

Accessories for operating and measurement systems



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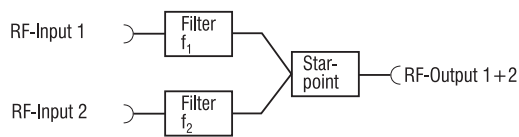


RF-cables

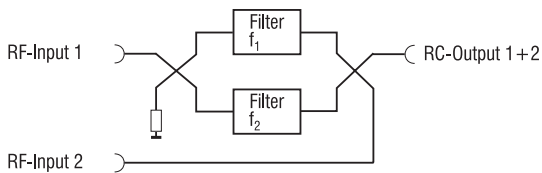
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Transmitter Combiners and Receiving Antenna Splitters

At television transposer or transmitter stations it is often more economical to receive and to broadcast several television programmes via a common antenna, instead of providing a separate one for each programme. This of course is on the assumption that broadband receiving antennas are used and that the transmitting antennas are designed to cover all the channels concerned, or that there is a frequency channel plan which ensures that a given station uses channels within a single antenna frequency band. It is also necessary to ensure that the antenna power, and voltage, ratings are not exceeded by the simultaneous presence of several signals.



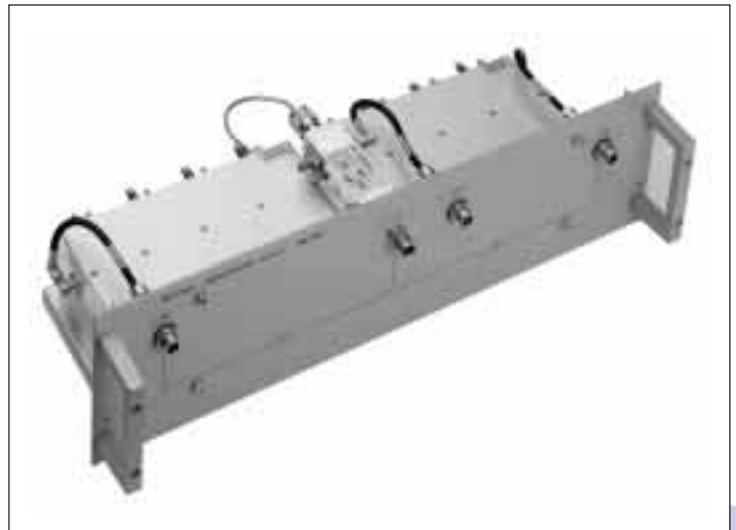
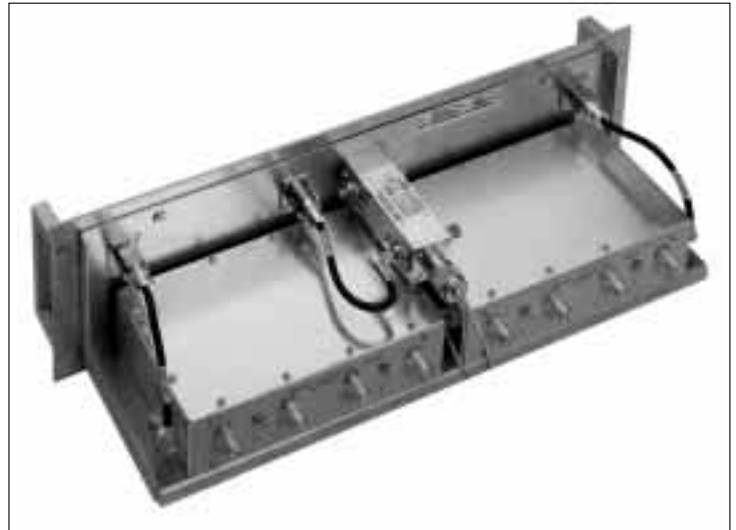
Principle Starpoint Combiner



Principle Filter

For the distribution of the received signal at transposer stations, or for the combination of several transmitter outputs into a common feeder; the same types of the transmission signal combiners can be used. The most common combiner types in the Plisch product range are the starpoint-filter combiner and filter-directional-coupler combiners (known also as bridge-type combiners). These individual variants differ in the design of the filters and the directional couplers, as well as in size. For combination of a larger number of programmes, it is possible to cascade combiners together.

Due to its lower cost, the starpoint filter combiner is the more economical solution. It has, however, the disadvantage that the input reflection (impedance match) shows good values only in the pass-band, while the filter-directional combiners show good reflection values outside the basic channel as well. The product range of the Plisch Company contains both starpoint-filter and filter-directional types of channel combiner for TV bands III and IV/V. Preferably, starpoint-filter combiners should only be used as Rx splitters and Tx channel combiners for, at most, 2 programmes and output powers not exceeding 20W per channel in bands IV/V or 50W per channel in band III.

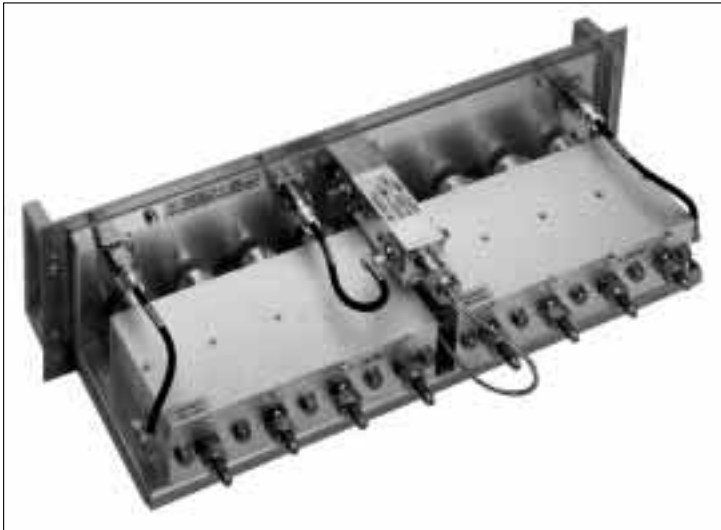


In other cases, filter-directional combiners are preferred and are subdivided into the following power rating categories:

Type	Range	Power per Channel	Max. number of Programmes
FWF....	III IV/V	50W 20W	3 programmes 3 programmes
FWE270	III IV/V	500W 500W	3 programmes 5 programmes
FWE280	III IV/V	1000W 1000W	3 programmes 5 programmes

Starpoint Combiners for 50W VHF and 20W UHF

Starpoint-filter combiners for the combination of 2 programme channels with a maximum power of 50W each in the VHF band and 20W each in the UHF band.

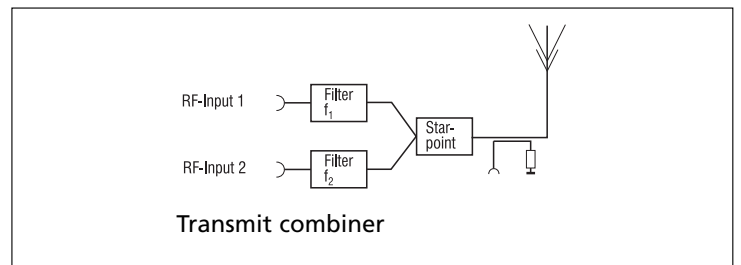
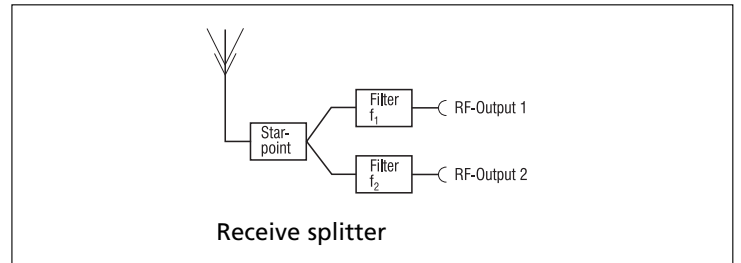


- Applicable for use as Receiving antenna splitters and as Transmitter combiners up to the maximum powers.
- Availability of directional coupler for output monitoring purposes when used as combiner.
- Provides Rx and Tx filters when used with TV-transposer UEE 700/710 or Tx filters for TV-transmitter STV 700/710.
- Inexpensive alternative to filter-directional-coupler combiners.

