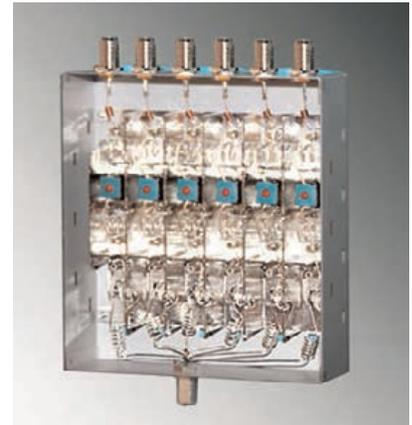


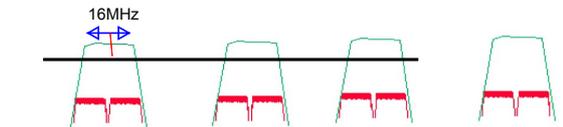
CHANNEL FILTER LEVELLERS & COMBINERS WITH F CONNECTORS



TCFLF1-8-1
8 ch, 1 in 1 out



The clearance of above 700MHz is resulting in many terrestrial transmitters configuring the multiplexes as shown with multiplexes configured adjacent channel.



Two adjacent channels need to be clustered in one filter cavity otherwise processors such as the TSMP ,range TSMP-TV-TVDTQ have to be used as shown in the following pages.

These use SAW filters to provide the very sharp filtering that may be needed if one of the two multiplexes that are adjacent channel needs levels adjusting.

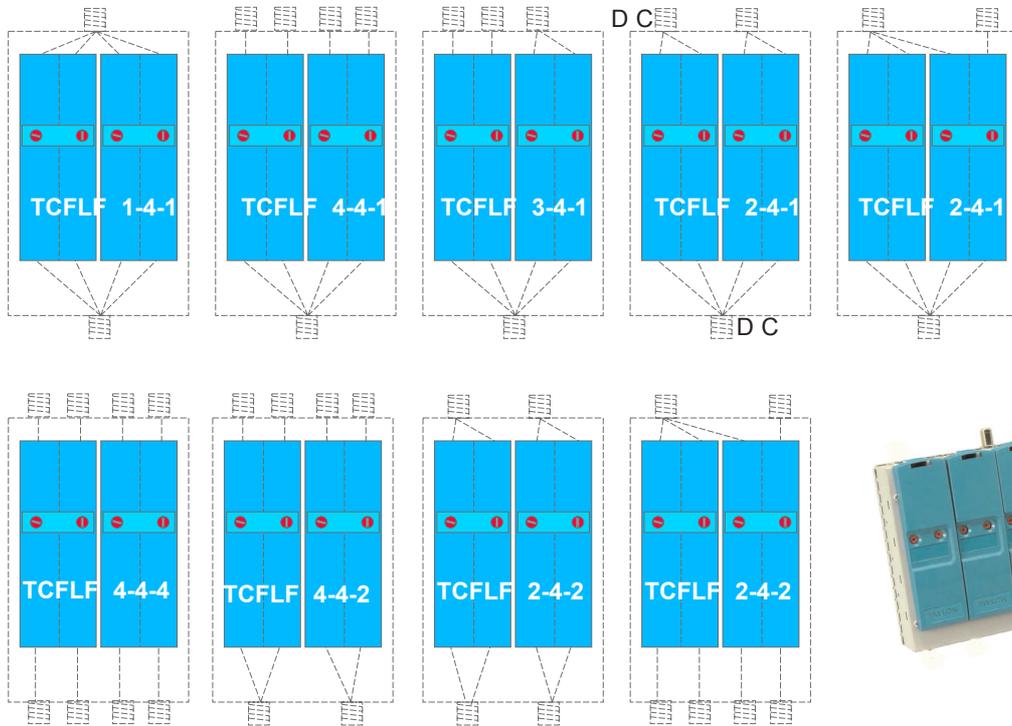
Filters and levelling will be **needed** even more, as a nearby mobile phone using the UHF band previously used for TV can if it overloads the amplifier intermittently result in the complete loss of all programmes while the phone is being used . This intermittent failure of the system could be difficult to diagnose.

Insertion loss
Typically -3/4dB
Adjustment up to 20dB

Part Number	Inputs	Outputs	Price 1 in 1 out	Additional inputs/outputs , F connectors installed	Additional cost DC through per channel
TCFLF X-4-X	1-4	1-4	£122.46	£4.64	£6.00
TCFLF X-5-X	1-5	1-5	£134.80	£4.64	£6.00
TCFLF X-6-X	1-6	1-6	£157.10	£4.64	£6.00
TCFLF X-7-X	1-7	1-7	£172.16	£4.64	£6.00
TCFLF X-8-X	1-8	1-8	£192.03	£4.64	£6.00

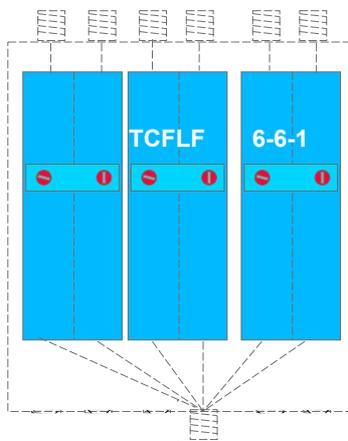
To avoid errors confirmation by e mail is requested if ordered by phone.

