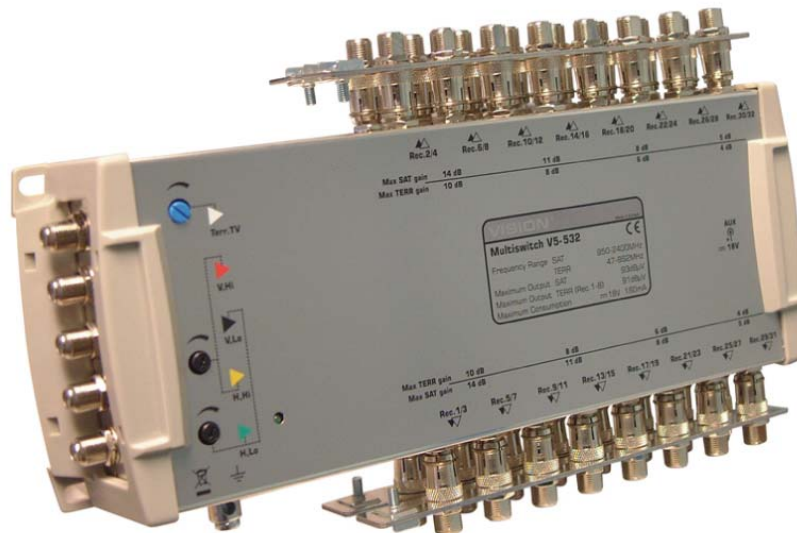




SMARTVIEW DIGITAL

SIMPLIFYING THE DIGITAL REVOLUTION



What are IRS, MATV and SMATV?
Quick Guide.

IRS Integrated reception systems

Installation of an Integrated Reception System (IRS) gives residents a choice of free or pay television services from terrestrial or satellite, or even both at the same time provided they have obtained the necessary receiving equipment. It allows tenants to swap from one to the other whenever they want with no impact on the infrastructure of the system. IRS can carry both FM and DAB radio as well as other services.

Fundamentals of IRS

The necessary terrestrial and satellite services are amplified and combined on to a single coaxial cable, these signals are amplified and distributed together with the combined terrestrial signals on separate coaxial cables to one or more “multi-switches” that in turn deliver the signals to each outlet location.

The multi-switch independently selects the appropriate LNB feed for each outlet according to whether the voltage from the satellite receiver is 12V or 18V and whether or not a 22KHz tone is present. The terrestrial signals are mixed with the selected satellite feed and relayed via the drop-in cable to the receiver.

The satellite receiver and TV receiver will function as if they were connected directly to a single universal LNB and terrestrial aerial respectively, as found in a standard one dish one home DTH install.

Early IRS networks utilised two-cable backbone with the terrestrial signals diplexed on to one or both of the satellite IF feeds; most modern systems incorporate a five-cable backbone, although many two wire system are still in existence these will need to be up-graded for the up-coming analogue switch off.

IRS systems can be expanded to accommodate multiple satellites, thus providing access to other satellite positions and thus other language channels.

For most systems, the mains power supply is located at the head end location with dc power relayed to the multi-switches on one of the backbone cables. Only for larger systems would mains power be required at other locations.

Services Available

Customers receive all of the following services via an IRS system:

FM radio

Digital audio broadcasts (DAB)

Analogue terrestrial TV (DTT)

BSkyB digital satellite TV

Analogue and digital broadcasts from other satellites

CCTV relayed as UHF TV channels

An integrated reception system (IRS) can deliver all these services on a single coaxial drop-in cable to each viewing location.

What do I need?

Depending which services you wish to provide you will need a Satellite dish an aerial and DAB/or FM aerials if these services are to be provided. All of these services will then be distributed through out the building to each apartment or flat. There are a number of ways to wire an IRS this will be dependent on the type of building and number of points required.

What other options are there?

The most common option is the 5 wire system which provides BSKYB services and freeview along with DAB and FM. Dependent on type of building and the developer's or client's requirements 9 wire and 17 wire systems can be installed, these systems provide satellite services from other orbital positions i.e.: 13deg carrying subscription channels and many free to air channels. Many different combinations of satellites can be installed depending on the client's requirements.

Each satellite position will require 4 cables so a 9 wire can receive 2 satellites and a 17 wire can receive 4 satellites.

MATV

Master Antenna TV (MATV) systems have been used for many years to supply signals from a single aerial system to a number of receivers. MATV systems principally distribute terrestrial TV and radio received off-air, but may also include locally modulated sources, such as from security video cameras.

MATV systems essentially consist of an aerial system, headend electronics, which may include filters, amplifiers, converters, etc., and a passive distribution network comprising coaxial cable, splitters, taps (also called tap-off units) and outlet sockets. Allowing the customer to use freeview and DAB FM, this system is normally found in existing blocks of flats and will not provide the client with digital satellite.

What do I need?

An aerial, DAB or FM Depending which services you wish to provide, all of these services will then be distributed through out the building to each apartment or flat. There are a number of ways to wire a MATV system this will be dependent on the type of building and number of points required.

SMATV

Satellite Master Antenna TV (SMATV) systems have been used to extend the MATV concept to include services broadcast by satellite. Satellite TV signals are received, demodulated, decrypted where necessary, and re-modulated on UHF carriers. Although once quite widely used for analogue satellite signals, this technique is seldom used for digital signals carried as analogue on domestic systems, as it is inefficient in use of bandwidth and loses much of the functionality of the digital signal e.g. access to electronic program guides. The exception to this is hotel systems which are mostly SMATV.

What Do I need?

This depends. As stated this system is only found in hotels and some commercial applications. A headend would be constructed containing a number of STBs, depending on the number of channels required. These channels would then be distributed throughout the hotel allow the client to view the selected channels via the tv in the room. These systems can provide a maximum of 30 channels this is due to

the bandwidth on the cable, in reality the max would only be around 25. Most of the time these systems are providing PSB channels 1 to 5 and a selection of news channels and entertainment channels.