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Hybrid transmitter combiners

Model	Num.of channels	Isolation TX-TX	Loss, dB	Input power, W	Band, MHz	Price, EUR
CH-2V-50S-R/2	2	65	3.5	50 "regular"	140-174	939
CH-2V-50S-X/2	2	65	3.5	50 "extreme"	140-174	1102
CH-2V-50D-R/2	2	100	3.9	50 "regular"	140-174	1368
CH-2V-50D-X/2	2	100	3.9	50 "extreme"	140-174	1549
CH-3V-50S-R/2	3	60	5,5	50 "regular"	140-174	1688
CH-3V-50S-X/2	3	60	5.5	50 "extreme"	140-174	1932
CH-3V-50D-R/2	3	90	5.9	50 "regular"	140-174	2293
CH-3V-50D-X/2	3	90	5.9	50 "extreme"	140-174	2565
CH-2V-125S-R/2	2	65	3.5	125 "regular"	140-174	1541
CH-2V-125S-X/2	2	65	3.5	125 "extreme"	140-174	1674
CH-2V-125D-R/2	2	100	3.9	125 "regular"	140-174	2070
CH-2V-125D-X/2	2	100	3.9	125 "extreme"	140-174	2203
CH-4V-50S-R/2	4	65	6,8	50 "regular"	140-174	2388
CH-4V-50S-X/2	4	65	6.8	50 "extreme"	140-174	2714
CH-4V-50D-R/2	4	100	7,2	50 "regular"	140-174	3104
CH-4V-50D-X/2	4	100	7.2	50 "extreme"	140-174	3466
CH-5V-50S-R/2	5	60	7,4	50 "regular"	140-174	2924
CH-5V-50S-X/2	5	60	7.4	50 "extreme"	140-174	3331
CH-5V-50D-R/2	5	90	7.8	50 "regular"	140-174	4097
CH-5V-50D-X/2	5	90	7.8	50 "extreme"	140-174	4550
CH-4V-125S-R/2	4	65	6,8	125 "regular"	140-174	3516
CH-4V-125S-X/2	4	65	6.8	125 "extreme"	140-174	3644
CH-4V-125D-R/2	4	100	7,2	125 "regular"	140-174	4995
CH-4V-125D-X/2	4	100	7.2	125 "extreme"	140-174	5261
CH-2A-50S	2	60	3,8	50	300-360	949
CH-2A-50D	2	90	4,2	50	300-360	1356
CH-4A-50S	4	60	7,0	50	300-360	2440
CH-4A-50D	4	90	7,4	50	300-360	3103
CH-2U-50S-R/2	2	65	3,8	50 "regular"	400-490	939
CH-2U-50S-X/2	2	65	3.8	50 "extreme"	400-490	1102
CH-2U-50D-R/2	2	100	4,2	50 "regular"	400-490	1368
CH-2U-50D-X/2	2	100	4.2	50 "extreme"	400-490	1549
CH-3U-50S-R/2	3	65	5,5	50 "regular"	400-490	1688
CH-3U-50S-X/2	3	65	5.5	50 "extreme"	400-490	1932
CH-3U-50D-R/2	3	90	5,9	50 "regular"	400-490	2293
CH-3U-50D-X/2	3	90	5.9	50 "extreme"	400-490	2565
CH-4U-50S-R/2	4	65	7,0	50 "regular"	400-490	2388
CH-4U-50S-X/2	4	65	7.0	50 "extreme"	400-490	2714
CH-4U-50D-R/2	4	100	7,4	50 "regular"	400-490	3104
CH-4U-50D-X/2	4	100	7.4	50 "extreme"	400-490	3466
CH-5U-50S-R/2	5	60	7,5	50 "regular"	400-490	2924
CH-5U-50S-X/2	5	60	7.5	50 "extreme"	400-490	3331
CH-5U-50D-R/2	5	90	7.9	50 "regular"	400-490	4097
CH-5U-50D-X/2	5	90	7.9	50 "extreme"	400-490	4550
CH-2U-125S-R/2	2	65	3,8	125 "regular"	400-490	1541
CH-2U-125S-X/2	2	65	3.8	125 "extreme"	400-490	1674
CH-2U-125D-R/2	2	100	4.4	125 "regular"	400-490	2070
CH-2U-125D-X/2	2	100	4.4	125 "extreme"	400-490	2203
CH-4U-125S-R/2	4	65	7,0	125 "regular"	400-490	3516
CH-4U-125S-X/2	4	65	7.0	125 "extreme"	400-490	3644
CH-4U-125D-R/2	4	100	7,4	125 "regular"	400-490	4995
CH-4U-125D-X/2	4	100	7.4	125 "extreme"	400-490	5261

