

**Dish Portability using Dual Decoder Chips**
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**Abstract**

The paper Introduce notes on the Technology evolutions that allowed the introduction of digital DTH satellite service and contribute to its continued growth today. The Existing system in Set top Box is proposed to be operated by way of Dual card slot and expected to avail of facility to switch one in to another by monitoring through remote control device. This Paper includes some part which already in exist, &some Future work which is not yet present in India. (i.e. Two different Service provider Run on single Machine). Thus customers free to choose their Favourite channels list from service provider.

**Keywords:** Consumer, Dual slot Set-Top Box , Decoder chips, Encrypted signals, Hardware same as Dual SIM mobile, Portability ,Remote controlled switching ,Real Time System.

**Introduction**

It is well aware-off in common that dish television facility runs by that particular media/s and provides channels to the public concerned .Each media runs differ to differ so far as channels are concerned.

Now in future, by 2014 onwards dish portability is being introduced by dish media/s. In this context, more-over we may except dual media facility by insertion of dual cards on respective slot in to one set top box.

**Overview of DTH System**
**Consumer**

Each service provider wants to build relation with the consumer and that's why they introduce new services to attract new customer but the existing customer must be with them. Most customers subscribe to basic package of channels and some of them go for Premium channel (which may have more monthly fee than basic) . There are some pay per view services are available such as Films on demand, small Games and other services .Basically regional channels are available on DTH platform in India. Service providers also introduce new services named as HD video recording. It is most important function available on DTH platform and simple one also. Some of them also provide HD video quality. DTH platform also provides the International and local Channels.

**Current Activities**

Today DTH platform provides HD programming some of them also provides 3D channels also. Traditional installation required new wiring from dish.(shown in fig :a)now a day's DTH receivers (Set-top box) requires new wiring only from dish to equipment. Typically DTH wiring

flows from customers dish to one or more equipments.eg (Hall, Bedroom) [1].

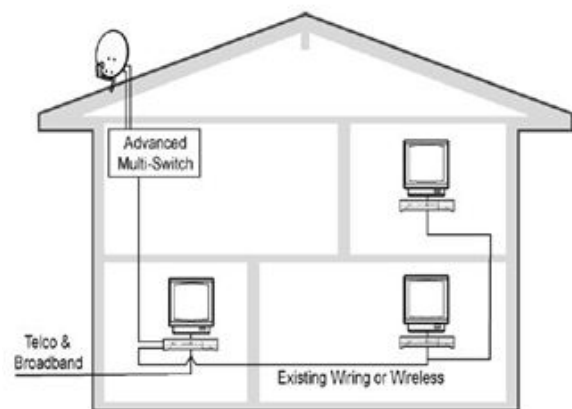


Figure 1 : New Receiver Connection System

**Proposed Work and Design**
**A. Dual slot set-top box:**

The concept behind this, change the approach towards receiver. As we know that the end component of Entire DTH system is receiver .The receiver need the proper decoder chip for that programming package. The provider can communicate with chip via satellite signal. Receiver has following jobs.

- De-scrambles the encrypted Signals
- In ordered to unlock signal
- Proper programming Package

All this Activities performed by the decoder chip. The concept of dual slot set-top box is dual chip Receiver. This Platform includes the Dual card slot set top box which work concurrently ,there is one switch button is availed on Remote control of set top box which is useful for switching one media platform to another. In this approach towards set top box which is loaded with Smart microprocessor (i.e. set top box assembly) & Additional assembly is same as dual SIM mobile phone. Using this mechanism customer is able to catch the benefits of two different services. (Example: Videocon d2h & Dish TV). If user wants to switch between one DTH platforms to another it is quit easily done by using Remote control. One Button is available to call the event of switching. Such event is performed and then process of switching is takes place.

### B. HOW IT IS WORKS?

We apply Locking protocol for providing synchronization between two different DTH platforms. We provide locking protocol for time synchronization. Due to this our Product will be designed with high capability.

**Benefits:** Now day's channels are available in the form of "Packs "different charge rates. Using two dual slots in set top box we are is able to choose two best platforms available in the market in reasonable cost. It is very useful to end user to choice the best DTH services available in India. According to the different packs available at different plat form.

### Issues

This topic discusses the major issues and challenges that need to be considered when Dual slot set top box system is to be designed. The deployment consideration for installation and operation of this system is also provided. The major issues that affect the design, deployment, and performance of **Set -Top** box using dual slot system as follows:

1. **Throughput:** This approach towards dish portability should attempt to maximize the throughput of the system. The important considerations for throughput enhancement are minimizing the occurrence of collisions and maximizing channel utilization.
2. **Use of directional antennas:** This has many advantages that include Reduction in interference, and reduced power consumption. The dish focus the signal in to a relatively narrows Beam. The receiving dish works exact opposite as of transmitter. The parabola shape reflects the radio signals inward on to a particular point.

