You enjoy watching all those Ku-band FTA channels but you also can’t do without your favorite PayTV service. You’ve always wanted to use the same dish for both so that you could enjoy the best of both worlds. This is nothing new.

There have been ways to do this on one antenna for some time now. The problem was that the top DTH Pay TV services in North America (DishNetwork and DirecTV in the USA, Bell ExpressVu and Star Choice out of Canada and Sky Mexico) all use completely different LNBF’s than those used for standard FTA Ku-band reception. Not only do they use different local oscillator frequencies, but they also are also designed to receive only circularly polarized signals.

This meant that in order to use one dish to receive both types of signals, two individual LNBS had to be used where one was mounted in its normal position and the other was mounted alongside at an offset to the first LNBF. This method works but the offset LNBF will receive an attenuated signal because it is not sitting directly in the focal point of the dish like the first LNBF is.

If the dish was large enough this was usually not too big a problem unless you were dealing with weaker signals. And properly installing the offset LNBF may not always be as easy as it sounds. This way of thinking has now completely changed.

Invacom, Ltd, based in the United Kingdom, has recently introduced a new series of LNBF’s that incorporate the features of two LNBF’s into one. They have taken a standard Ku-band LNBF and combined it with a PayTV LNBF. The result is an LNBF that can handle both linearly and circularly polarized signals at the same time.

It comes with two distinct local oscillator frequencies (LOF’s): 10.750 GHz for standard Ku-band reception and 11.250 GHz for PayTV reception. Not only that, these LNBF’s boast a noise figure of only 0.3 dB! We could not pass up the opportunity to take a closer look at these unique LNBF’s.

Both versions come assembled in a plastic white housing that completely shields them from the weather. They each have four outputs, two marked “L” for linearly polarized signals and the other two marked “C” for circularly polarized signals. Each output operates independently from the other three making it possible to connect up to four different receivers to this one LNBF with each receiver operating independently from the others.

One thing we should point out right from the start: the LOF’s that these LNBF’s use clearly suggest that they were designed with the North American market in mind. The linear LOF of 10.750 GHz is really not standard anywhere else in the world. Also, there is very limited availability of circularly polarized Ku-band signals outside of North Ameri-
Everyday Use

The QPH 031 can be mounted on almost any dish thanks to its 40mm diameter flange. We first wanted to see how well it could handle linear and circular signals at the same time. We installed the QPH 031 on a 76 cm dish and pointed it to the Galaxy11/Nimiq1,3 combination at 91° west. We ran two cables from the LNBF, one from the circular output and the other from the linear output, into a DiSEqC switch. The output of the DiSEqC switch was routed to a FortecStar Lifetime Ultra receiver.

With the receiver set up to receive channels from both satellites, it had no trouble switching between the linearly polarized signals on Galaxy 11 and the circularly polarized signals on Nimiq 1,3. An FTA scan of Nimiq revealed numerous FTA radio channels and several FTA Bell ExpressVu promotional TV channels.

Next we wanted to see how the Invacom’s stacked up against standard LNBF’s. We connected the QPH 031 to a 1.2-meter dish pointed to Hispasat at 30° west and compared it to an ALPS universal LNBF with a 0.7 dB noise figure. The Invacom performed as expected by displaying a clean picture from the weaker Ku signals on this satellite.

Next we checked the performance of the Invacom on a 90 cm antenna pointed at Telstar 12 at 15° west and achieved similar results with the weaker Ku signals that were found here.

Finally, we used a 76 cm dish and aligned it with DishNetwork’s Echostar satellite at 119° west. First we installed a standard DishNetwork LNBF and aligned the antenna for maximum signal. We then swapped out the standard LNBF and replaced it with the Invacom QPH 031. Once again, the results were exactly as expected, with the Invacom LNBF providing a strong signal to the receiver that carried with it plenty of bad weather reserve.

Expert conclusion

The Invacom QPH 031 and QPF 031 combined circular and linear LNBF’s are ideally suited for simultaneous reception of linearly and circularly polarized Ku-band signals. Its four outputs (two linear and two circular) allow multi-receiver operation. This combo LNBF eliminates the need to install an offset LNBF. It also allows the use of only one antenna for the reception of both FTA channels and DTH PayTV services.

The LNBF’S are much larger than standard LNBF’s and might run into some obstacles if mounted on a multifeed antenna. They are also somewhat heavier than standard LNBF’S so a secure antenna mount is highly recommended. They are designed primarily for the North American market. Use in other parts of the world would be severely limited.