140-174 MHz Hybrid transmitter combiners CH-2V-50S(D)-R/2(X/2), CH-4V-50S(D)-R/2(X/2), CH-2V-125S(D)-R/2(X/2), CH-4V-125S (D)-R/2(X/2)

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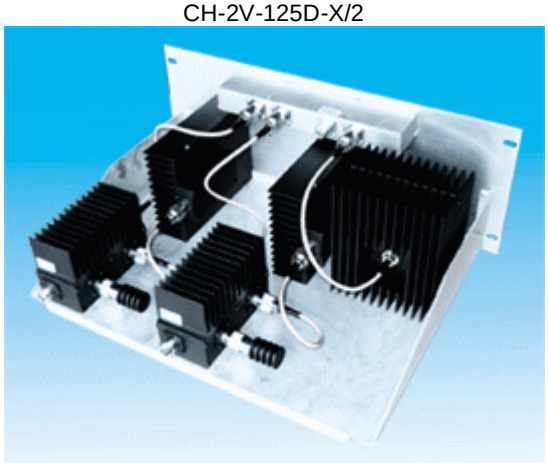
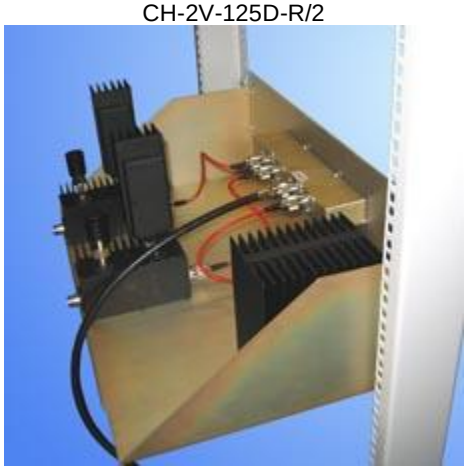
CH-2V-125D-X/2



CH-3V-125D-R/2

CH-2V-125D-R/2



CH-2V-50-X/2

Electrical specifications

All model:Operating frequency band 140-174 MHz, Max. frequency bandwidth - 7 MHz, Impedance 50 Ohm, Connector N-female

Model	NO of channels	Insertion loss TX-ANT, dB	Isolation TX-TX not less, dB	Isolation ANT-TX not less, dB	Power not more, W	Weight, kg	Length/Width/Depth, mm
CH-2V-50S-R/2(X/2)	2	3,6	60	33	50	3,12	485x88x350
CH-2V-50D-R/2(X/2)	2	4	90	63	50	3,36	485x88x350
CH-4V-50S-R/2(X/2)	4	6,8	60	36	50	6,6	485x175x350
CH-4V-50D-R/2(X/2)	4	7,2	90	66	50	7,1	485x175x350
CH-2V-125S-R/2(X/2)	2	3,6	60	33	125	4,9	485x88x350
CH-2V-125D-R/2(X/2)	2	4	90	63	125	5,4	485x88x350
CH-4V-125S-R/2(X/2)	4	6,8	60	36	125	11,2	485x350x350
CH-4V-125D-R/2(X/2)	4	7,2	90	66	125	12,3	485x350x350

These hybrid transmitter combiners are convenient for use in systems with any frequency separation. Also, thanks to absence of narrow resonant elements in their structure, they have no need in heat stabilizing, enabling to install them directly "under antennas".

Two or four-channel single-isolator transmitter combiners employment is allowable at installation sites with low density of transmitting devices.

It is suggested to use double isolator transmitter combiners (CH-2V-50/125D and CH-4V-50/125D), which provide higher

protection from broadcast signals, as well as from signals of transmitters, operating on different channels, if other companies' antennas are situated near yours.

