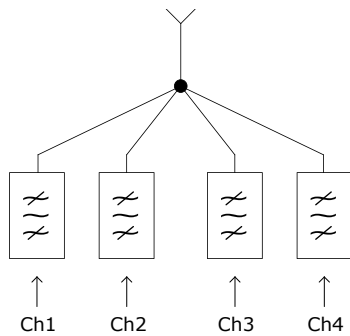


# VHF&UHF Combiners in Star Point Configuration

## STAR POINT COMBINERS

TELSA offers a wide range of combiners solution realized in both star point and T-pass configuration. Low cost, compact design and highest RF performances are the key features : they are suitable for fixed frequency channels. Depending on customer specification TELSA recommend the use of 3 different square cavity sections (100, 150, 210 mm) to guarantee strong attenuations and good Insertion Loss at the same time. The standard selectivity combiners are made with a single cavity for each channel. If strong attenuation is required then we can use a double cavity with or without isolator.



T06XXXXXX



VHF Standard Selectivity				
Number of Channels	Insertion Loss (dB)	Isolation @ 0.5% (dB)	Cavity Section (mm)	Mechanical Dimension
2	1.3	> 11	100	3U x 19"x 600mm
	1.3	> 13	150	4U x 19"x 550mm
	1.3	> 15	210	5U x 19"x 685mm
3	1.5	> 11	100	3U x 19"x 600mm
	1.5	> 13	150	8U x 19"x 550mm
	1.5	> 15	210	10U x 19"x 685mm
4	1.6	> 11	100	3U x 19"x 600mm
	1.6	> 13	150	8U x 19"x 550mm
	1.6	> 15	210	10U x 19"x 685mm
N	.....	.....	.....	.....

UHF Standard Selectivity				
Number of Channels	Insertion Loss (dB)	Isolation @ 0.5% (dB)	Cavity Section (mm)	Mechanical Dimension
2	1.3	> 11	100	3U x 19"x 600mm
	1.3	> 13	150	4U x 19"x 550mm
	1.3	> 15	210	5U x 19"x 685mm
3	1.5	> 11	100	3U x 19"x 600mm
	1.5	> 13	150	8U x 19"x 550mm
	1.5	> 15	210	10U x 19"x 685mm
4	1.6	> 11	100	3U x 19"x 600mm
	1.6	> 13	150	8U x 19"x 550mm
	1.6	> 15	210	10U x 19"x 685mm
N	.....	.....	.....	.....

VHF High Selectivity				
Number of Channels	Insertion Loss (dB)	Isolation @ 0.5% (dB)	Cavity Section (mm)	Mechanical Dimension
2	2.3	> 22	100	3U x 19"x 600mm
	2.3	> 26	150	8U x 19"x 550mm
	2.3	> 30	210	10U x 19"x 685mm
3	2.5	> 22	100	6U x 19"x 600mm
	2.5	> 26	150	12U x 19"x 550mm
	2.5	> 30	210	15U x 19"x 685mm
4	2.6	> 22	100	6U x 19"x 600mm
	2.6	> 26	150	16U x 19"x 550mm
	2.6	> 30	210	20U x 19"x 685mm
N	.....	.....	.....	.....

UHF High Selectivity				
Number of Channels	Insertion Loss (dB)	Isolation @ 0.5% (dB)	Cavity Section (mm)	Mechanical Dimension
2	2.3	> 22	100	3U x 19"x 600mm
	2.3	> 26	150	8U x 19"x 550mm
	2.3	> 30	210	10U x 19"x 685mm
3	2.5	> 22	100	6U x 19"x 600mm
	2.5	> 26	150	12U x 19"x 550mm
	2.5	> 30	210	15U x 19"x 685mm
4	2.6	> 22	100	6U x 19"x 600mm
	2.6	> 26	150	16U x 19"x 550mm
	2.6	> 30	210	20U x 19"x 685mm
N	.....	.....	.....	.....

# VHF&UHF Combiners in Double Bridge Configuration

T06XXXXXX



## DOUBLE BRIDGE COMBINERS:

TELSA Double Bridge Combiners are the most flexible and reliable combining systems in the Air Traffic Control market. This configuration provides state of the art performance with the best frequency response and isolation attainable. The modularity of the system enable to expand one exiting combiner adding extra channels directly on-site without any re-tuning of the installed system. The isolation between the channels guarantee operational conditions even if a module (a channel) is broken and the minimum channel spacing can be 100 kHz with a reasonable Insertion Loss. These features are valid for a general configuration based on the double bridge principle. Depending on customer design / requirement (basically Insertion Loss and Isolation between the closest channels) TELSAs is able to recommend different version that we can see in the table below. The standard Combiners supplied are made with 4U Manual Cavity Filter that are suitable for combiners with fixed frequency channels. One of the great possibility offered by this

