

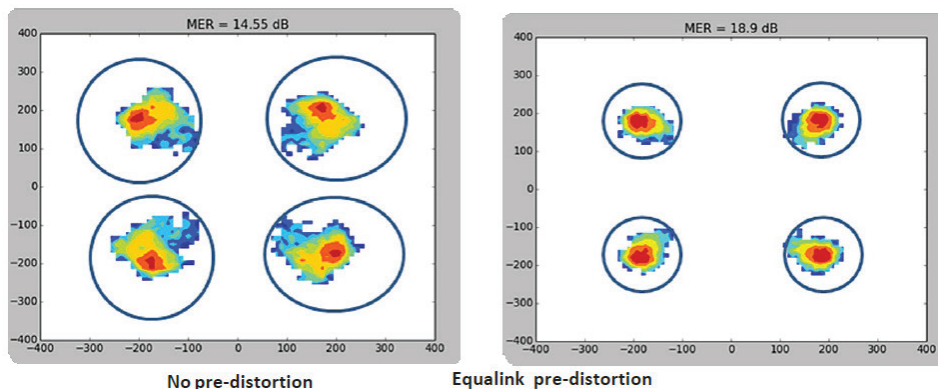
# EQUALINK

## PRE-DISTORTION COMPENSATING FILTER & AMPLIFIER EFFECTS

**A revolutionary linear and non-linear pre-distortion technology, implemented in the modulator, Equalink® provides breakthrough performance gains on DTH satellite links.**

Equalink® is ST Engineering iDirect's linear and non-linear pre-distortion technology. Operators can increase the link margin of all set-top boxes in the field by simply enabling Equalink at the modulator side. This extra link margin can be used to improve the coverage/availability or it can be used to increase the symbol rate in combination with a lower roll-off factor. Used this way, it inserts up to 15% more TV channels in a DTH carrier.

In order to mitigate linear and non-linear distortion effects, Equalink is a set of advanced digital filters and algorithms implemented in the modulator. The linear filter compensates for group delay and frequency response imperfections of the satellite Input Multiplexer (IMUX), while the non-linear pre-correction compensates for the combined effect of matched filters and transponder Travelling Wave Tube Amplifier (TWTA) non-linearities (AM/AM and AM/PM conversions).



### Benefits

- Equalink® for VSAT systems provides typical throughput gains from 7 to 25% and availability gains from 1 to 8 dB in the forward link, even for linearized channels.
- Live satellite tests have demonstrated 0.4 dB gain for QPSK 5/6 (10% throughput gain) and more than 0.6 dB gain for 8PSK 5/6 (15% throughput gain).
- For DTH applications: Additional data traffic of up to 15% in the same satellite capacity or a link margin improvement of up to 0.6 dB.
- For professional applications: Similar efficiency gains and up to 4dB link margin improvement.
- Easy operation in conjunction with any standard satellite receiver.
- Applications include all single-carrier per transponder scenarios. In particular, DTH carriers, professional distribution carriers and VSAT outbound carriers. Equalink is available on Dialog, SCPC Modulators. Linear pre-distortion capability is also available on Evolution.

**DIALOG**

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