Some typical configurations of the TCFL X-4-X filters

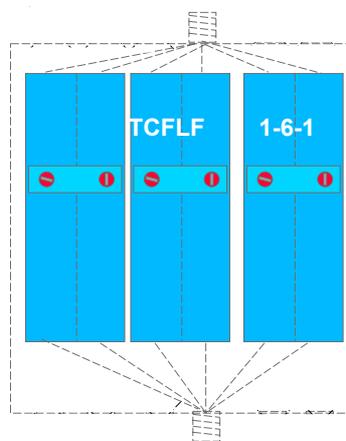


When ordering ,please specify input option and channes required .

To avoid errors confirmation by e mail is requested if ordered by phone.



Six inputs, one output individual inputs, such as modulators.



One input, one output used for levelling off air multiplexes from a single antenna,use two input connectors for separate antenna inputs, extra cost £2.90 each extra input.

Using passive or active filter leveler's ?

Below indicates one of a common problem with digital TV broadcasts and the configuration and levelling of multiplexes .

The two pairs of multiplexes can be passed through a passive filter leveller , so 3 pairs of multiplexes would use a 3 ch filter leveller such as a TCFL1-3-1, 3 cavity filter .
 If the six multiplexes are separate with one channel or more spacing ,then a six ch filter, using six cavities is used such as a TCFL1-6-1.

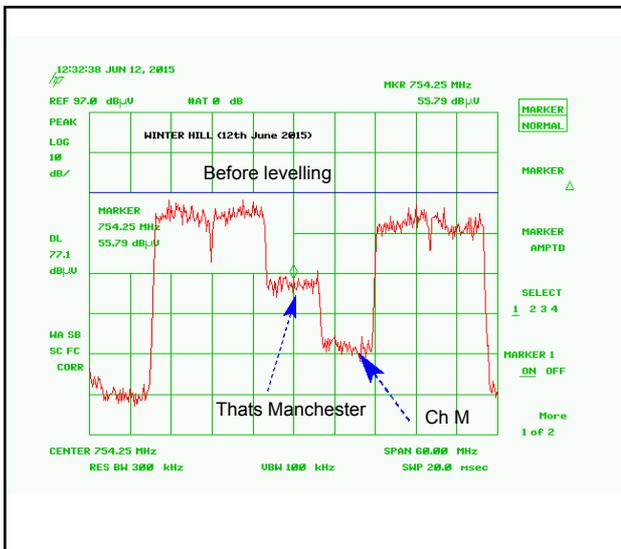
However you can see in this example two local TV stations adjacent ch to the main multiplexes ,one is -12dB and the other is -28dB, in this example they are local TV stations.

If the local stations are needed for distribution they may need levelling, a passive filter cannot adjust the adjacent individual multiplexes as in this example.

If the modulation type is QPSK for a local TV station instead of 64 or 256QAM a slightly lower signal level could be tolerated.

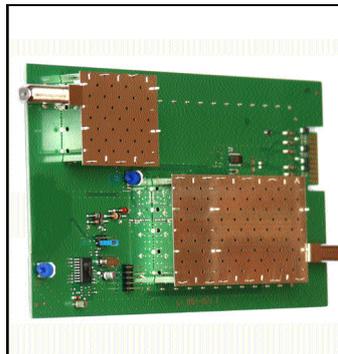
However in the Manchester example the radiation patterns of the broadcast antennas are different so coverage can severely com-promised if the difference in levels cannot be accommodated in a CATV system. In this instant both local signal levels get worse at +/- 35 deg as the radiation pattern can be very narrow ,such as in the example of Ch M

The solution is to use a active filters for head ends if the level is too low to distribute, this processes the multiplexes ,converts them down to IF and passes them through a very sharp SAW filter and converts them back up again to the desired frequency . This then provides individual level control on each multiplex.

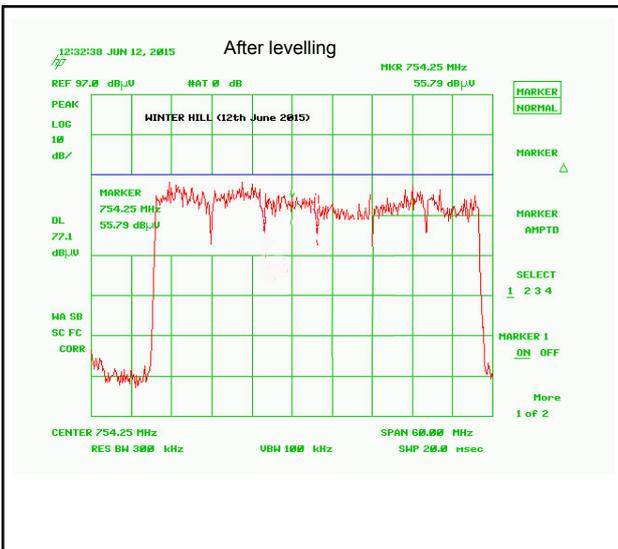


This may not be needed on small systems as using a larger amplifier could accommodate the different levels without overloading ,but on medium to large systems or fibre networks ,levelling is very important .

Below is the equipment that can be used to level the DVB-T/T2 multiplexes that are adjacent channel



Twin processor convertor .
 See pages 37/38



Twin processor convertor .
 See page 39/41



36B