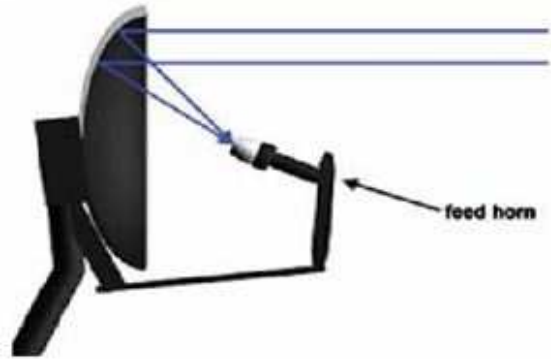


Figure: Dish with feed horn

3. **Real-time traffic support:** Supporting time-sensitive traffic such as voice, video and real time data requirements.

### Fundamental Concepts

- Assembly consisting of new hardware material which is compact & Light Weight than old one.
- System consisting of Dual Decoder chip platform.
- System supports Portability.
- Event is Performed Remotely (Switching from one service provider to another)
- Remote control acts as the basic key for performing Switching from one platform to another.
- Hard ware Frame Work introduced is somehow same as CDMA Dual SIM mobile.
- Locking protocol is used to avoid collision Problem.
- Single dish two different service providers.
- Decoder chips will be Available in Market at low cost
- Competition between service providers is increased. Which provides user friendly Approach.
- It is reliable. Cost effective.

### Implementation

This approach consists of two fundamental changes in the existing system. One is directional antennas and other is dual slot Set Top Box .in that we have to insert two different service provider Decoder chip. The concept is same as that of CDMA dual SIM card .AS we can switch any one of them,

The same concept is introduced here we can switch any one of them using Remote control. When user enters specific Button of Remote control then event is fired. Using this event user can switch between any two platform of service provider. Here the service provider has to be used different antennas

as shown in fig (reference. from network Engineering Book) [1].

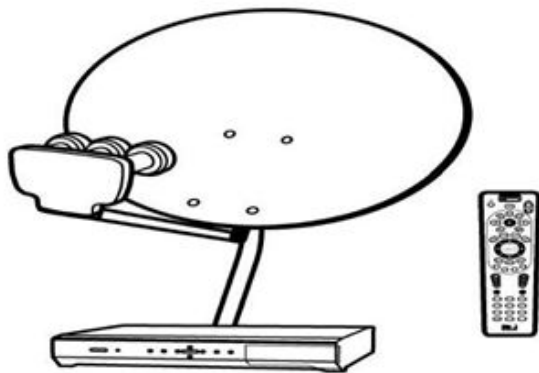


Figure: DTH Dish & Assembly

Remote control is one of the best users Friendly Electronic Device. Thus system uses Remote control as basic key point for monitoring two different platforms. The broadcast center converts all of this programming in to high quantity compressed digital stream. The stream contains vast data in the digital format. Which is received at take place .Due to this satellite can transmits about 200 channels .without compression it may reduced to 30 channels. Then further process is data encryption. Decoder chip is used at Receiver site for Decryption algorithm and Security keys.

**Algorithm**

- Data encryption Algorithm and Data Decryption algorithm to provide security using security key Algorithms.
- Time synchronization Algorithm
- Locking protocols to maintain consistency.
- Security keys like primary key.

**Helpful Hints**

This system is useful for increasing the popularity of the DTH platform. Thus it is user-friendly Real time system following fig. shows new assembly used in Receiver or Set-Top Box. Now a days in India Low cost compact Set-Top Box Assembly is used. System is able to provide service of Digital video Recording [1].

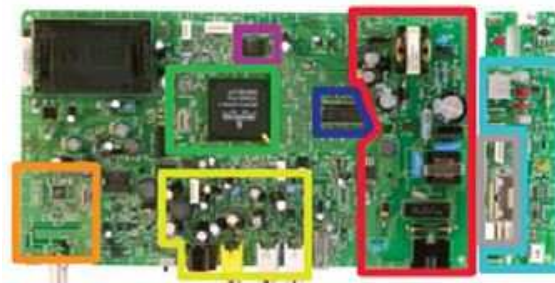


Figure: Processing unit used in Set-Top .High speed & low cost

Old Receiver System	New Receiver System
Set-Top Box consists of single slot for single decoder chip	Set-Top Box consists of Two slots For Two Decoder chips
Single service Provider.	Run on Double Service Provider.
Assembly work as Single SIM CDMA Phone thus single service Provider.	Assembly works as Dual SIM CDMA Phone. Thus two service provider
High cost Low Processing capability.	Increases Processing capability while low cost.
Fixed NO of Channels for Basic PACKS. And Pay per view services. Provided by single service Provider.	No condition of Basic PACKS. Customer Free to choose Their Own Packs. Provided by Two Service Providers.
Low speed Processing unit.	As we are switching from one Processing unit to another processing unit. System uses smart Processing unit.
No of services is fixed .fixed charge rates.	May affect on Charge rates of service providers. Depending upon the services.
Video, Audio and Data Packet provided by single service Provider.	Video, audio and Data Packets are send by Both service provider

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### **Conclusion**

The paper concludes with notes on the technology evolutions that allowed the introduction of digital DTH satellite service and contribute to its continued growth today. The Existing system in Set top Box is proposed to be operated by way of Dual card slot and expected to avail of facility to switch one in to another by monitoring through remote control device. This Paper includes some part which already in exist, & some Future work.

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