Starpoint-filter combiners are available for use in television Bands III or IV/V for the combination of 2 TV channels and may be used as receiving antenna splitters as well as transmitter combiners. The starpoint has been integrated into the filters by special design, such that it is not necessary to change impedance transformation lines in the event of retuning to another channel combination.

Because the starpoint-filter combiners are basically paralleled filters, there is no defined return loss outside the relevant channels. Should these combiners be connected to the normal input or output filters of TV transposers, or the output filters of TV transmitters, the performance of these filters may be adversely affected.

When connected with television transposers or transmitters made by Plisch, however, no separate input or output filters are necessary in these systems, since the filters of the combiner itself take over the required selectivity function. But when using a starpoint-filter combiner with transmitter or transposer products of other manufacturers, sufficient decoupling has to be provided.



When used as transmitter combiners, Plisch starpoint-filter combiners are equipped with a directional coupler at the output to provide a monitoring feed for external test equipment. Starpoint-filter combiners are available as modules or as wall-mounting models.

Ordering information			Order number
Rx splitter	FWF420A	Band III	2-0049-0070
Tx combiner	FWF420	Band III	2-0049-0062
Rx splitter	FWF440A	Band IV/V	2-0049-0071
Tx combiner	FWF440	Band IV/V	2-0049-0006

Please indicate additionally the two receive or transmit channels.

Filter-directional combiners for 50W VHF and 20W UHF

Filter-directional combiners for the combination of 2 or 3 programme channels with a maximum power of 50W per channel in the VHF band and 20W per channel in the UHF band:

- For use as receiving antenna splitters and as transmitter combiners.
- Available in wall-mounting format or as modules.
- Variable number of filters may be provided, depending on the isolation required.
- Optional monitoring output via directional coupler on the output side.

The filter-directional combiners of the type FWF... are made using modular construction. Individual elements in this modular range are assembled as required, depending on the selectivity requirements and the application.

The maximum number of programme channels which may be combined is 3, either within band III or bands IV/V.

The maximum input power to this type of combiner is 50W per channel at VHF, or 20W per channel at UHF.

All combiners can be used either as receiving antenna splitters or as transmitter combiners.

Owing to the principle of the filter-directional combiners, at least 2 filters and 2 directional couplers are necessary for a two programme combiner, for example. This variant has a selective and a broadband input. The isolation between broadband and selective inputs is lower by some 10dB than that between two selective inputs. By adding another filter-directional coupler pair an identical isolation can, however, be obtained (see Figs 2 and 5).

In order to improve the return loss of the broadband input within the basic channel, an impedance compensation line can be provided (Figs 3 and 6).

Fig. 1

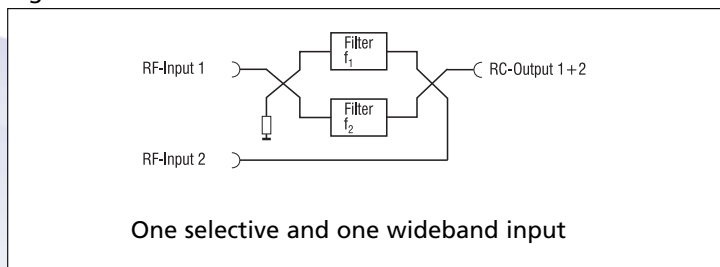


Fig. 2

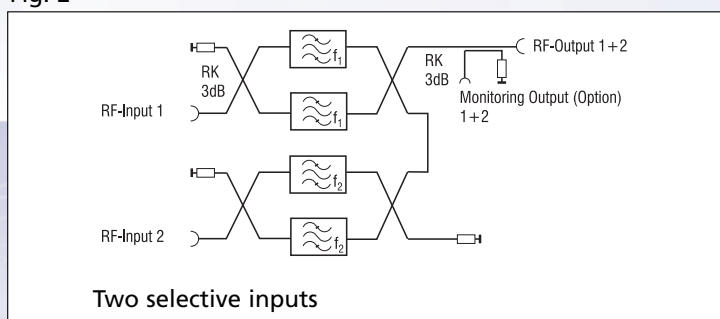


Fig. 3

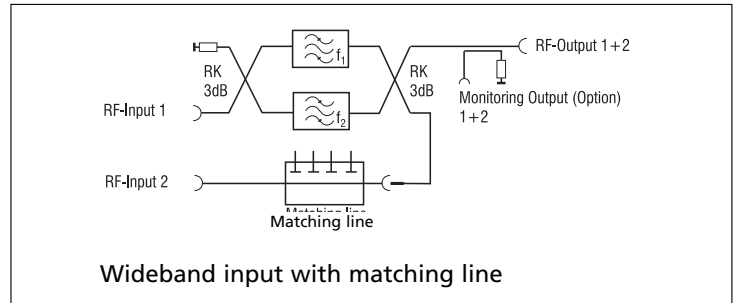


Fig. 4

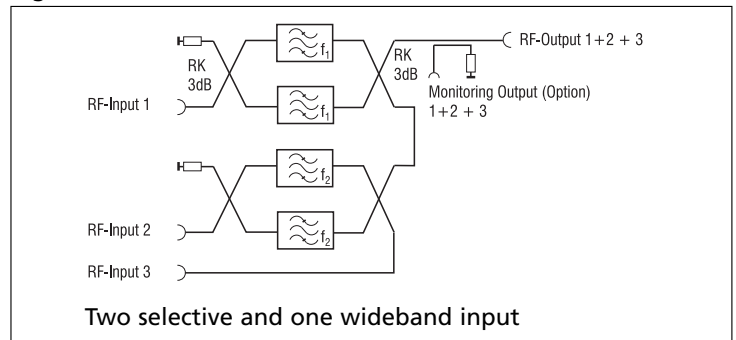


Fig. 5

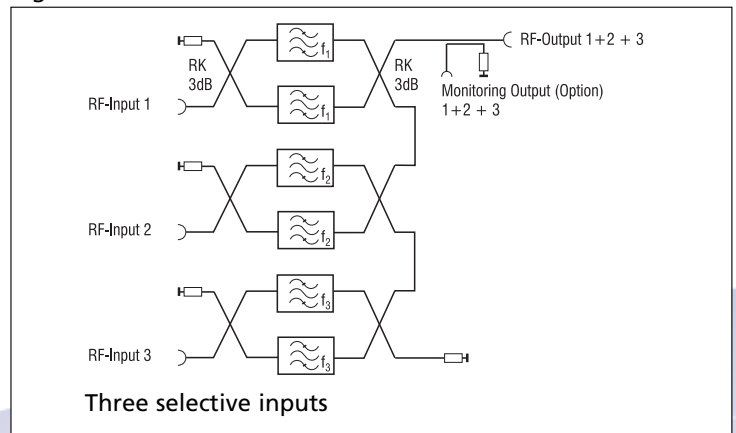
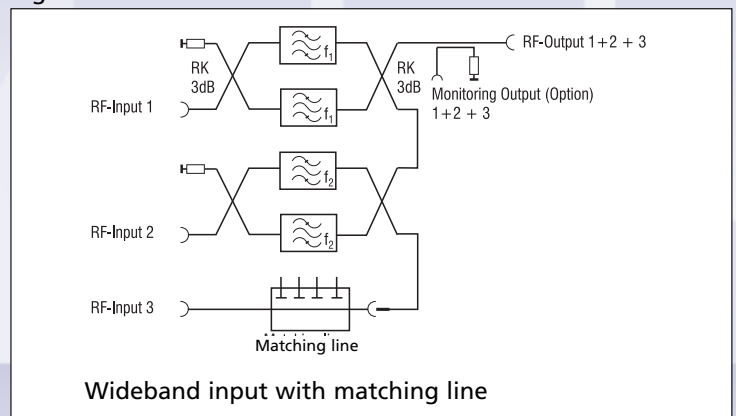