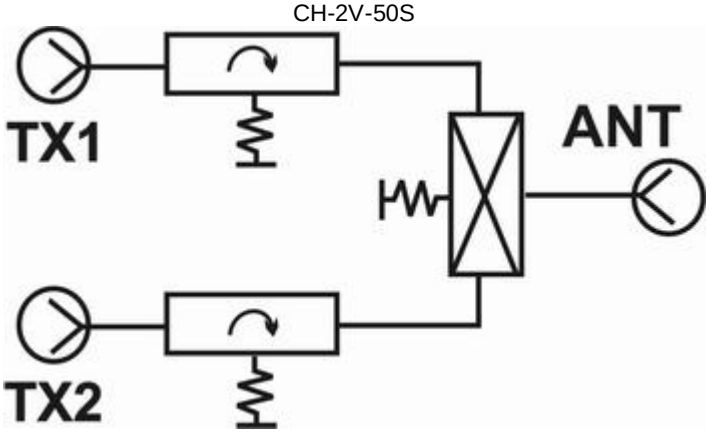
Do not forget to install output bandpass filter, intended for passing all combined channels and elimination of transmitters noise.

Hybrid transmitter combiners are designed for mounting in standard 19-inch rack.

Manufacturer adjusts transmitter combiner to customers operating frequencies.

The combiners of Regular (R) class provide an operation of the transmitting link in temporal regime of exploitation with TX/RX =1:5, i.e. when the working load onto the transmitters of your system is not high. The combiners of Extreme (X) class are being applied in the case when repeaters operate with enhanced load (up to 100% of the cycle). These are more expansive and highly reliable products with the valves based upon the radiators (which do not allow the ferrites to become overheated) and for massive carrying out (external) loads.

CH-2V-50S



2009

140-174, 400-490 MHz Hybrid transmitter combiners CH-3V-50S/D-R/2(X/2), CH-5V-50S/D-R/2(X/2), CH-3U-50S/D-R/2(X/2), CH-5U-50S/D-R/2(X/2)

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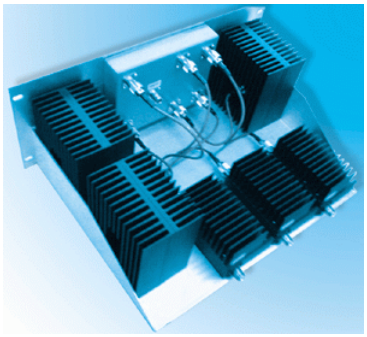
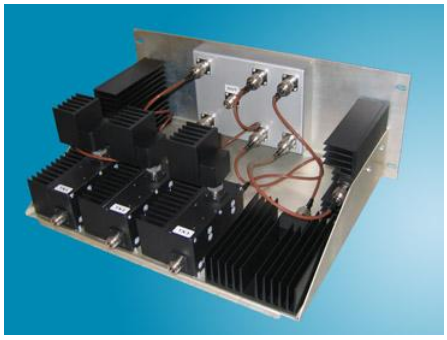
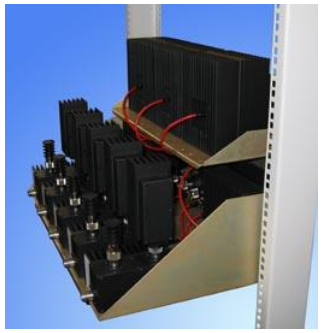
CH-3V-50D-R/2



CH-3U-50D-X/2



CH-5V-125D-R/2



Electrical specifications

Model	CH-3V-50S/D-R/2(X/2)	CH-3U-50S/D-R/2(X/2)	CH-5V-50S/D-R/2(X/2)	CH-5U-50S/D-R/2(X/2)
Operating frequency band, MHz	140-174	400-490	140-174	400-490
Operating bandwidth, MHz	7	14	7	14
Impedance, Ohm	50	50	50	50
Number of channels	3	3	5	5
Insertion loss TX-ANT, dB	5,5/5,9	5,5/5,9	7,4/7,8	7,5/7,9
Isolation TX-TX not less, dB			60/90	
Isolation ANT-TX not less, dB			35/65	
Power not more, W			50	
Frequency separation TX/TX			not limited	

Mechanical specifications

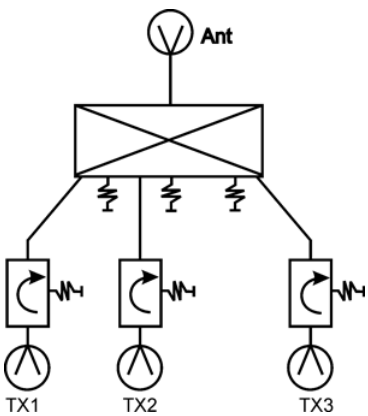
Model	CH-3V-50S/D-R/2(X/2)	CH-3U-50S/D-R/2(X/2)	CH-5V-50S/D-R/2(X/2)	CH-5U-50S/D-R/2(X/2)
Weight, kg	4,83/5,18	4,83/5,18	7,8/8,9	7,8/8,9
Length/Width/Depth, mm	485x88x350		485x233x350	
Connectors	N-type			

The specialists of our company have developed new models of hybrid combiners for 3 transmitters. Their principle peculiarity consists in the equal losses for all channels.

