BDA INSTALLATION PROCEDURE

<u>IMPORTANT:</u> DO NOT APPLY A.C. OR DC POWER TO THE BDA UNTIL CABLES ARE CONNECTED TO BOTH PORTS OF THE BDA AND THE ANTENNAS.

1. Mount the BDA on the structure with the RF connectors pointing DOWN. Using appropriate screws and anchors, attach the BDA to the structure using the six mounting holes on the side flanges.

2. <u>Ensure that the isolation between the donor antenna and the service antenna is at least 12 dB greater than the BDA gain.</u> **(Use the higher of the Uplink and Downlink gains reported on the BDA test data sheet).**

3. Connect the cable from the donor antenna to the BDA connector labeled “BASE” and the cable from the service antennas to the BDA connector labeled “MOBILE”.

4. Open the access door on the BDA and verify that the Uplink and Downlink ALC switches are in their factory preset “ON” positions and attenuation is positioned to its maximum setting.

5. Connect the AC power cord to the BDA and then to the power source. Turn the power switch to its “ON” position. Verify that the “Power On” indicator is lit. Close the access door.

Installation of the BDA is now complete. To adjust the gain controls to suit the specific signal environment, refer to “BDA Operation”.

<u>Note</u>: For repeat installations of existing equipment, make sure the ALC switches are in the “ON” position and attenuation is positioned to its maximum setting (30 dB). After verification of ALC switches and attenuation, follow the above steps starting with step 1.

BDA OPERATION

Variable Step Attenuator

BDA gain can be reduced by up to 30 dB in 2 dB steps using the variable step attenuator (Figure 3). Gain adjustment is made with rotary switches accessible via the access door on the BDA enclosure. Arrows on the shafts of these switches point to the value of attenuation selected. BDA gain can be determined by subtracting the attenuation value from the gain reported on the BDA Test Data Sheet for that side of the unit. The attenuators are labeled for Uplink and Downlink.

ALC (Automatic Level Control)

To minimize intermodulation products, the Uplink amplifier in the BDA contains an ALC feedback loop (Figure 4). The ALC circuit senses the output power and limits it to the factory preset level of +27 dBm on the Uplink and +37 dBm on the Downlink.

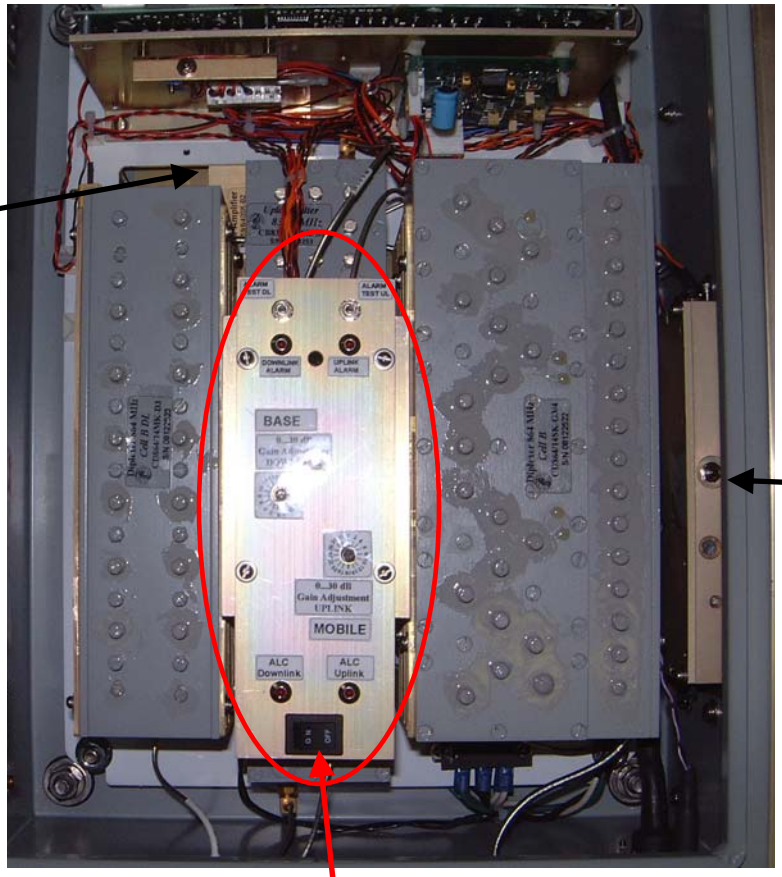
ALC function is located within each power amplifier. A red indicator lamp located on each amplifier illuminates when output power meets or exceeds the ALC set point.