Fig. 6



General Characteristics

Frequency range band III	175...230MHz
Frequency range band IV/V	470...860MHz
Input power band III (per channel)	≤ 50W peak sync
Input power band IV/V (per channel)	≤ 20W peak sync
Impedance	50Ω
RF connections	N or 7/16
Monitoring output (optional)	ca. 1V _{rms}
Dimensions slide-in chassis (w x h x d)	19" x 3U x 445mm
Dimensions wall mounting unit (w x h x d)	489 x 455 x 198(mm)
Weight, depending on the configuration	6,5...13kg
Colour	RAL 7001 or RAL 7032

Product range and technical characteristics

Television band III, 2 programme channels			
Technical characteristics	Equipped with...		
	2 filters	4 filters	2 filters and comp. line
Minimum channel separation	2 ch	2 ch	2 ch
Isolation: Input 1 → input 2 Input 2 → input 1	≥ 26dB ≥ 60dB	≥ 60dB ≥ 60dB	≥ 26dB ≥ 60dB
Return loss from: Fv-0.75 MHz to Fs+0.25MHz Input 1 Input 2	≥ 30dB ≥ 20dB	≥ 30dB ≥ 30dB	≥ 30dB ≥ 26dB
Adjacent channels n±1 Input 1 Input 2	≥ 26dB ≥ 20dB	≥ 26dB ≥ 26dB	≥ 26dB ≥ 22dB
Rest of the range; Input 1 Input 2	≥ 20dB ≥ 20dB	≥ 20dB ≥ 20dB	≥ 20dB ≥ 20dB
Output in the basic channels; Output 1 Output 2	≥ 28dB ≥ 20dB	≥ 28dB ≥ 28dB	≥ 28dB ≥ 20dB
Insertion loss: Input 1-Output Input 2-Output	≤ 1dB ≤ 0,4dB	≤ 1dB ≤ 1dB	≤ 1dB ≤ 0,4dB

Television bands IV/V, 2 programme channels			
Technical characteristics	Equipped with...		
	2 filters	4 filters	2 filters and comp. line
Minimum channel separation*	4 ch	4 ch	4 ch
Isolation: Input 1 → input 2 Input 2 → input 1	≥ 26dB ≥ 46dB	≥ 60dB ≥ 46dB	≥ 26dB ≥ 46dB
Return loss from: Fv-0.75 MHz to Fs+0.25 MHz Input 1 Input 2	≥ 30dB ≥ 20dB	≥ 30dB ≥ 30dB	≥ 30dB ≥ 28dB
Adjacent channels n±1 Input 1 Input 2	≥ 22dB ≥ 20dB	≥ 22dB ≥ 22dB	≥ 22dB ≥ 20dB
Rest of the range; Input 1 Input 2	≥ 20dB ≥ 18dB	≥ 20dB ≥ 20dB	≥ 20dB ≥ 16dB
Output in the basic channels; Output 1 Output 2	≥ 24dB ≥ 16dB	≥ 24dB ≥ 24dB	≥ 24dB ≥ 16dB
Insertion loss: Input 1-Output Input 2-Output	≤ 0,8dB ≤ 0,7dB	≤ 0,8dB ≤ 0,8dB	≤ 0,8dB ≤ 0,7dB
Block diagram	Fig. 1	Fig. 2	Fig. 3

*Smaller channel separations are available on request

Television range IV/V, 3 programme channels			
Technical characteristics	Equipped with...		
	4 filters	6 filters	4 filters and comp. line
Minimum channel separation*	4 ch	4 ch	4 ch
Isolation: Input 1/2/3 → input 1/2 Input 1/2 → input 3	≥ 44dB ≥ 26dB	≥ 44dB ≥ 44dB	≥ 44dB ≥ 26dB
Return loss from: FV-0.75 MHz to FS+0.25 MHz Input 1 Input 2 Input 3	≥ 30dB ≥ 30dB ≥ 20dB	≥ 30dB ≥ 30dB ≥ 30dB	≥ 30dB ≥ 30dB ≥ 28dB
Adjacent channels n±1 Input 1 Input 2 Input 3	≥ 22dB ≥ 22dB ≥ 20dB	≥ 22dB ≥ 22dB ≥ 22dB	≥ 22dB ≥ 22dB ≥ 20dB
Rest of the range; Input 1 Input 2 Input 3	≥ 20dB ≥ 20dB ≥ 18dB	≥ 20dB ≥ 20dB ≥ 20dB	≥ 20dB ≥ 20dB ≥ 16dB
Output in the basic channels; Output 1 Output 2 Output 3	≥ 24dB ≥ 24dB ≥ 16dB	≥ 24dB ≥ 24dB ≥ 24dB	≥ 24dB ≥ 24dB ≥ 16dB
Insertion loss: Input 1-Output Input 2-Output Input 3-Output	≤ 0,8dB ≤ 0,9dB ≤ 0,8dB	≤ 0,8dB ≤ 0,9dB ≤ 1,0dB	≤ 0,8dB ≤ 0,9dB ≤ 0,8dB
Block diagram	Fig. 4	Fig. 5	Fig. 6

*Smaller channel separations are available on request

Filter-Directional Combiners for 500W VHF and UHF

Filter-directional combiners for the combination for up to 5 transmitter output channels with a maximum power of 500W per channel in the VHF or UHF bands:

- Wall mounting, as a frame for mounting between two racks or as slide-in version.
- Monitoring output for incident and reflected power via an integrated directional coupler.

The 500W filter-directional combiners, type FWE270, are designed and made using modular construction. Individual elements in this modular range are assembled as required, depending on the number of programmes and the application. The maximum number of programme channels which may be combined is 4 within band III or 5 within bands IV/V.

In this maximum configuration, the combiner for Band III has three selective inputs, and that for bands IV/V has four selective inputs. To these selective inputs, one broadband input is added in each case (see Fig. 1). The isolation between the selective inputs is > 36dB, between the selective inputs and the broadband input the value is reduced to > 26dB. The broadband input can, however, be internally terminated so that there remain only four selective inputs, with the same isolation value (see Fig. 2).

The maximum input power is 500W per channel for a two-programme combiner. For more than 2 programmes, the input power is limited by the sum total of the voltages of all channels at the combiner output. The maximum value of this total voltage must not exceed $320V_{rms}$. All configurations of this 500W/channel filter-directional combiner are available for wall mounting, as a frame for mounting between two racks or as 19" slide-in units.

