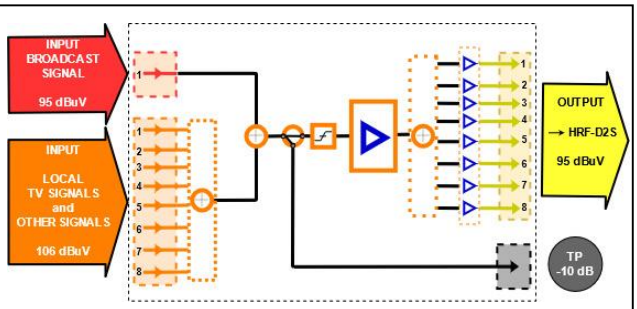
COMTECH

HRF-Dx ACTIVE DOWNSTREAM SIGNAL-ORGANIZER FOR OPTICAL SEGMENTS

The downstream signal-organizer-family which is built by HRF-D active elements allows the various services' RF sources (analogue and digital CATV, CMTS, VoD, monitoring, measurement signals etc) allignment to the spectrum with the right signal-level and to drive large number of optical transmitter with the summarized-level.

HRF-D1 1U high driver-summarizer

The HRF-D1 type divides into 8 the 95dBuV signal which arrives to the Broadcast input and allows additional 8 Narrowcast signals couple with 106dBuV signal-level.
The product's purpose is produce summarized-signal with appropriate signal-levels for multiple HRF-D2x products (one, more, but maximum 8 HRF-D2
As the HRF-D1 does not modify the spectrum signal-levels additional optical transmitter can be driven. Thanks to the integrated circuit elements the crosstalk between the channels is >60dB, so the HRF-D1 has significantly better signal quality compared to the traditional passive signal-organizers.

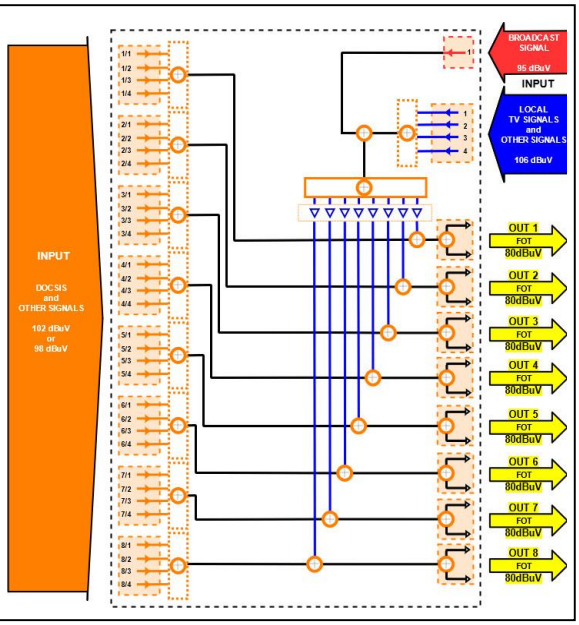


HRF-D2x 1U high magas level-matching summarizer

The HRF-D2x product has 16 (*2x8 splitted*) outputs, each of them provides 80dBuV output signal-level per channel (relative to an analogue carrier).

The purpose of the product is to connect the RF signals to optical transmitters with optimal signal-level and adequate isolation.

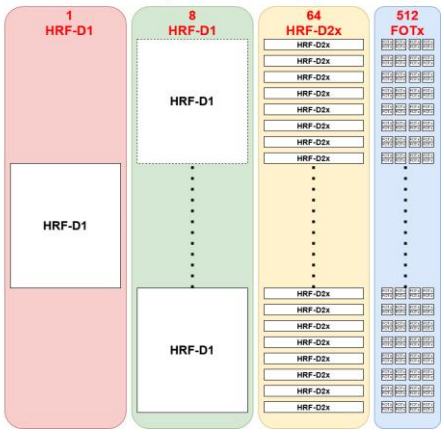
The HRF-D2x is capable to serve 8 segments by using three different level inputs.
The HRF-D2x **can be used alone as well** as a **level-matching summarizer.**
In this case the signal level at the broadcast input should be 95dBuV (related to analogue carrier) per channel which can be provided by the HRF-D1 product as well.
The product can also receive **the groups of narrowcast signals**. The first group (**upper hierarchical level**) appears on all 8 outputs, whil the second group (**lower hierarchical level**) appears at a certain output.
The upper hierarchical level's 4 inputs can be driven with **106 dBuV** signal-level, while the lower hiearchical level 8x4 db inputs can be driven with **102 dBuV** signal-level or according to individual demand can be driven with **98dBuV** signal-level.
Thanks to the integrated circuit elements the crosstalk between the channels is >60dB, so the HRF-D1 has significantly better signal quality compared to the traditional passive signal-organizers.



HRF-PSC 1U high intelligent power supply

The product can power 10 devices with redundatn power supply.
Monitoring system-parameters:
- ciruit-consumption per device, power supply, redundant operation mode, temperature.

Block diagram for 512 optical transmitters





Cascading the system it is possible to drive 512 FOTx optical transmitters by to connect 8 HRF-D1 products to 1 HRF-D1's output, as shown in the figure on the left. After that 8 HRF-D2x can be connected individually to 8 HRF-D1 outputs as shown in the figure on the left, so the totally there will be 512 outputs.

Summary block diagram for 64 optical transmitters

