The upcoming switch off for analogue channels combined with the drift towards production of flat screen televisions is moving the demand high for TV sets with integrated DTT receiver, called **iDTV**.

The move is attractive to users for many reasons: it is an opportunity to get a larger screen display without having to place a huge box in the living room; the chance to get both the **DTT receiver** and **TV set** integrated without need for another external box and with only one remote control; the need for a better picture quality which is a must because even small impairments of the analogue signal are magnified on large screens…

From the technical point of view, there are a number of applications other than pure broadcasting, that see in the **COFDM modulation** a **solution** to specific problems. We can describe a few:

■ Distribution inside buildings, hospitals, ships, trains, planes...

The DTT is based in COFDM modulation, which is an intrinsically robust method of transmitting signals.

Its **rugged nature** allows signal distribution direct from the head-end to the receiver with minimum need for line amplifiers.

Using a television with an integrated receiver, there is no need for extra external set top boxes at the reception site and reception is **direct to the iDTV**. This becomes a very tidy solution in buildings and it becomes a powerful alternative in those places where space is a critical issue like hospitals, ships, etc.

■ Microwave links

The OFDM modulation is also the type chosen to implement some **Microwave link** schemes. They are normally using COFDM modulation at 2 GHz and over for transmission and down-conversion into the UHF band for distribution and **direct to the iDTV**. In this systems, the use of iDTV receivers facilitate the reception of microwave links and UHF simultaneously

ENG for extreme TV transmissions

It is a better alternative than traditional modulation systems for mobile applications such as ENG vans and helicopters due to its improved multi-path performance and the intrinsic modulation scheme. The COFDM signal transmits the infomation through 6817 carriers (for 8k system). If some carriers are lost, the missed data can be easily recovered by error coding.

An extreme case is the performance in on-board cameras at F1 race cars. Other single carrier digital modulation solutions like QPSK or QAM have a worse response for these applications.

Television on the road

One rising application is the DVB-H, defined to solve the issue of the transmission in moving conditions. Here the OFDM modulators are needed again because of its multi-path performance.

The purpose is to solve the reception in cars, trains, etc but mainly the reception in mobile devices such as phones, PDAs, etc.

Wireless distribution for various applications

Information systems in airports, stadiums, congresses, etc use standard iDTVs to display information.

Security systems where wires are to be avoided or difficult to lay down.

Safety when the environmental conditions require a wireless transmission

MO-170 DVB-T MODULATOR

The distribution of the DTT signal other than at a broadcast level have a limitation, **the cost of the modulators**. PROMAX is offering a **low cost** solution, the **MO-170**, so that you can make your plans a reality.

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