Hybrid transmitter combiners are designed for mounting in standard 19-inch rack.

Manufacturer adjusts transmitter combiner to customers operating frequencies.

The combiners of Regular (R) class provide an operation of the transmitting link in temporal regime of exploitation with TX/RX =1:5, i.e. when the working load onto the transmitters of your system is not high. The combiners of Extreme (X) class are being applied in the case when repeaters operate with enhanced load (up to 100% of the cycle). These are more expansive and highly reliable products with the valves based upon the radiators (which do not allow the ferrites to become overheated) and for massive carrying out (external) loads.



300-360 MHz
Hibrid transmitter combiners
CH-2A-50S, CH-2A-50D, CH-4A-50S, CH-4A-50D

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Electrical specifications

Model	CH-2A-50S	CH-2A-50D	CH-4A-50S	CH-4A-50D
Operating frequency band, MHz	300-360			
Operating bandwidth, MHz	14			
Impedance, Ohm	50			
Number of channels	2		4	
Insertion loss TX-ANT, dB	3,8	4,2	7	7,4
Isolation TX-TX not less, dB	60	90	60	90
Isolation ANT-TX not less, dB	33	63	36	66
Power not more, W	50			
Frequency separation TX/TX	not limited			

Mechanical specifications

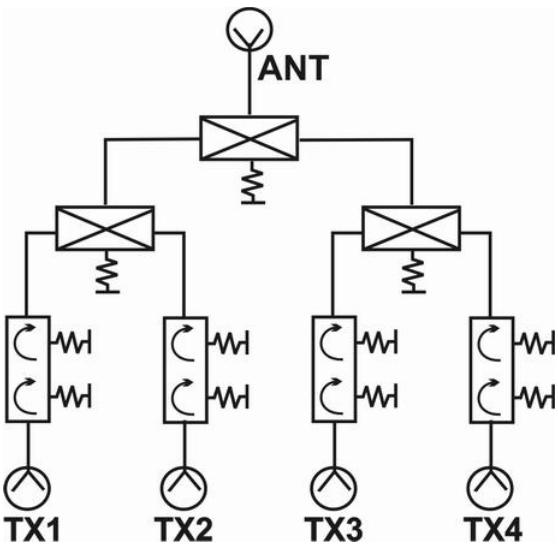
Model	CH-2A-50S	CH-2A-50D	CH-4A-50S	CH-4A-50D
Weight, kg	3,12	3,36	6,6	7,1
Length/Width/Depth, mm	485x88x350		485x175x350	
Connectors	N-type			

300 MHz frequency range was always noted for its specificity, for exact 25 kHz frequency grid pitch in particular. This was connected with division into "trunks" in "Altay" system. River craft radio stations use equipment with the same repetition factor, also. Demand for communication channels, growing every year, mostly satisfied by this particular range usage. Transmitter combiners CH-4(2)A-50S(D) occurs to be the most successful solution for constructing multichannel system, operating with common antenna, in this case. Together with antenna DS8-ALT, duplexer DPF4-4A, receiver distribution panel PRP-2(4)A CH-4(2)A-50S(D) will represent complete solution for your antenna-feeder system.

Hybrid transmitter combiners are designed for mounting in standard 19-inch rack.

Manufacturer adjusts transmitter combiner to customers operating frequencies.