To establish proper operating gain on the Uplink and Downlink sides, start with the Downlink. Observe the red indicator lamp on the Control Panel. Units are shipping with maximum attenuation. Decrease attenuation one step at a time until the lamp is lit. Then, using the Uplink step attenuator, increase the attenuation until the lamp goes off. Repeat the process for the Uplink. The level indicator is accurate to +/- 0.4 dB of the ALC set point. **Note**: ***Long term operation of the BDA in an alarm condition will void the warranty, and output power should be immediately reduced using the variable step attenuator.***

Operation of BDA-CELLAB-2/25W-90-OA at maximum gain with greater than -55 dBm average power incident on the MOBILE port or greater than -45 dBm average power incident on the BASE port can cause damage to the BDA.

Figure 4
Internal View

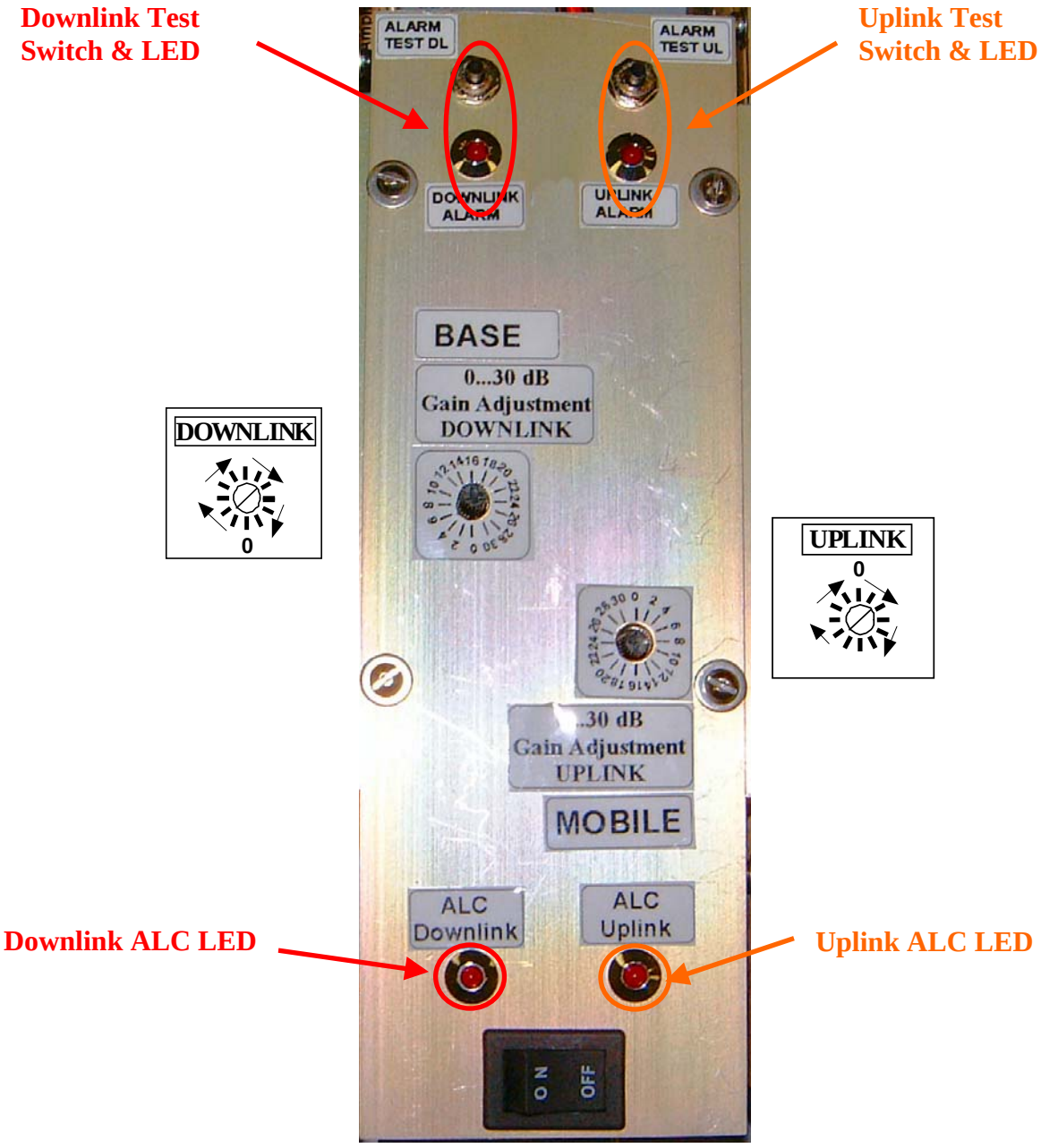
Down-Link HPA
Protected for Temperature
Protected for Overload
ALC circuit inside



Up-Link MPA
ALC circuit inside

Control Panel
(See Figure 1)

Figure 1
Control Panel Access



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