

# Jiuzhou JQA1P Monoblock Quad LNBF 6

## 2 satellites for 4 receivers

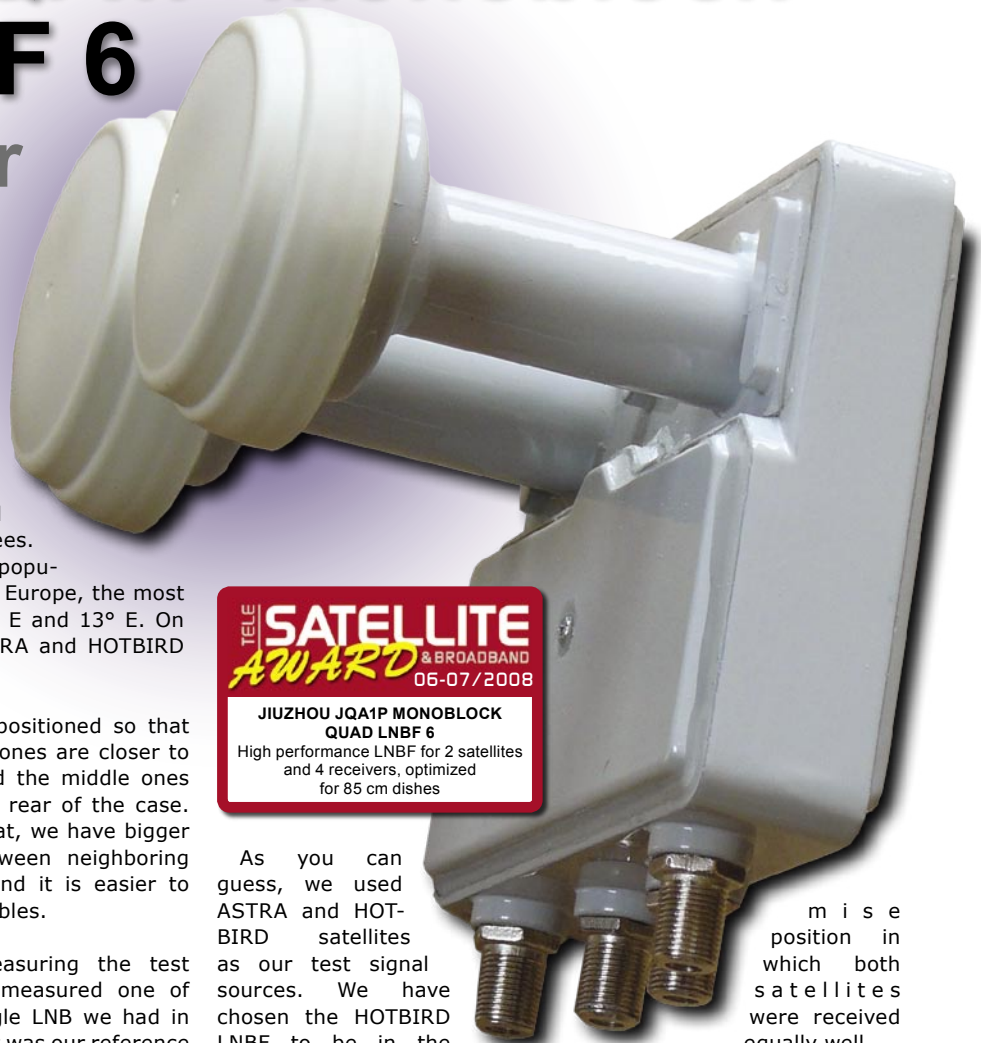
A monoblock LNBF is used when you want to receive 2 satellites in Ku-band. This solution has an advantage over a motorized antenna in speed of satellite switching. It is immediate. A motorized dish would require the extra 2-3 seconds. Of course, the monoblock can only be used when the satellites are separated from one another by an exact number of degrees. And this separation can not be too high. Most popular monoblocks are made for 6° separation. For Europe, the most common combination for a monoblock is 19.2° E and 13° E. On these two orbital positions, there are the ASTRA and HOTBIRD satellite fleets.

Quite often you need to distribute the signal among a few receivers located in different rooms. The simple monoblock is of no use then. But if you have a monoblock quad LNBF, you may distribute the signal to four receivers and every of them will be able to tune to any channel from ASTRA or HOTBIRD independently. One 85-90 cm dish will be enough for ASTRA+HOTBIRD reception in Europe. This is a very practical solution especially for the viewers living in big cities. And evidently this is the target group for Jiuzhou JQA1P monoblock.

JQA1P monoblock has a metal enclosure sealed up. It is not any heavier than the other quad or quattro LNBF's. As you can see on our picture, it is designed for a 23 mm holder. The four F connectors

are positioned so that the external ones are closer to the front and the middle ones closer to the rear of the case. Thanks to that, we have bigger distance between neighboring connectors and it is easier to attach the cables.

Before measuring the test sample, we measured one of the best single LNB we had in our drawer. It was our reference unit with NF = 0.2 dB typ. Noise figure of JQA1P is specified as 0.3 dB typical. We used an 85 cm dish for which monoblocks are designed for. Well, you can also use 90 cm, but if you install a monoblock on a 60 cm or 120 cm dish you will not get the orbital spacing of 6°, but a different one and you will not be able to align your antenna correctly.