Hybrid transmitter combiner CH-4A-50D



400-490 MHz
Hibrid transmitter combiners CH-2U-50S(D)-R/2(X/2), CH-4U-50S(D)-R/2(X/2), CH-2U-125S(D)-R/2(X/2), CH-4U-125S(D)-R/2(X/2)

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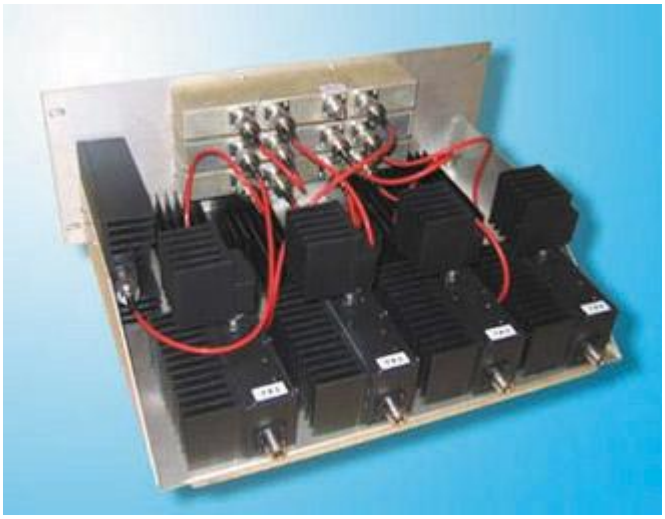
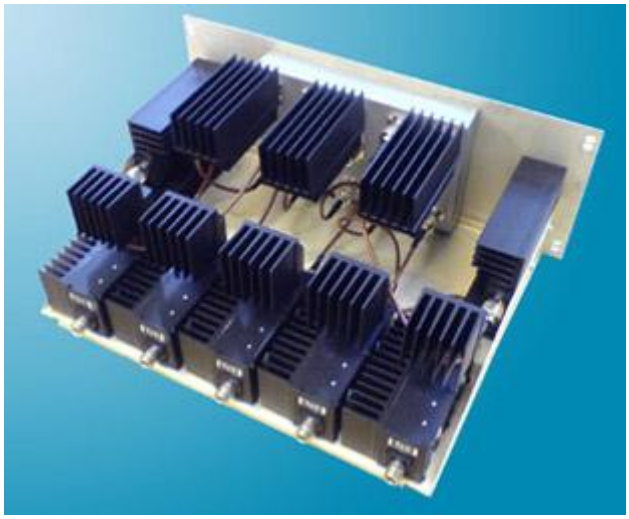
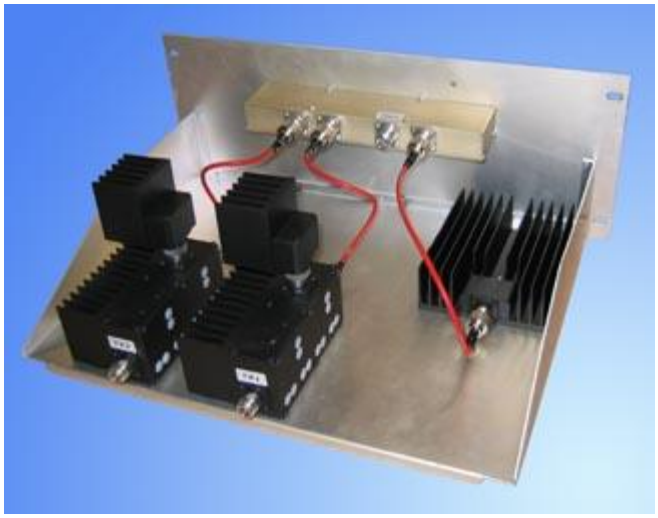
CH-4U-50D-X/2



CH-5U-50D-X/2



CH-2U-50D-X/2



Electrical specifications

All model:Operating frequency band 400-490 MHz, Max. frequency bandwidth, MHz 30 MHz, Impedance 50 Ohm, Connector N-female

Mechanical specifications

Model	Number of channels	Insertion loss TX-ANT, dB	Isolation TX-TX not less, dB	Isolation ANT-TX not less, dB	Power not more, W	Weight, kg	Length/Width/Depth, mm
CH-2U-50S-R/2(X/2)	2	3,8	60	33	50	3,12	485x88x350
CH-2U-50D-R/2(X/2)	2	4,2	90	63	50	3,36	485x88x350
CH-4U-50S-R/2(X/2)	4	7	60	36	50	6,6	485x175x350
CH-4U-50D-R/2(X/2)	4	7,4	90	66	50	7,1	485x175x350
CH-2U-125S-R/2(X/2)	2	3,8	60	33	125	4,9	485x88x350
CH-2U-125D-R/2(X/2)	2	4,4	90	63	125	5,4	485x88x350
CH-4U-125S-R/2(X/2)	4	7	60	36	125	11,2	485x350x350
CH-4U-125D-R/2(X/2)	4	7,4	90	66	125	12,3	485x350x350

Migration to new 12.5 kHz frequency grid pitch, intent on frequency channels consolidation and increase of resources availability,

simulate growing interest in hybrid transmitter combiners. This especially concerns to trunking systems in cities, in which cellular NMT 450i communication systems are greatly developed.