Fig. 1

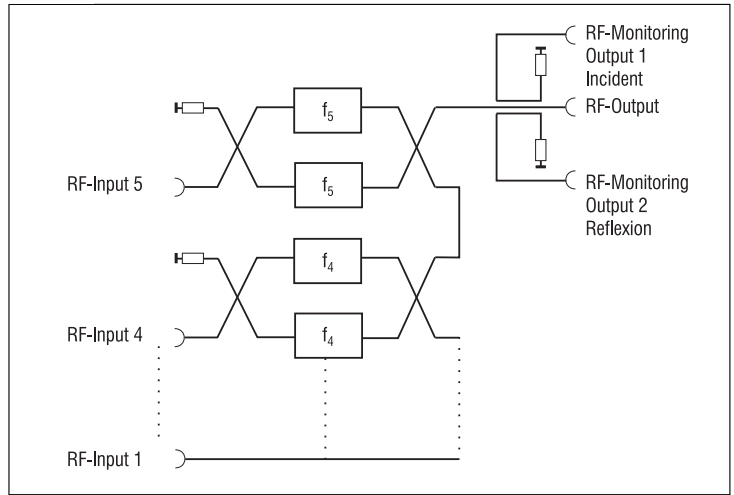
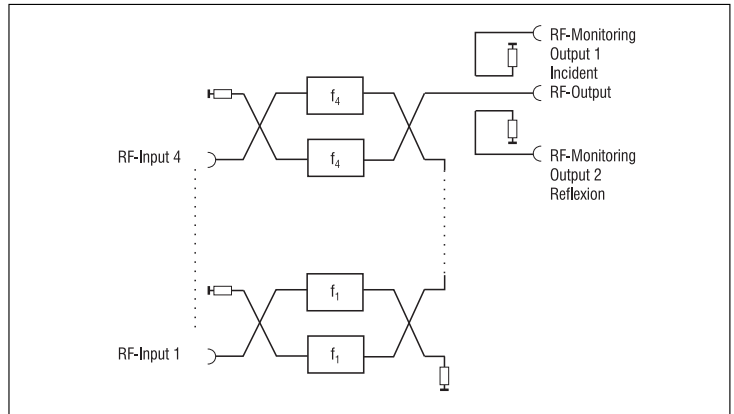


Fig. 2



Dimensions

Type	Band	w (mm)	h (mm)	d (mm)
Slide-in	III	443	385	344
Slide-in with termination	III	443	483	344
Wall and rack mounting	III	448	432	348
Wall and rack mounting with termination	III	448	532	348
Slide-in	IV/V	443	420	344
Slide-in with termination	IV/V	443	520	344
Wall and rack mounting	IV/V	448	450	348
Wall and rack mounting with termination	IV/V	448	550	348

Technical characteristics

Frequency range Band III	170...230MHz
Frequency range IV/V	470...860MHz
Maximum input power per channel for 2 channels:	
Band III	500W peak sync
Band IV/V	500W peak sync
Maximum total voltage at the output for more than 2 channels	320V _{rms}
Characteristic impedance	50Ω
RF connections	7/16
Minimum channel separation	3 channels (2 channels in between)

Return loss from

Fv-0,75MHz to Fs+0,33MHz

Input 1 in the working channel	≥ 22dB
Input 1 in the adjacent channels n±1	≥ 20dB
Inputs 2-5 in the working channel	≥ 30dB
Inputs 2-5 in the adjacent channels n±1	≥ 22dB
Inputs 1-5 over the rest of the frequency band	≥ 18dB
At the RF output in the working channels	≥ 22dB

Isolation

Variant according to Fig. 1

Input 1-5 from input 2-5	≥ 36dB
Input 2-5 from input 1	≥ 26dB

Variant according to Fig. 2

Input 1-4 from input 1-4	≥ 36dB
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Transmission loss in the range from Fv-0.75MHz to Fs+0.25MHz

Maximum losses Input no.	Number of inputs			
	2	3	4	5
1	0,20 dB	0,25 dB	0,30 dB	0,35 dB
2	0,35 dB	0,40 dB	0,45 dB	0,50 dB
3		0,35 dB	0,40 dB	0,45 dB
4			0,35 dB	0,45 dB
5				0,35 dB

Weights in kg

Number of inputs	Plug-in	Rack mounting	Wall mounting
2	21,0	26,0	30,0
3	31,5	36,5	40,5
4	40,0	45,0	49,0
5	50,0	55,0	59,0

Ordering Information

Owing to the large number of variants, no ordering number system for the basic unit can be given here. When ordering we therefore ask for indication of the following data:

- number of programmes; up to 5.
- channels or vision carrier frequencies.
- one broadband input or only selective inputs.
- mechanical configuration: plug-in, frame mounting or wall mounting.

Filter-Directional Combiners for 1000W VHF and UHF

Filter-directional combiners for the combination for up to 4 transmitter output channels with a maximum input power of 1000W per channel in the VHF or UHF bands:

- Rack mounted, with different variants of 19" racks, so that the combiner can be individually adapted to the location.

The 1000W filter-directional combiners, type FWE280, are designed and made using modular construction. Individual elements in this modular range are assembled as required, depending on the number of programmes and the application. The maximum number of programme channels which may be combined is 4 within band III or within bands IV/V.

In this maximum configuration, the combiner has three selective inputs and one broadband input (see Fig. 1). The isolation between the selective inputs is > 36dB, between the selective inputs and the broadband input the value is reduced to > 26dB. The broadband input can, however, be internally terminated so that there remain only three selective inputs, with the same isolation value (see Fig. 2).

The maximum input power is 1000W per channel for a two-programme combiner. For more than 2 programmes, the input power is limited by the sum total of the voltages of all channels at the combiner output. The maximum value of this total voltage must not exceed 500V_{rms}.

Because of the size of the filter and the directional coupler, this 1kW/channel combiner is only available mounted within a 19" rack. Since, however, the rack height and depth can be freely selected, the combiner rack can be individually chosen to match the dimensions of the whole system. In addition, other equipment such as dummy loads, RF switch panels or measurement units may be housed in the combiner rack.

Fig. 1

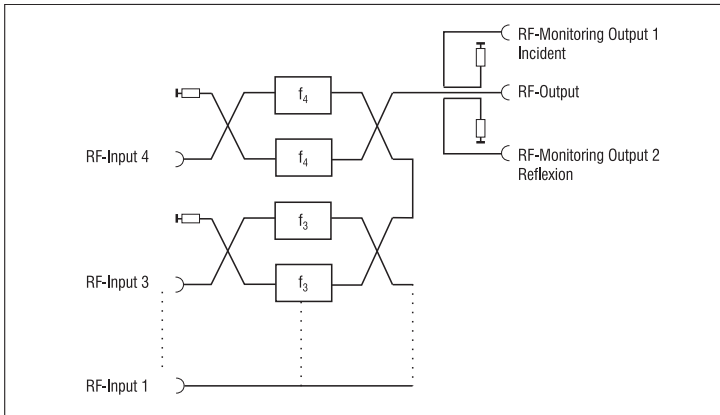
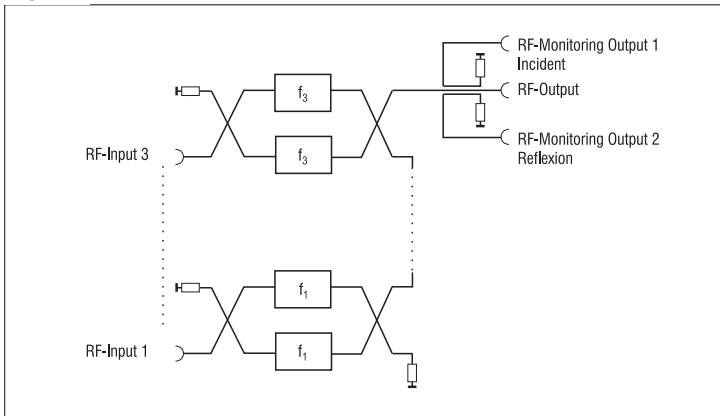


