

# Low Cost Multi Standard Satellite Receiver (Data DTH) Technology



*Integrated module, size:1U (can be further decreased by vertical PCBs stacking)*

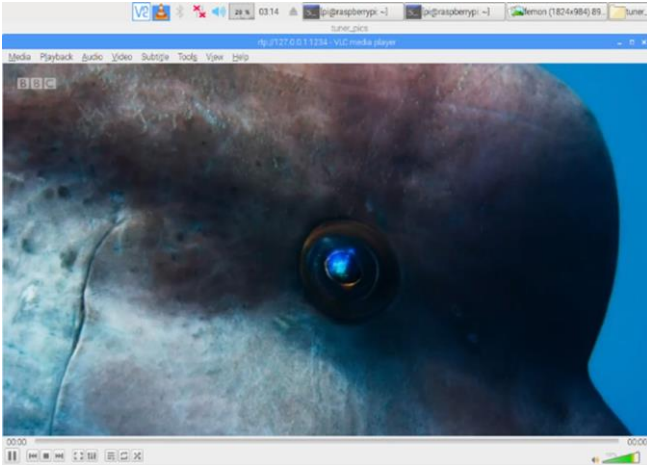
Space Applications Centre (SAC) has developed a low cost satellite receiver by Interfacing a USB TV tuner and Raspberry pi supporting multiple digital TV standards such as DVB-C/T/S/S2/S2x with tuning range from 950-2150 MHz at 1-45 Msps symbol rate for DVB-S/S2 standard and is successfully tested with GSAT-19 satellite link for the reception of Audio, video and data simultaneously for different symbol rates. In-house developed Akashganga application (A data repository application for admin and client side) is successfully deployed and tested on developed low cost receiver. The developed system can serve as an improvement for existing DTH set top box with data port at low cost.

## Specifications

- A common power supply has been designed for the integrated module working at standard 230V AC for easy operation. Earlier design required separate power supplies for both Tuner and Raspberry Pi.
- Receiver supports multiple standards such as DVB-C/T/S/S2/S2x with tuning range from 950-2150 MHz at 1-45 Msps symbol rate for DVB-S/S2.
- Receiver works on Linux based Operating System (Raspbian) which offers added security aspect as compared to windows.
- Single line terminal commands to scan, tune and lock the receiver.
- Receiver is IPTV supportable.
- Wi-Fi functionality in receiver allows user to connect it via mobile/Tablet and access information/data remotely.
- Standard F-Type(Female) RF/LNB input connector.
- Lock state and power indicator LED is provided.
- Small size and low cost.

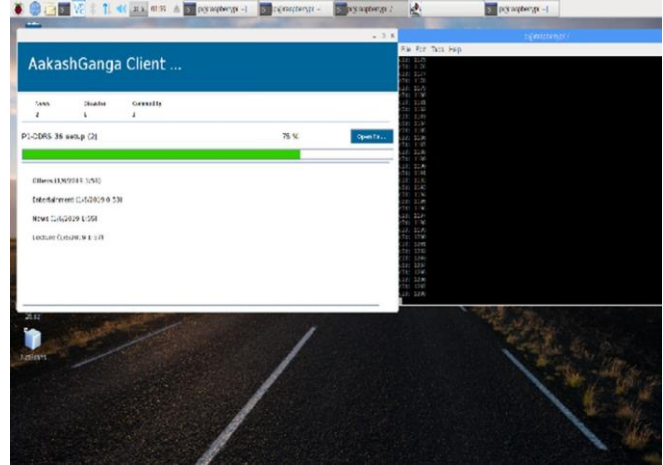
## Future developments

- System modification in progress to make it DVB-S2X reception compatible too which will further enhance its performance.
- To make it more compact and portable i.e. battery operated.



## Program Linkage/Application Areas

- ISRO's Tele-Education broadcasting program and Disaster Warning System.
- Can be deployed at information Kiosks at remote locations where terrestrial network is not available.



*Reception of High-definition Audio video and data simultaneously on the developed receiver*

## Technology Transfer from ISRO

ISRO is willing to offer the knowhow of this technology to suitable entrepreneurs / industries in India. Capable manufacturing industries interested in acquiring this knowhow may write with details of their present activities, requirements and plans for implementation, infrastructure and technical expertise available with them, their own market assessment, if any, and plans for diversification to the address given below: