



BDA INSTALLATION

DO NOT APPLY A.C. POWER TO THE BDA UNTIL CABLES ARE CONNECTED TO BOTH PORTS OF THE BDA AND THE ANTENNAS.

1. Mount the BDA on the wall with the RF connectors pointing DOWN. Using appropriate screws and anchors, attach the BDA to the wall at the four mounting holes on the side flanges.
2. Ensure that the isolation between the donor antenna and the service antenna is at least 12 dB greater than the BDA gain. **(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. Verify that both of the attenuators are positioned to their maximum setting (30 dB). Close the panel.
5. Connect the AC power cord to the BDA and then to the power source. Verify that the “Power ON” lamp is illuminated.

Installation of the BDA is now complete. To adjust the gain controls to suit the specific signal environment, refer to the next section of the manual.

Note: For repeat installations of existing equipment, make sure the attenuation is positioned to its maximum setting (30 dB). After verification of attenuation, follow the above steps starting with step 1.

BDA OPERATION

Refer to figure 1 & 2 for adjustment access location and label.

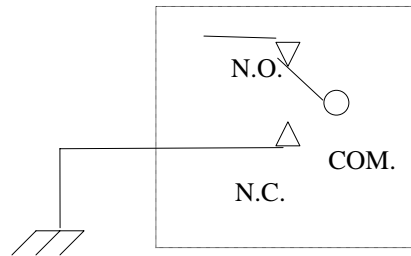
Variable Step Attenuator

BDA gain can be reduced by up to 30 dB in 2 dB steps using the variable step attenuator (Figure 2). 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.

Alarm Function

The alarm monitors current of both uplink and downlink amplifiers in each path. An alarm condition will occur in each path if either the uplink or downlink amplifiers are over or under its current tolerance or there is no supply power present.

(Relay Shown in Non-Alarm Condition)



Re-banding Switch

The re-banding switch changes the frequency of operation in the ESMR 800 band from uplink (806-824 MHz) and downlink (851-869 MHz) to uplink (817-824 MHz) and downlink (862-869 MHz). There is no tuning require, just select the narrow SMR position when re-banding occurs. (See Figure 2)

ALC (Automatic Level Control)

To minimize intermodulation products, each amplifier in the BDA contains an ALC feedback loop. The ALC circuit senses the output power and limits both Uplink and Downlink to the factory preset level of +26 dBm. A red indicator lamp located on the control panel illuminates when output power exceeds the ALC set point.

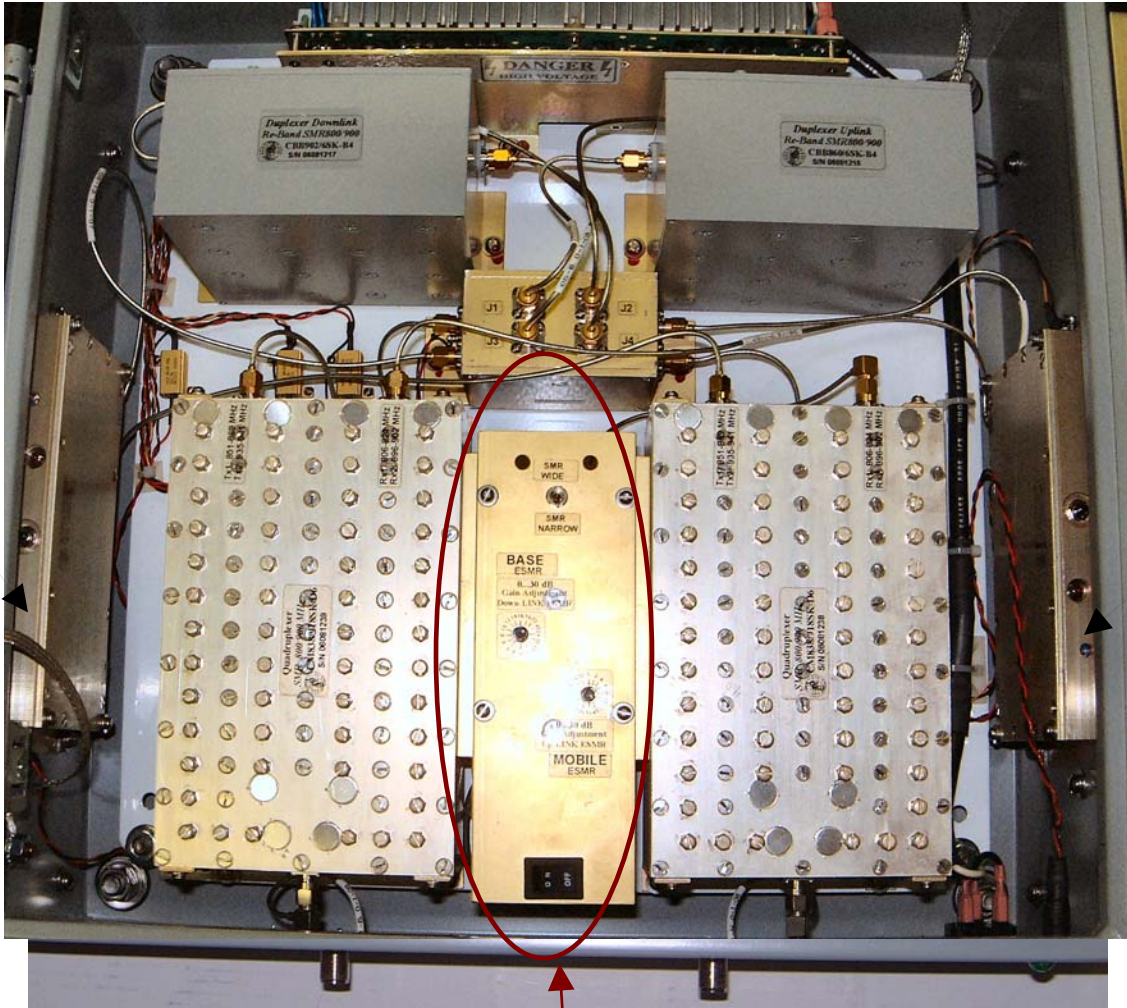
To establish proper operating gain on the Uplink and Downlink sides, start with the Downlink. Observe the red indicator lamp on the Downlink amplifiers. Units are shipping with maximum attenuation. Decrease attenuation one step at a time until the lamp is lit. Then, using the each Downlink step attenuator, 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.

Operation of BDA-ESMR-2/2W-80-AN89R at minimum attenuation with greater than -40 dBm average power incident on either BASE or MOBILE port can cause damage to the BDA.

Figure 1

Inside Layout

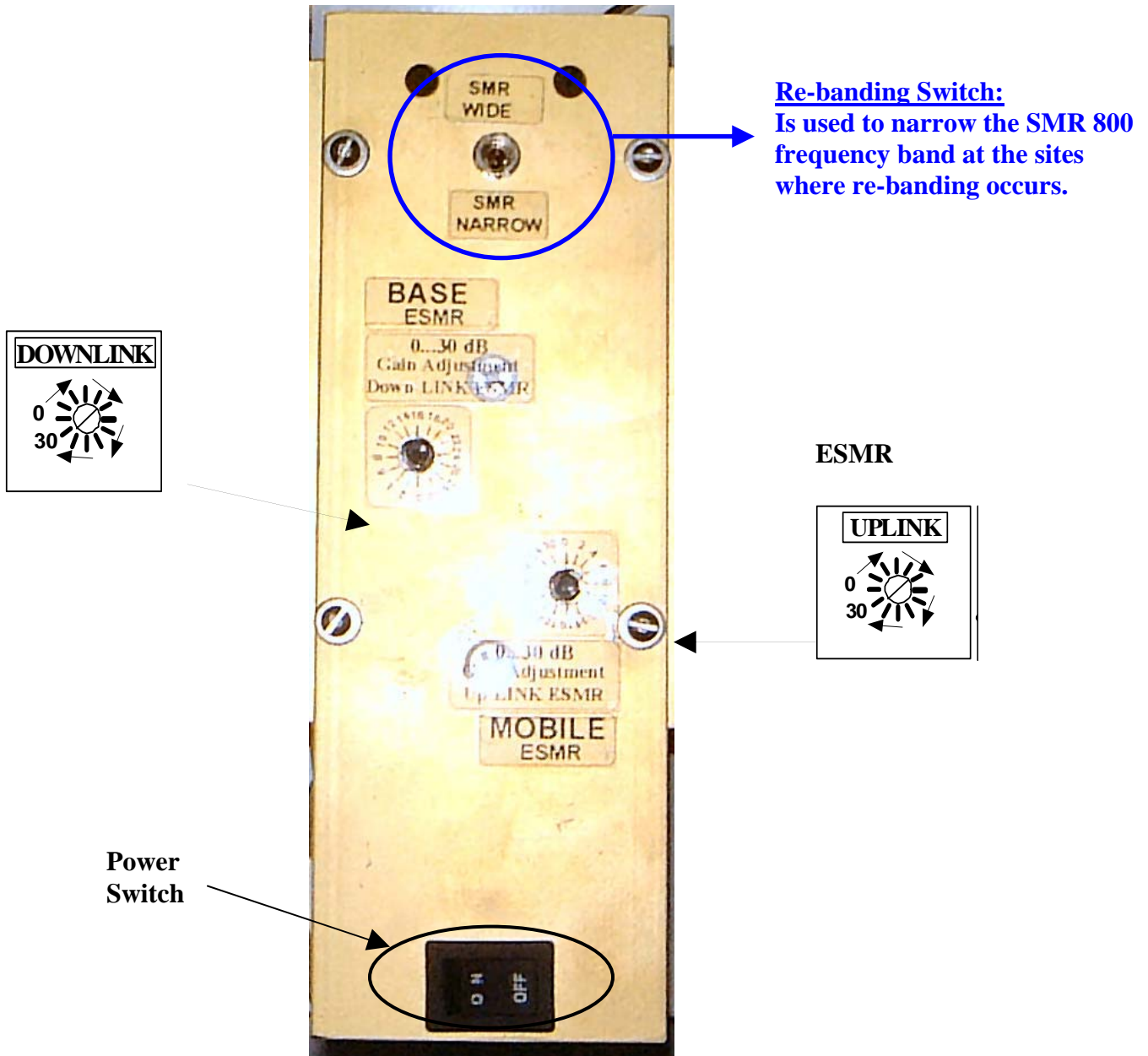
**SMR 900 Uplink
MPA
ALC circuit inside**



**SMR 800 Uplink
MPA
ALC circuit inside**

Control Panel (See Figure 2)

Figure 2
Control Panel



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