Fig. 2



Technical characteristics

Frequency range band	170...230MHz
Frequency range IV/V	470...860MHz
Maximum input power per channel for 2 channels:	
Band III	1000W peak sync
Band IV/V	1000W peak sync
Maximum total voltage at the output for more than 2 channels	500V _{rms}
Characteristic impedance	50Ω
RF connections	7/16
Minimum channel separation	3 channels (2 channels in between)

Return loss from Fv-0.75MHz to Fs+0.33MHz:

Input 1 in the working channel	≥ 22dB
Input 1 in the adjacent channels n±1	≥ 20dB
Inputs 2-5 in the working channel	≥ 30dB
Inputs 2-5 in the adjacent channels n±1	≥ 22dB
Inputs 1-5 over the rest of the frequency band	≥ 18dB
At the RF output in the working channels	≥ 22dB

Isolation

Configuration according to Fig. 1

Input 1-4 from input 2-4	≥ 36dB
Input 2-4 from input 1	≥ 26dB

Configuration according to Fig. 2

Input 1-3 from input 1-3	≥ 36dB
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Dimensions The 19" rack height and depth can be chosen, within reason, to match the rest of the system.

Transmission loss in the range from Fv-0.75MHz to Fs+0.25MHz:

Maximum losses Input no.	Number of inputs		
	2	3	4
1	0,15dB	0,20dB	0,25dB
2	0,30dB	0,35dB	0,40dB
3		0,30dB	0,35dB
4			0,30dB

Ordering Information

Owing to the large number of variants, no ordering number system for the basic unit can be given here. When ordering we therefore ask for indication of the following data:

- number of programmes; 2, 3 or 4.
- channels or vision carrier frequencies.
- one broadband input or only selective inputs.
- mechanical configuration: rack dimensions, whether other equipment is to be housed in the same rack.

RF-Filters

A range of RF filters suitable for lab applications or for permanent use in complete transmission systems or equally, in units or sub-units.

- A wide range of filters is available in the current product list, with choice of:
 - output power rating,
 - frequency range,
 - selectivity and frequency response type
- Filters feature excellent temperature stability – tuning circuits and resonators are temperature compensated.
- Filters feature excellent long-term stability – construction is robust and most filters are machined from solid metal.

RF filters are used in all fields of communication engineering to select a wanted signal from a spectrum of several signals or to remove from a processed signal (e.g., the output signal of a transmitter) unwanted spectral components, such as harmonics and mixing products.

RF filters from Plisch's current production feature various types of construction, and cover the main television frequency bands I, III, and IV/V. A wide range of output power ratings is available to suit all classes of transmitters, etc. Except in band I, coaxial cavity filters and tuning resonators are used. All filters are designed to have excellent temperature stability and minimal change of characteristics long-term. These

techniques result in filters with outstanding pass-band performance, both in terms of loss and impedance matching characteristics (high return loss; low VSWR).

High quality raw materials help to ensure good stability and low loss. High conductivity silver plating, carefully controlled in thickness and in quality, is used to reduce RF insertion loss to a minimum. Tuning adjustments are made by means of high-Q trimming capacitors or by mechanical change of resonator electrical lengths. Coupling in and out of the filters, and also between elements, is variable; filters are thus easily tunable over their particular frequency band. Where required, additional trap circuits or resonators are provided for the rejection of discreet unwanted frequencies.

The selectivity of a filter in a particular TV band is independent of the power rating and typically, for example, 1dB bandwidth over 10MHz is obtained with a four-resonator filter. For use with CCIR systems B or G, traps tuned to frequencies 5,5MHz below and 11MHz above TV vision carrier frequency would often be used (without effect on the pass-band).

Two-element filters are preferable for local oscillator and image frequency rejection after mixers used in frequency transposition; for example after RF/IF or IF/RF converters. A trap circuit would be tuned to the oscillator frequency after IF/RF conversion and, in this case, the typical trap bandwidth is about 1MHz.

Type	TV-Range	Tunable-Range	Power-Range	Number of Filter-circuits	Number of Trap-circuits	Figure	RF-Connectors	Order No.
LTF210	I	47...68 MHz	≤50 W	2	1 [1]	Fig. 1	SMA	3-0086-0008
LTF200	I	47...68 MHz	≤50 W	4	-	Fig. 2	SMA-angle	3-0086-0016
LTF370	I	47...68 MHz	≤50 W	4	2	Fig. 3	SMA-angle	3-0086-0034
FTF230	III/S11-S20	175...300 MHz	≤50 W	2	1 [1]	Fig. 4	SMA	3-0086-0010
FTF140D	III/S11-S20	175...300 MHz	≤50 W	4	-	Fig. 5	SMA-angle	3-0086-0013
FTF140C	III/S11-S20	175...300 MHz	≤50 W	4	-	Fig. 5	SMA	3-0086-0005
LTF240	IV/V	470...860 MHz	≤50 W	2	1 [1]	Fig. 6	SMA	3-0086-0011
LTF110	IV/V	470...860 MHz	≤50 W	3	-	Fig. 7	SMA	3-0086-0001
LTF170B	IV/V	470...860 MHz	≤50 W	4	-	Fig. 8	SMA-angle	3-0086-0015
LTF260	I	47...68 MHz	≤200 W	3	2	Fig. 9	N	3-0086-0019
LTF270	III	175...230 MHz	≤200 W	3	2	Fig. 10	N	3-0086-0020
LTF270	III	175...230 MHz	≤200 W	3	2	Fig. 10	7/16	3-0086-0029
LTF340	III	175...230 MHz	≤200 W	4	-	Fig. 11	7/16	3-0086-0028
LTF150	IV/V	470...860 MHz	≤200 W	3	2	Fig. 12	7/16	3-0086-0017
LTF150	IV/V	470...860 MHz	≤200 W	3	2	Fig. 12	N	3-0086-0024
FTF180	IV/V	470...860 MHz	≤750 W	3	-	Fig. 7	7/16	3-0086-0012
FTF818	III	175...230 MHz	≤1000 W	3	2	Fig. 10	N	3-0026-0009
FTF823	III	175...230 MHz	≤1000 W	3	2	Fig. 10	7/16	3-0026-0011

[1] This Trap-Circuit is designed for $f_{VC} + 38,9$ MHz.

[2] Filter is fitted with integrated Pads of 2 x 3 dB.



