# 1. Operating Description

The JI43-W2.5G-U/L is designed to amplify between multiple UEs and BTS in a WiMAX System. The Unit consists of a filter and amplifier chain in the downlink and a filter and amplifier chains in the uplink. The uplink and downlink paths are connected via a band pass filter on both ends of each path.

## 1.1. Down Link

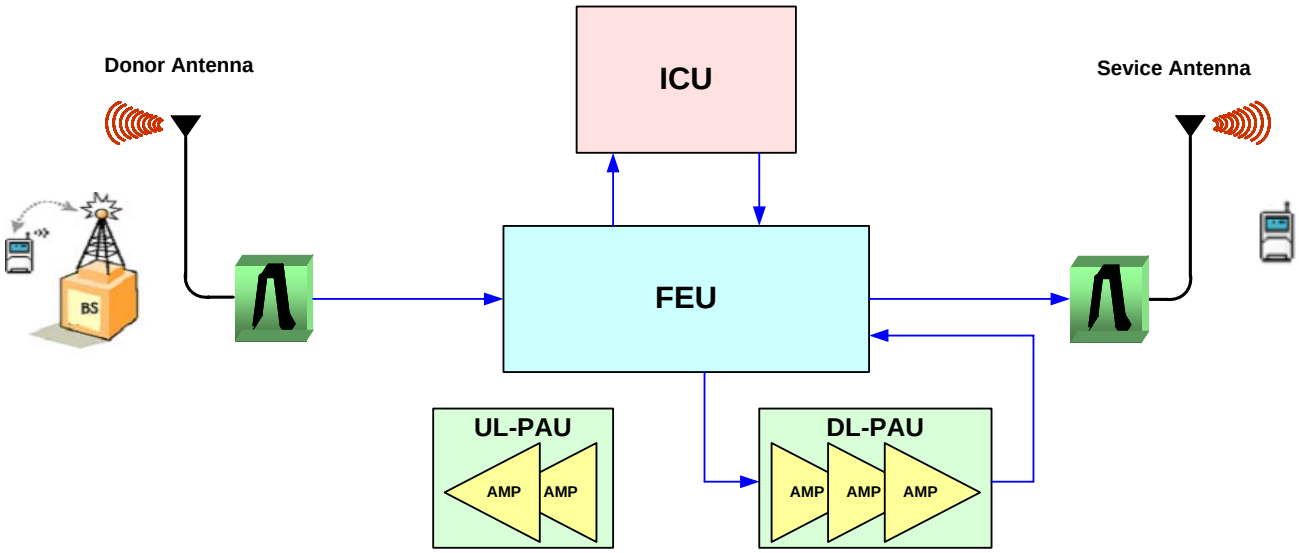


figure 1- 1 Downlink path

In the downlink path, a signal originating from the BTS is separated from the uplink signal in the FEU(Front end Unit) switch by switching controller. It is forwarded to the ICU(interference cancellation unit) by FEU switch. The ICU down-converts the signal to base-band, digital filters it amplifies it and the up-converts it. In addition the interference cancellation system algorithm (ICS algorithm) is implemented in the ICU.

Finally, the signal is sent to the final amplifier by FEU switch and is separated from the uplink input signal in the FEU switch.

## 1.2. Up Link

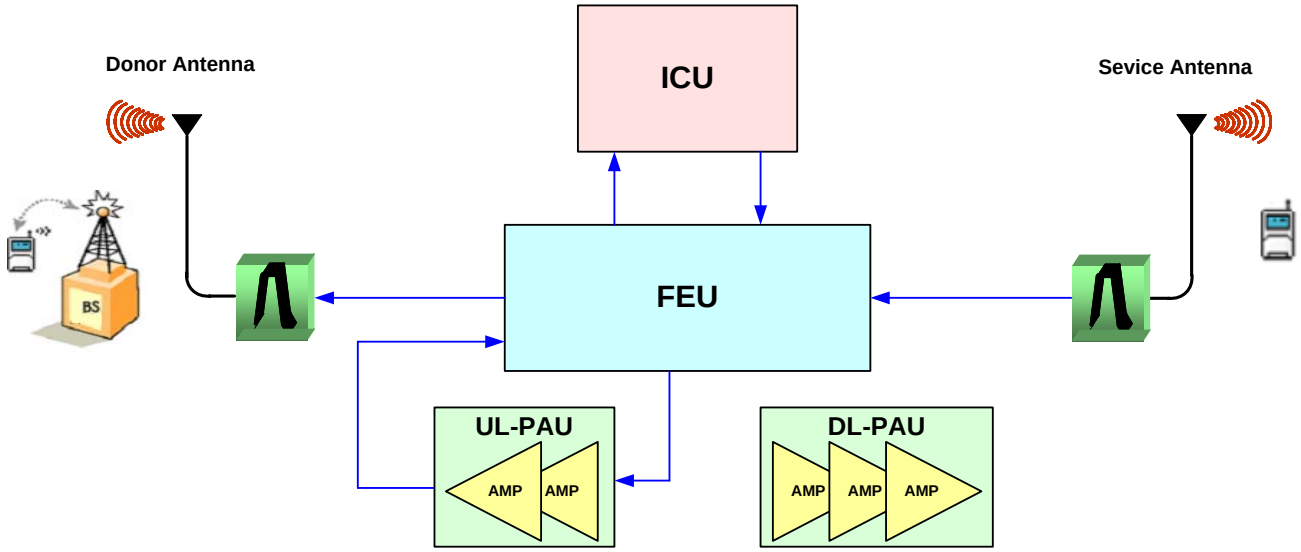


figure 1- 2 Uplink path

In the uplink path, a signal originating from the UE is separated from the downlink signal via the FEU(Front end Unit) switch by switching controller. It is forwarded to the ICU(interference cancellation unit) by FEU switch. The ICU down-converts the signal to base-band, digital filters it amplifies it and the up-converts it. In addition the interference cancellation system algorithm (ICS algorithm) is implemented in the ICU.

Finally, the signal is sent to the final amplifier by FEU switch and is separated from the downlink input signal in the FEU switch.