

HOW TO SOLVE IP DISTRIBUTION IN THE HOME

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“As part of our vision we want to solve the many issues that are, and will be, in the home network. With our IP Link over Coax we have solved the issue with IP distribution in the home, which we are quite proud of”, Christian Emborg, CEO, DKT

It is common knowledge that many households throughout Europe experience less than optimal home networks. As large TVs and game PCs find their way into most homes, it takes quite a toll on the WiFi system. Very often this is unstable and cannot provide strong enough signals for all devices in the household to run efficiently and smoothly; especially game PCs and TVs. At some stage the end user will call their operator and ask them to “fix the problem”. The operator often chooses to satisfy the customer and solve the problem by shipping off a new service box containing a new WiFi router (expecting that the problem will be resolved). This is a standard way of trying to fix the instability of the WiFi system in a home, but often this doesn't solve the problem. The approximate cost of this operation (carried by the operator) is up to 10 Euro for the actual phone call, and up to 100 Euros for the router and shipping costs; this results in more than 100 Euros for attempting to solve a problem that often remains unsolved. It is important to understand that while a WiFi installation connecting us to the outside world through all our devices is what most of us prefer in our houses, WiFi signals cannot penetrate the heavy steel and concrete constructions that modern houses are made of - without “a little help from a friend”, a mechanism to complement the IP distribution via WiFi is desired.

DKT has an IPLoC (IP Link over Coax) set. This allows the end user to easily connect to their antenna outlet. The user will experience that “heavy” bandwidth consuming devices such as TVs and game PCs that require stable WiFi signals, will

work optimally. The IPLoC concept uses the coaxial network in the home as backbone and the coax outlets as converters. The standard coax outlet across Europe has architecture with one dedicated TV and one radio port. This is based on IEC adapters separated by 30 mm and sometimes supplemented with a dedicated DOC-SIS data port (commonly known as the multimedia port). The Push-On IPLoC enables the consumer to remove the connectors from the wall outlet, insert the Push-On IPLoC and inject IPTV, Internet and telephony (IP services in general) into the existing cable TV (DVB-C/T) distribution coaxial network. The solution utilizes an unused frequency band, enabling support for 400 MHz bandwidth for the IP Service distribution.

In general, residential coaxial network distribution components have not been designed for operation above 1000 MHz. Fortunately, it is only in very few instances, where designers have been required to take measures to provide high port-to-port isolation above 1000 MHz. Also, since IPLoC operates by auto negotiating frequency and only requires one 50 MHz wide channel in the 1.125 to 1.525 MHz frequency range, most distribution networks provide the required insertion loss. The DKT IPLoC requires less than 65 dB insertion loss between devices for proper and stable link connectivity.

The DKT IPLoC units are based on the MoCA 2.0 protocol and will coexist with MoCA devices from other manufacturers. In conclusion, this solution is a perfect complementary technology to WiFi by enabling stable and robust bandwidth to heavy bandwidth consuming devices and thereby increasing customer satisfaction with the broadband services. It is the right choice for stable and performant IP signal distribution through the home where coax outlets are available, in particular for IP based video distribution between the Modem outlet and the TV.