Fig. 1: LTF210, TV-Range I

10 MHz/Div.

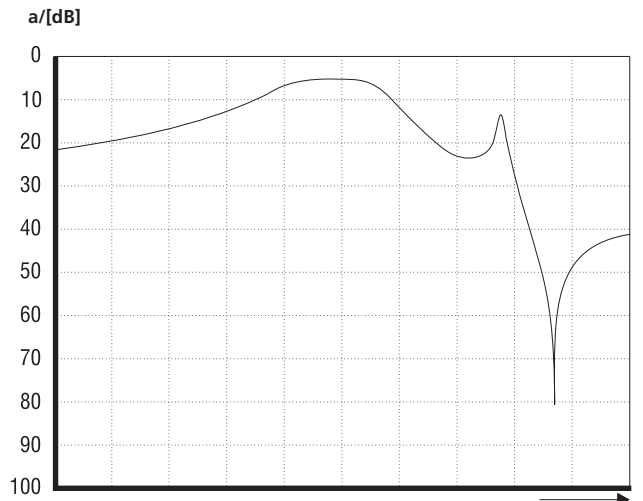


Fig. 4: LTF230, TV-Range III

10 MHz/Div.

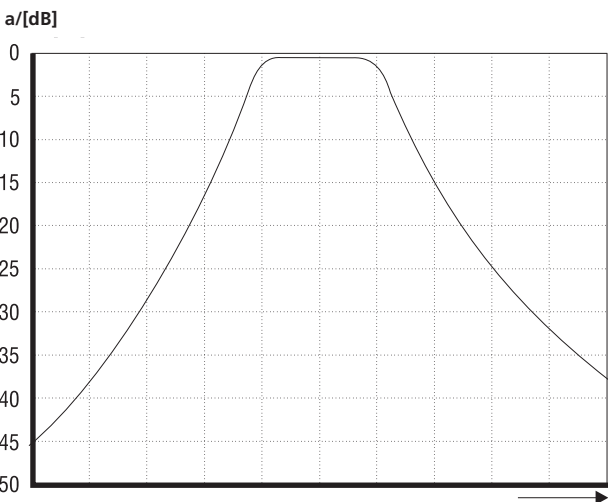


Fig. 2: LTF200, TV-Range I

5 MHz/Div.



Fig. 5: FTF140C, TV-Range III
FTF140D, TV-Range III

5 MHz/Div.



Fig. 3: LTF370, TV-Range I

5 MHz/Div.



Fig. 6: LTF240, TV-Range IV/V

10 MHz/Div.

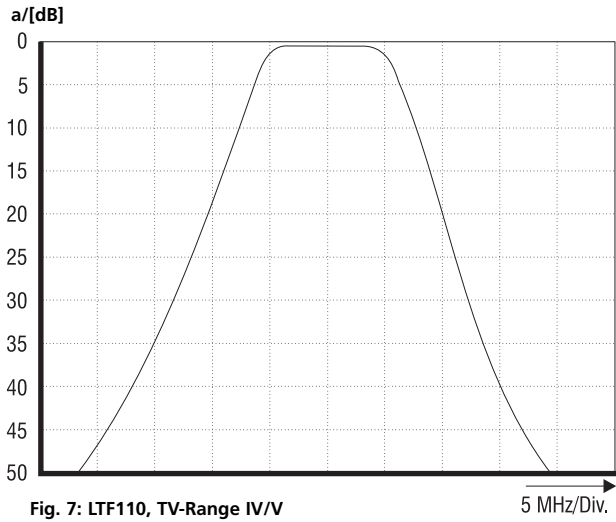


Fig. 7: LTF110, TV-Range IV/V
FTF180, TV-Range IV/V

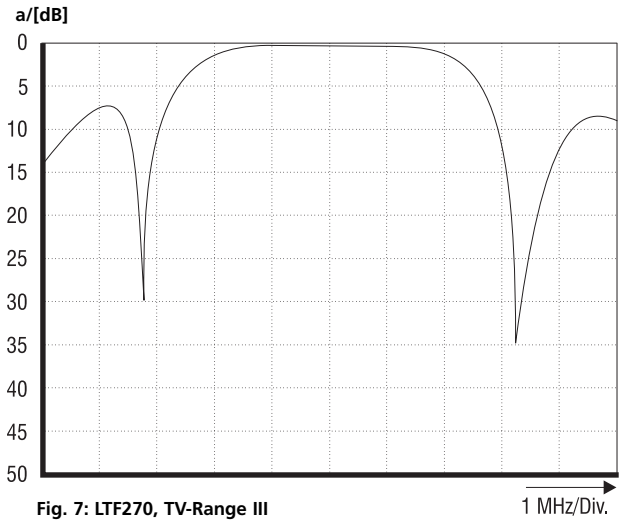


Fig. 7: LTF270, TV-Range III
FTF818, TV-Range III
FTF823, TV-Range III

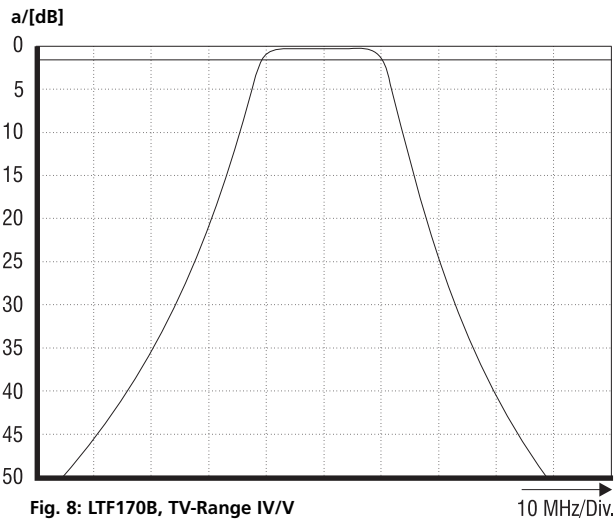


Fig. 8: LTF170B, TV-Range IV/V

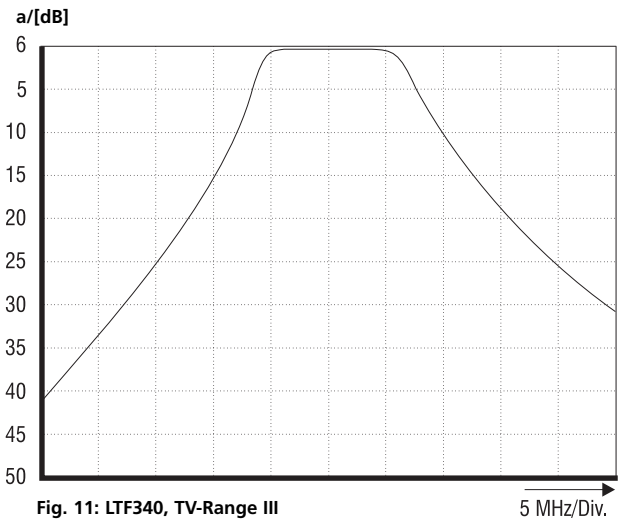


Fig. 11: LTF340, TV-Range III

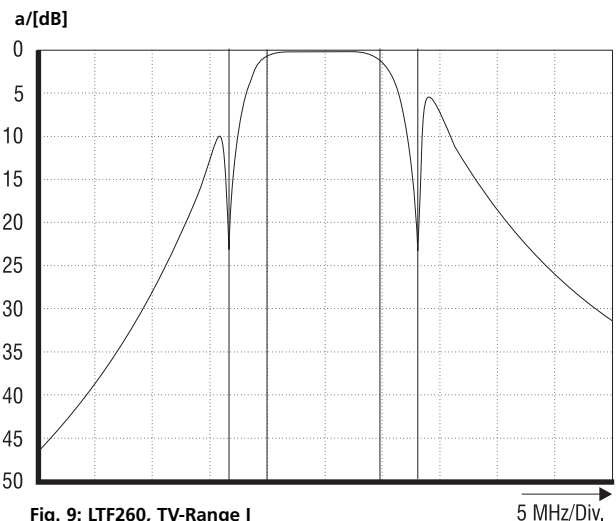


Fig. 9: LTF260, TV-Range I

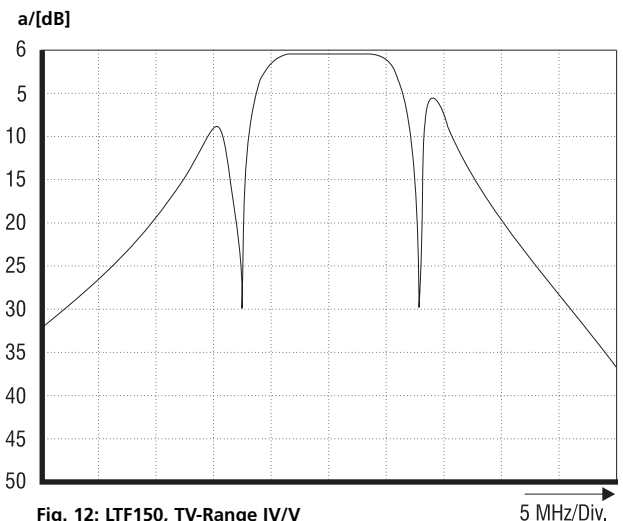
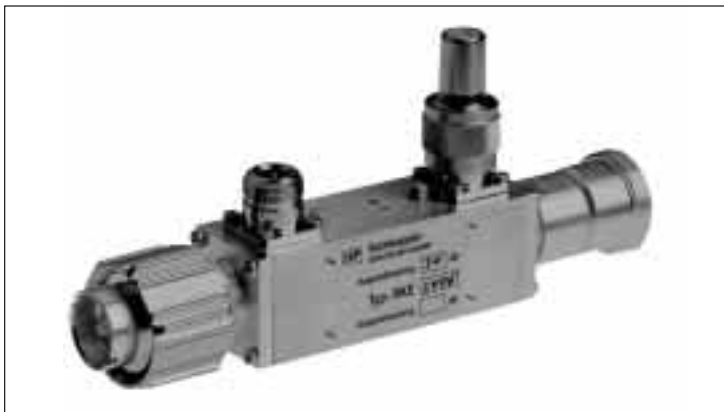


Fig. 12: LTF150, TV-Range IV/V

Directional Couplers

3dB directional couplers and precision directional coupler for sampling of signals e.g. for incident and reflexion at TV transmitter and transposer installations. Various coupling losses and for the TV frequency ranges I, III, and IV. Maximum power rating up to 1kW.



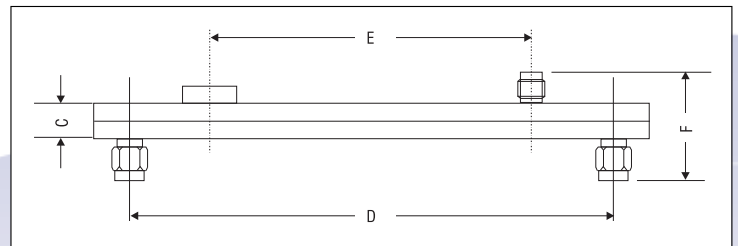
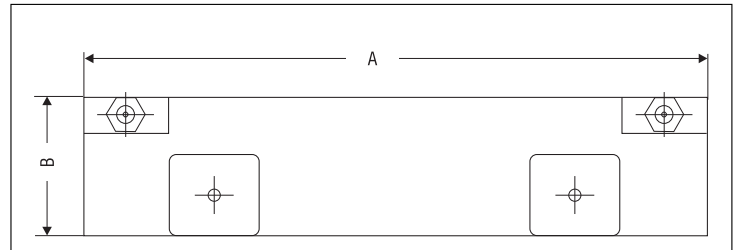
Directional couplers are used in RF applications for the splitting or joining of signals (3dB directional coupler) or for the sampling of a signal without reactive effect of a defined portion of a signal.