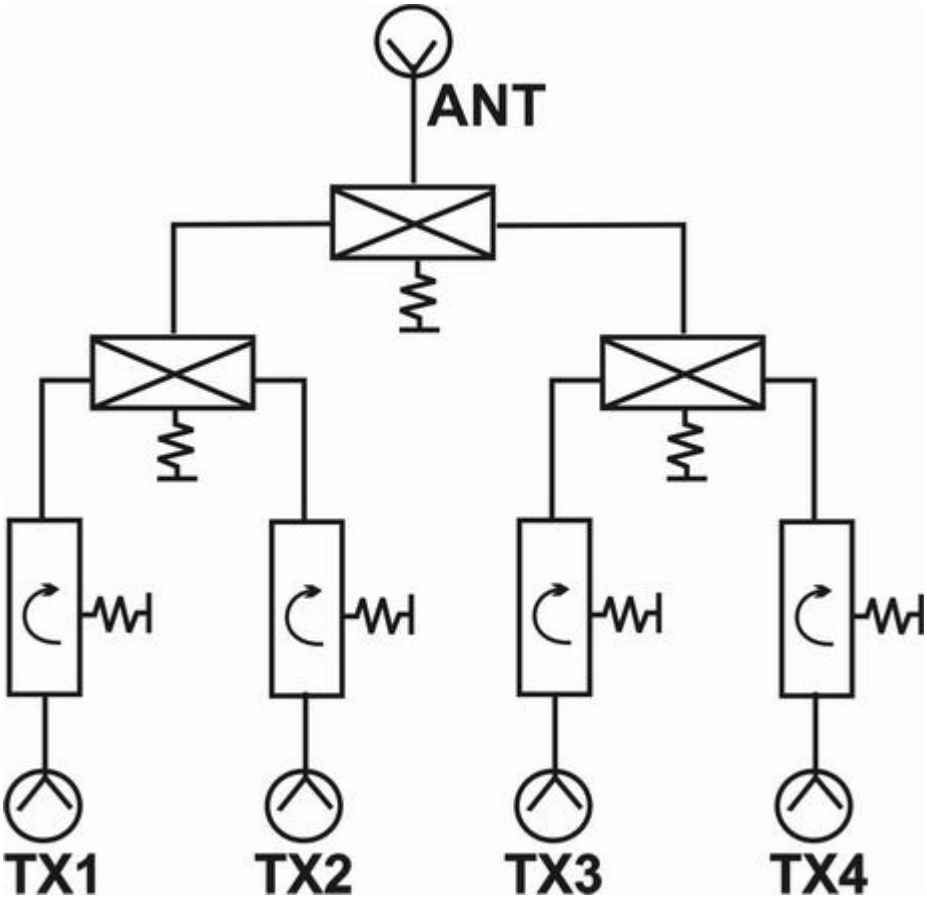
Common modern situation, when single mast teems with transmitting equipment, claims for serious concern about application of devices, eliminating intermodulation interference. One of such devices represented transmitter combiners are.

Two or four-channel single-isolator transmitter combiners (CH-2U-50/125S and CH-4U-50/125S) employment is allowable at installation sites with low density of transmitting devices.

It is suggested to use double isolator transmitter combiners (CH-2U-50/125D and CH-4U-50/125D), which provide higher protection from broadcast signals, as well as from signals of transmitters, operating on different channels, if other companies' antennas are situated near yours.

The combiners of Regular (R) class provide an operation of the transmitting link in temporal regime of exploitation with TX/RX =1:5, i.e. when the working load onto the transmitters of your system is not high. The combiners of Extreme (X) class are being applied in the case when repeaters operate with enhanced load (up to 100% of the cycle). These are more expansive and highly reliable products with the valves based upon the radiators (which do not allow the ferrites to become overheated) and for massive carrying out (external) loads.

Hybrid transmitter combiner CH-4U-125S



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