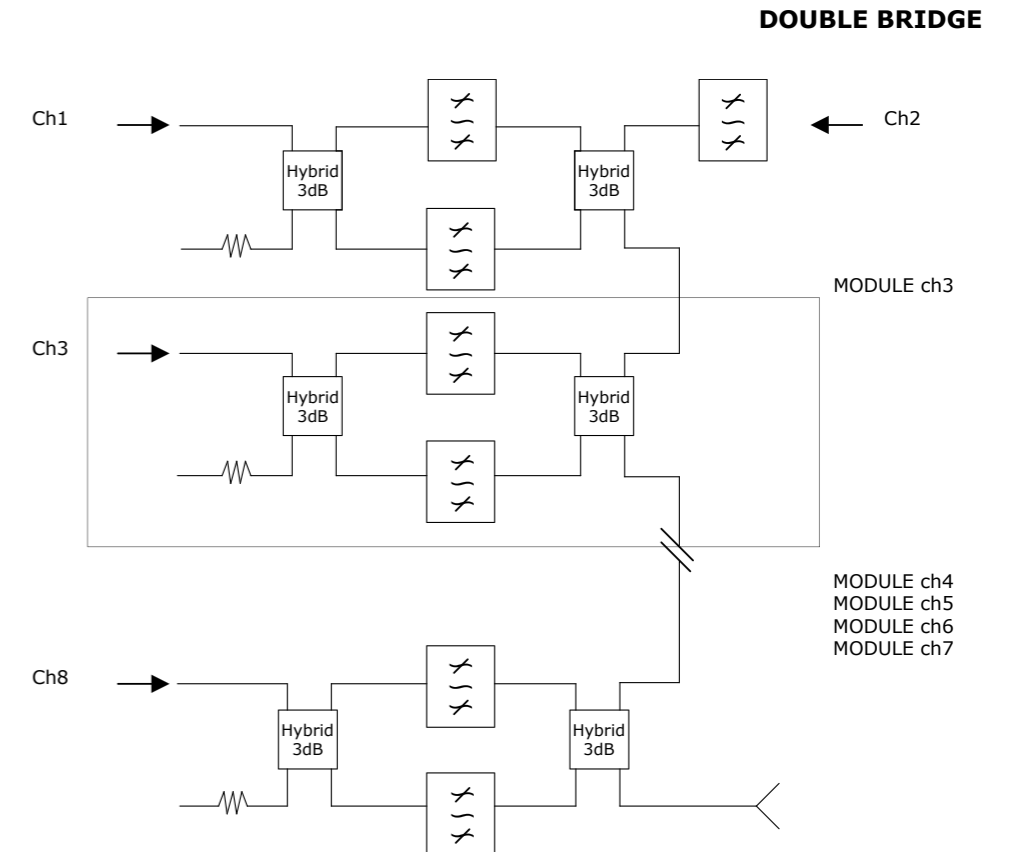
configuration is to realize a Double Bridge Combiner (for both VHF and UHF bands) using Automatic Filters (with single cavity or double cavity) that can be interfaced with the customer radio by a proprietary developed communication protocol. Each frequency channel can be changed by the radio at any time over all the band without any retuning of the filters : this possibility is of course barred in a star point or T-pass combiner where the cables connection are frequency dependent.



VHF Standard Selectivity				
Part Number	Number of Channels	Insertion Loss (dB)	Isolation @ 1% (dB)	Mechanical Dimension
T06170401	2	1.7	> 40	8U
T06180403	3	2	> 40	12U
T06190403	4	2.3	> 40	16U
.....	.....	.....	.....	.....
T06XXXXXX	N	1.7 x N x 0,2	> 40	Nx4U

VHF High Selectivity				
Part Number	Number of Channels	Insertion Loss (dB)	Isolation @ 1% (dB)	Mechanical Dimension
T06170403	2	2	> 60	12U
T06180404	3	2.3	> 60	20U
T06190405	4	2.6	> 60	28U
.....	.....	.....	.....	.....
T06XXXXXX	N	2 x N x 0,2	> 60	.....

# VHF&UHF Combiners in Double Bridge Configuration



UHF Standard Selectivity				
Part Number	Number of Channels	Insertion Loss (dB)	Isolation @ 1% (dB)	Mechanical Dimension
T06170604	2	1.7	> 40	8U
T06180605	3	2	> 40	12U
T06190605	4	2.3	> 40	16U
.....	.....	.....	.....	.....
T06XXXXXX	N	1.7 x N x 0,2	> 40	Nx4U

UHF High Selectivity				
Part Number	Number of Channels	Insertion Loss (dB)	Isolation @ 1% (dB)	Mechanical Dimension
T06170603	2	2	> 60	12U
T06180604	3	2.3	> 60	20U
T06190604	4	2.6	> 60	28U
.....	.....	.....	.....	.....
T06XXXXXX	N	2 x N x 0,2	> 60	.....