Directional coupler manufactured by Plisch are provided for applications in TV transmission systems and for this reason they are designed for the relevant TV frequency ranges. The supply programme contains a broad spectrum of 3dB couplers and monitor directional couplers of various shape, power handling and RF connectors.

Depending on the application the directional couplers are designed in strip-line or coaxial technique.

Power handling $\leq 300W$

TV range	I, III and IV/V
Design:	stripline
connectors:	SMA-female or male, straight. One connection each on front and rear side can be constructed as fixed integrated absorber.
Options:	screw-on miniature absorber resistors as SMA male connector.



Mechanical dimensions in mm	Model	Power	Range	A	B	C	D	E	F
	RKE270	200W	I	130	45	8	112	-	18,5
	RKE420	200W	I	157	24	8	140	115	25
	RKE250	300W	III	130	24	8	113	102,5	18,5
	RKE430	300W	III	110	24	8	87	74	25
	RKE130	300W	III	130	27,5	8	113	100	25
	RKE220	300W	III	157	24	8	140	115	25
	RKE110	200W	IV/V	104	24	8	87	74	25
	RKE140	200W	IV/V	130	27,5	8	113	76	25
	RKE210	200W	IV/V	157	24	8	140	74	25

Technical Data, TV Range I

Frequency range 47...68MHz
 Power handling 200W
 Directivity ≥ 20 dB
 Return loss ≥ 28 dB
 Coupling loss 3dB $\pm 0,15$ dB
 RF connectors SMA male or female straight

Technical Data, TV Range IV/V

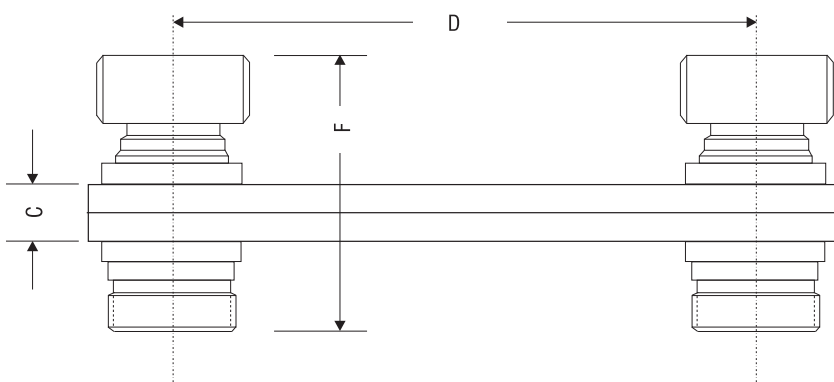
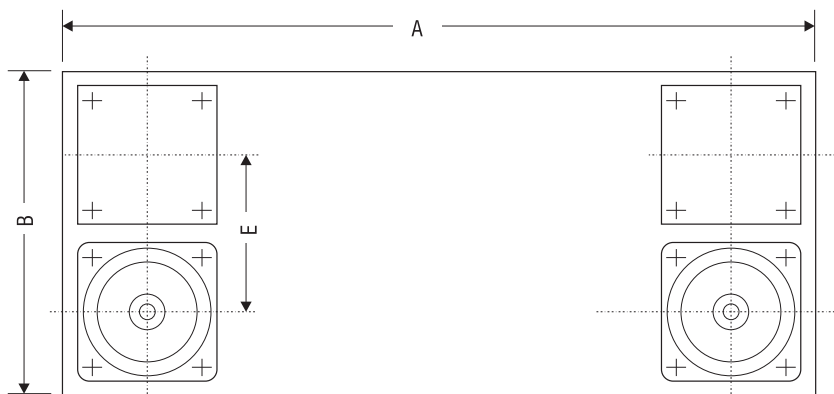
Frequency range 470...860MHz
 Power handling 200W
 Directivity ≥ 25 dB
 Return loss ≥ 25 dB
 Coupling loss 3dB $\pm 0,25$ dB
 RF connectors SMA male or female straight

