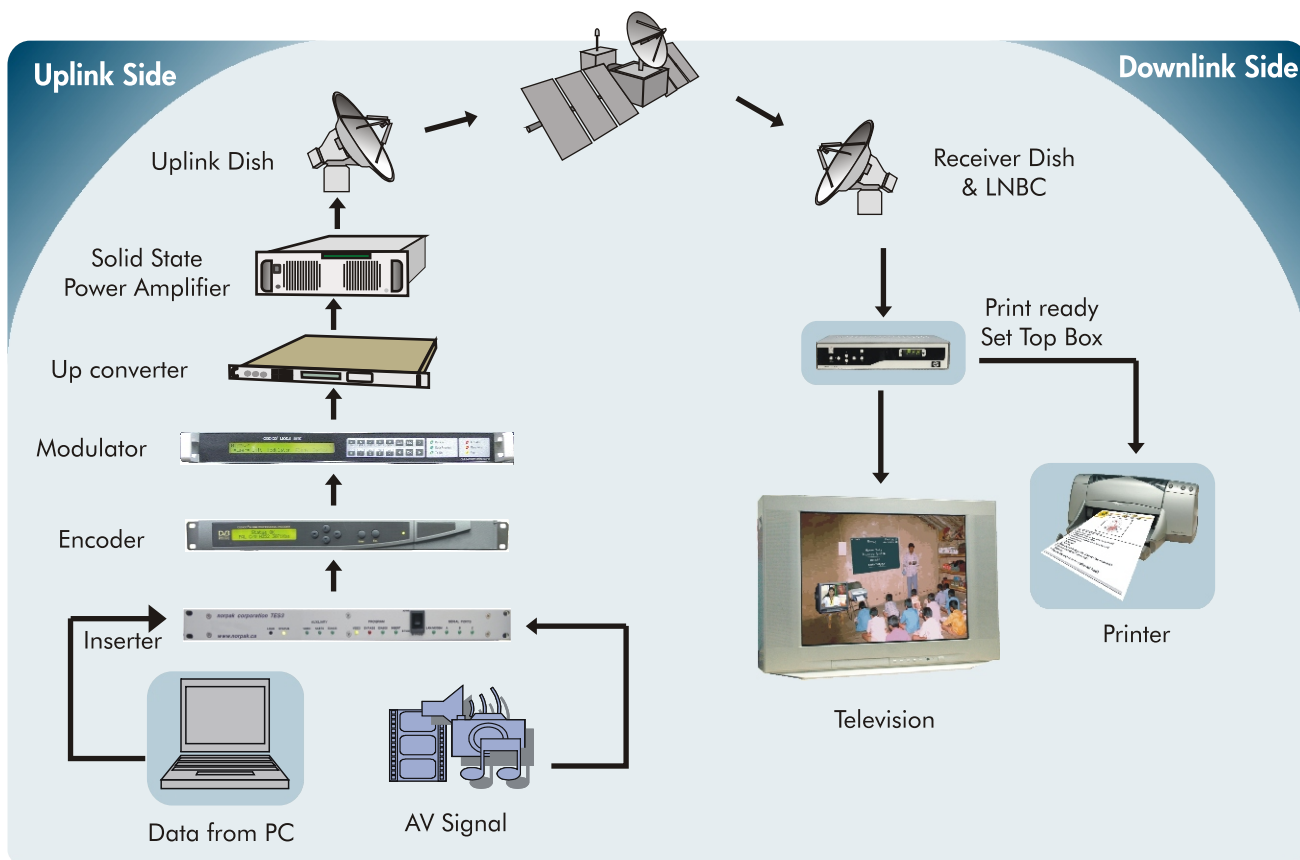
TVPrintCast

TVPrintCast is a technology developed by Hewlett-Packard Labs India that facilitates broadcast and retrieval of printable data over the existing television broadcast networks. TVPrintCast integrates with the existing networks and can be used to broadcast data that can be received, stored, retrieved or printed depending on the need or the availability of resources. The receive end is either a Television set or a Personal Computer. TVPrintCast has the ability to augment TV viewing experience with a “print” artifact without disrupting the TV viewing experience.