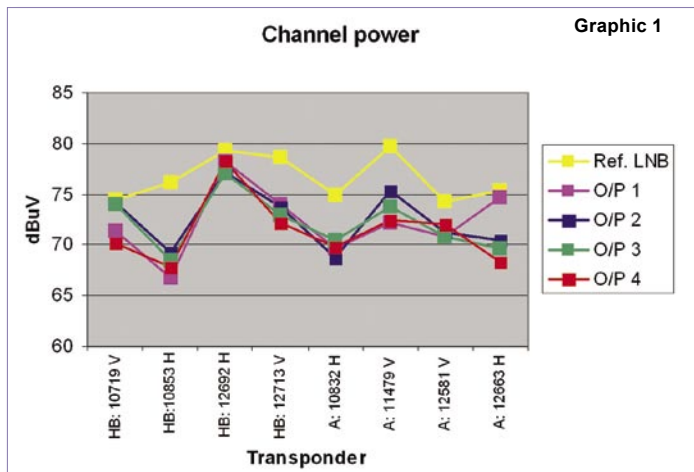
**TELE SATELLITE AWARD & BROADBAND**  
06-07/2008

**JIUZHOU JQA1P MONOBLOCK QUAD LNBF 6**  
High performance LNBF for 2 satellites and 4 receivers, optimized for 85 cm dishes

As you can guess, we used ASTRA and HOTBIRD satellites as our test signal sources. We have chosen the HOTBIRD LNBF to be in the antenna focus and ASTRA LNBF aside. But of course, one can do it vice versa. After connecting a meter to the JQA1P, we found the optimal antenna position for HOTBIRD. Then we sent a DiSEqC command to switch the monoblock to ASTRA LNB. The signal was weak. We moved antenna a little bit to increase it. After a few such adjustments, we found the compro-

mission position in which both satellites were received equally well.

It was time to take the output channel power and C/N measurements to compare them later with the same measurements done for a reference LNB. On the first graph you can see the output power measured for four HOTBIRD transponders and four ASTRA transponders. We selected transponders of both polarizations and frequen-



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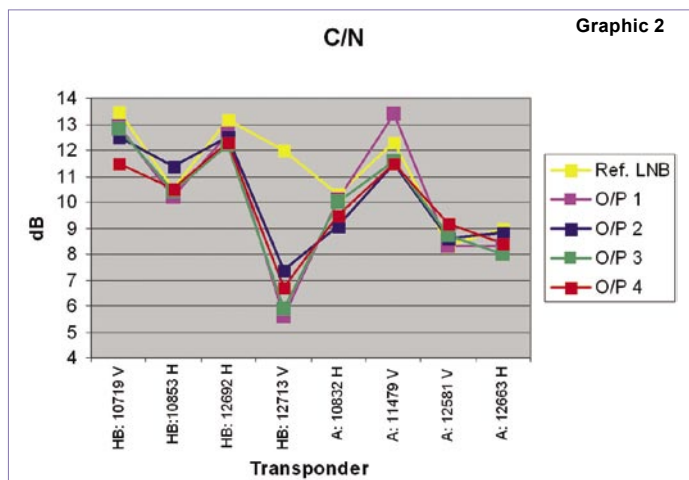
cies close to the ends of Ku-Band.

The output power of JQA1P was somewhat lower than the reference LNB. However, it was very high anyway. If we take a closer look at the graph, we will notice that there are no big differences between the monoblock LNB outputs.

However, the output channel power is not that critical as the quality of the output signal. So, we measured the C/N ratio for the same transponders. As you can see on the second graph, for the majority of transponders, the JQA1P produces almost

equally good signal as our reference 0.2 dB single LNB.

This is really impressive if we take into account that a monoblock is always a compromise between the reception of an LNB in the focus and the reception of a side LNB. We noticed a decrease in performance only for the 12713 MHz V 27.5 Ms/sec transponder - at the very end of Ku-Band. At this point we switched our meter to see if there is still enough noise margin left. And it was! 3.3 dB is quite enough to ensure good reception even if the weather is less favorable.



## Expert Opinion

**+**  
Performance of JQA1P is almost as good as that of a 0.2 dB single LNB installed in a focus of a perfectly aligned antenna. The difference between its 4 outputs is minimal. Installation is easy thanks to enough space between F connectors.



**Jacek Pawlowski**  
TELE-satellite  
Test Center  
Poland

**-**  
None

## TECHNIC

### DATA

<b>Manufacturer</b>	Sichuan Jiuzhou Electric Group Co. Ltd, China
<b>Internet</b>	<a href="http://www.jiuzhou.com.cn/">http://www.jiuzhou.com.cn/</a>
<b>E-mail</b>	overseas@jiuzhou.com.cn
<b>Telephone</b>	(86 816) 2468428 (86 816) 2468360
<b>Fax</b>	(86 816) 2468903 / (86 816) 2469241
<b>Model</b>	JQA1P
<b>Function</b>	Universal Ku-Band Monoblock Quad LNB 6°
<b>Noise Figure</b>	0.3 dB (typ.)
<b>LOF</b>	9.750 and 10.600 GHz
<b>Frequency Stability</b>	±1 MHz max. / T=25° C ±3 MHz / T= -40...+60 °C
<b>Gain</b>	50~62 dB
<b>Gain Variation</b>	5 dB p-p (typ.)
<b>Cross Polarization Isolation</b>	25 dB (typ.), 20dB (min.)
<b>Phase Noise at 1 kHz Offset</b>	-60 dBc/Hz
<b>Phase Noise at 10 kHz Offset</b>	-80 dBc/Hz
<b>Phase Noise at 100 kHz Offset</b>	-100 dBc/Hz
<b>DC Current Consumption</b>	180 mA (max.)
<b>Operating Temperature</b>	-40...+60 °C
<b>Waterproof</b>	+60 °C water for 5 minutes
<b>Holder diameter</b>	23 mm