Technical Data, TV Range III

Frequency range 170...230MHz
 Power handling 300W
 Directivity ≥ 25 dB
 Return loss ≥ 28 dB
 Coupling loss 3dB $\pm 0,25$ dB
 RF connectors SMA male or female straight

Power handling ≤ 1000 W

TV range: III
 Design: strip line
 RF connectors: 7/16 female or male straight



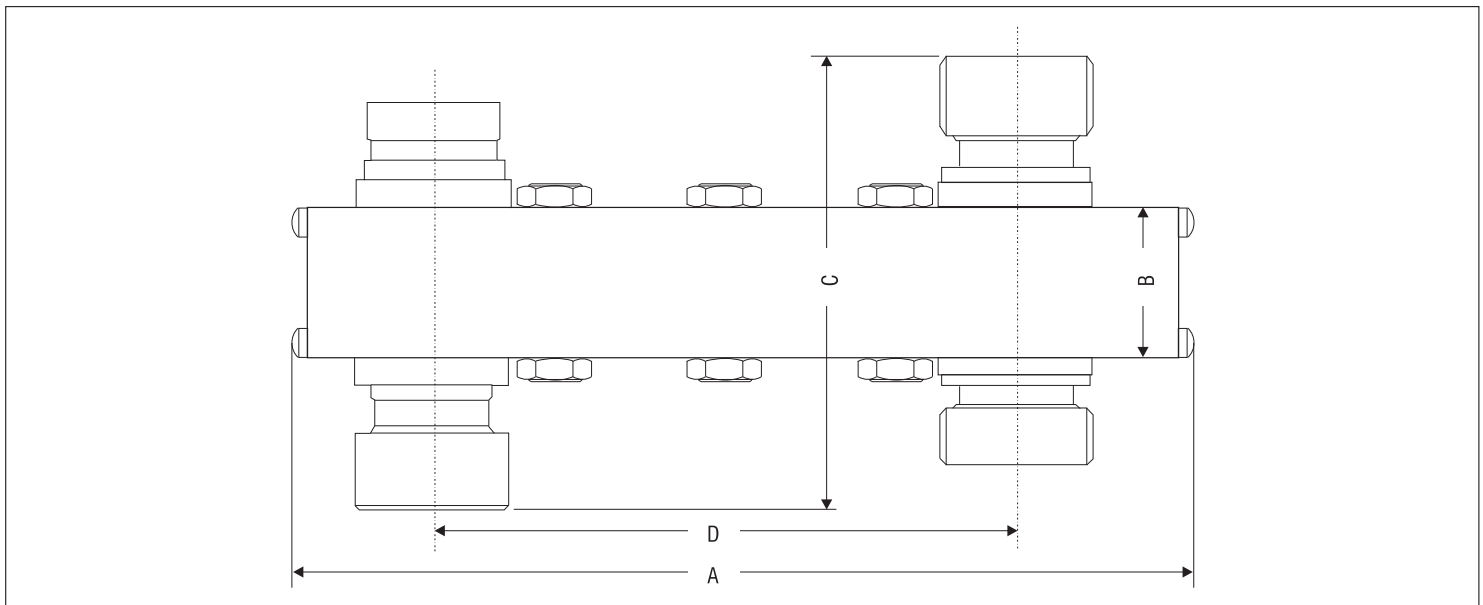
Mechanical Dimensions in mm	Model	Power	Range	A	B	C	D	E	F
	RKE240	1000W	III	172	75	12,5	133	37,5	65

Technical data

Frequency range 170...230MHz
 Power handling 1000W
 Directivity $\geq 25\text{dB}$
 Return loss $\geq 25\text{dB}$
 coupling loss $3\text{dB} \pm 0,1\text{dB}$
 RF connectors 7/16 male or female straight

TV range:
 Design:
 RF connectors:

IV/V strip-line
 7/16 male or female straight or angle 90°



Mechanical Dimensions in mm	Model	Power	Range	A	B	C	D	E	F
	RKE120	1000W	IV/V	187	32	96	121	-	-

Technical data

Frequency range 470...860MHz
 Power handling 1000W
 Directivity $\geq 36\text{dB}$
 Return loss $\geq 36\text{dB}$
 RFconnectors 7/16 female or male straight or angle 90°

Following coupling losses are available:

TV-Range III	21	26	28	34	38				(dB)
TV-Range IV/V	16	19	22	25	28	31	34		(dB)

Intermediate values and TV range I on request.

The coupling outputs are fitted with SMA connectors. The output of the main line can be fitted on request with N type or 7/16 male or female connectors.

Due to the multitude of possible features no listing of models is shown. The required directional couplers are manufactured individually on request.

Supply Programme Precision Directional Couplers

Precision directional couplers manufactured by Plisch are designed in different ways w.r.t. shape, connectors and coupling loss. They are constructed using coaxial techniques.

Up to 2 coupling loops can be provided with one output each for incident and reflexion. The coupling loops can be adjusted for different coupling losses.

Broadband Measurement Amplifier BMV101

Technical Data

Frequency range	5...900MHz
Input/output impedance	50 Ω
Input return loss	> 20dB
Gain	20dB \pm 0,5dB
Noise figure	< 5,0dB
Output power for 1dB compression	> +15dBm
Intercept point ICP2 (output) with $\Delta f \leq 10$ MHz	> +50dBm
Intercept point ICP3 (output) with $\Delta f \leq 10$ MHz	\geq +28dBm
Supply voltage	9...24V DC
Current consumption	115mA \pm 10%
RF connectors	Type N
Weight	200g
Ordering information	2-0074-0013
Accessories supplied	<ul style="list-style-type: none"> • Hardbox and plug-in power supply unit



RF-cables

The following table will show all cables which are available from Plisch Nachrichtentechnik as standard RF-cables. Moreover individual pieces, small and large series are available of all required lengths together with any required connectors. Even special designs which deviate from the standard types given in the table can be realised on request. Also adaptor cables and adaptors are included in this offer. All cables are tested and measured. The measurement protocol can be included at delivery on request.

In addition to cables for RF domain, cables can be supplied e.g. for LF, video and audio signals, mains cables or confectionated flat cables for the computer or control technique.

Please call us for particulars.



Standard VF- and RF-cables:

Type	Impedance	Application
K 02252-d	50Ω	Double screened standard RF-cable for various power classes.
RG188	50Ω	
RG214	50Ω	
RG223	50Ω	
RG225	50Ω	
RG400	50Ω	
Sucoform 86	50Ω	Tinned flexible RF connections with copper sheath for high quality purposes e.g. for internal wiring of critical sub-assemblies.
Sucoform 141	50Ω	
UT 141	50Ω	Rigid RF-connections e.g. for interconnections. These cables fitted with SMA connectors are used for front panel interconnections of modules at Plisch transposers and excitors.
Flexwell 3/8"	50Ω	RF-cables with copper mesh screen, flexible for higher RF power.
Flexwell 5/8"	50Ω	
Flexwell 1 5/8"	50Ω	
RG187	75Ω	75Ω-cable for VF signals fitted with BNC connectors if no other connector is specified.
0,6/3,7	75Ω	

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