In order to experience TVPrintCast, content has to be specifically designed and created for broadcast by the broadcaster or content creator. The viewer will require having a printer attached to the TV set through a TVPrintCast interface- a Print ready Set Top Box.

Infrastructure Integration

The following diagram depicts the integration of the TVPrintCast Equipment into the existing broadcast infrastructure.



Infrastructure Diagram: Uplink & Downlink with TVPrintCast Equipment Integration

The regular broadcast network has been augmented at:

- The Broadcast end with a Personal Computer which provides the data source and, a standard data inserter, and
- The Receive end with a Print-ready Set Top Box and a Printer

Note: “TVPrintCast” is only an internal project name, and is not an HP Trademark

TVPrintCast - Possible Applications

TVPrintCast has evoked tremendous interest in its ability to enhance and enrich the viewers' television viewing experience. The idea of simultaneously transmitting relevant documents to widely spread user locations has evoked interest. Training and other programs organized at short notice to meet contingencies become more effective due to the ability to send and print printable artifacts. Some applications for this technology in the developmental space are identified and listed below.

Developmental Applications

A priority role for TVPrintCast is envisaged in the Behaviour Change Communication of the Government and NGOs engaged in developmental areas. This is more so given the focus of efforts and technology to increase information flow towards the rural and semi-urban areas. The low penetration of PC and internet in these areas also pre-empts the need for an integrated technology that surmounts these issues to provide access to information, and provides for interactive or discerning use and request for information.

- Distance education:
 - It provides the means of making available, reading material, classroom notes, and test papers and updates simultaneously with the live broadcast.
 - Lectures delivered via television become more interactive, updated and interesting.
 - The possibility opens arenas for initiatives that add value but do not allow much planning, for example guest lectures and expert interactions. These initiatives include formal, non-formal and teacher training.
- Telemedicine and Propagating Information for Preventive Measures:
Another area of focus and a role for TVPrintCast is in Telemedicine especially in remote locations.

Other possible use cases include

- Public Information Dissemination
 - During epidemics
 - During Calamities
 - Emergency Situations
- Location information
 - PHC
 - Relief Camps
- Benefit schemes
 - Forms/procedure to apply for them
- Agriculture
 - Information about farming techniques
 - New technology support
- Edutainment
- E-governance and Panchayati Raj:
Initiatives in these areas are seen as becoming more effective with the ability to reach information and material to the intended viewer thus overcoming ground level biases and operational hurdles.

TVPrintCast Field Trials and Current Status:

In order to validate the user experience of TVPrintCast among users, the technology was put to trial in a real environment in partnership with the Development and Educational Communication Unit, Indian Space Research Organisation, Ahmedabad, The Abdul Nasir Sab State Institute of Rural Development (ANSSIRD), Mysore and Bharat Electronics Limited, Bangalore. TVPrintCast was integrated into the ongoing SatCom based training programme for Gram Panchayat Members. TVPrintCast systems and equipment were integrated at the transmit studio at Mysore and 10 Direct Receive Centers in Tumkur District. Government Orders and other useful documents relevant to the training programme were broadcast along with the regular Satellite Television based training programme.

- The trials were hugely successful and received very positive feedback from the various user groups: the training faculty at ANSSIRD, the resource persons at ANSSIRD, the training recipients - Gram Panchayat members, the satellite network providers and many others. The trials ran for a period of 4 months.
 - Nearly 2,000 GP members from 132 GP were trained over a cumulative 33 training days
 - 330 pages of government circulars were broadcast over TVPrintCast
 - 22,000 photocopies of these pages made
 - GP members spent between 40-75 paise per page as photocopying charges
 - Copies of these documents were requested for by other centers across the state not included in the study



Numerous other use-cases have been identified during discussions and demonstrations to thought and industry leaders. A robust and stable working proto-type of the TVPrintCast solution is presently available.

For More Information Contact

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