

## CALIBRATIONS FOR THE SDxxxxC TRANSMITTER SERIES

This series of transmitters is designed to perform auto-calibration upon turn-on. Once this is complete if the output power is incorrect or missing proceed as follows.

### FORWARD POWER – UPCONVERTER / AMPLIFIER PLUG-IN MODULE:

- 1) Make connections as depicted in Figure 1 note 1.
- 2) Connect a PC with the application file DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS to the RS-232 port on the front panel.
- 3) Initialize DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS application.
- 4) Through the program application, specifically in the POWER CONTROL BOX, set the POWER MODE to MANUAL.
- 5) With the MANUAL POWER CONTROL sliding button, set power in order to have a reading of 20 dBm (100mW) at the external power meter. Account for the directional coupler factor.
- 6) Enter the number 20 in the DRIVER FORWARD POWER SET VALUE field.
- 7) Press the DRIVER FORWARD POWER CALIBRATE button.
- 8) On the upconverter plug-in, display the Forward Power measurement by:
  - a) (Considering the LCD display is in its default state): SELECT (to make the STATUS option of the STATUS / CALIBRATE screen to flash)
  - b) ENTER (to display PS / LO / DRIVER status screen)
  - c) SELECT, SELECT (to highlight the DRIVER STATUS option)
  - d) ENTER (to display options INSIGNAL / SYSTEM FORWARD POWER / SYSTEM REFLECTED POWER / DRIVER FORWARD POWER under the DRIVER STATUS menu)
  - e) SELECT, SELECT and SELECT (to highlight the DRIVER FORWARD POWER)
  - f) Enter to display the measurement
- 9) Verify that the reading on the LCD display is consistent with the reading on the external power meter. Output power of the upconverter plug-in is now calibrated.
- 10) Close DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS application and disconnect PC.
- 11) Return the system to its original interconnections.

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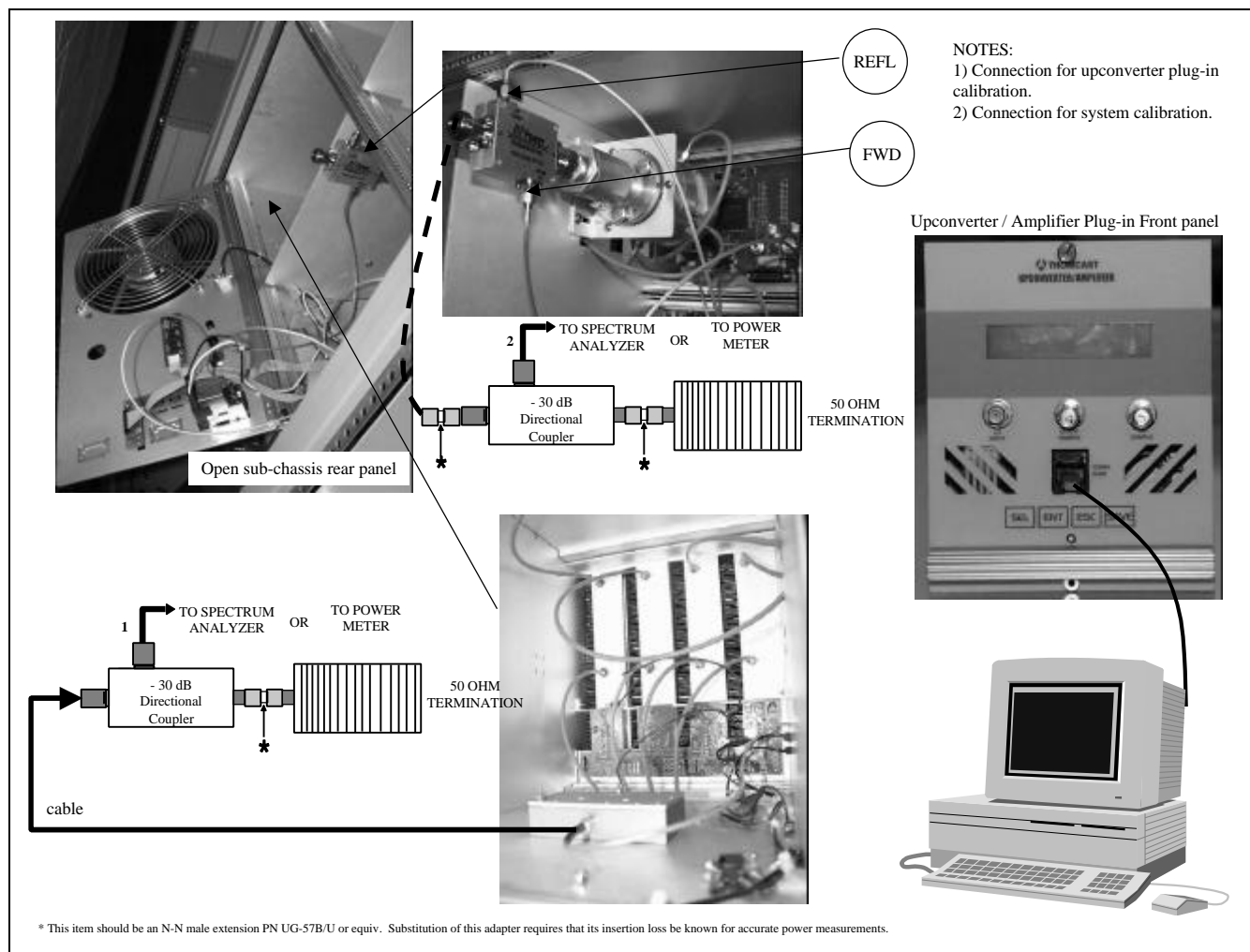
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**Figure 1: Calibration interconnections.**

**FORWARD POWER – SYSTEM:**

- 1) Make connections as depicted in Figure 1 note 2.
- 2) Connect a PC with the application file DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS to the RS-232 port on the front panel.
- 3) Initialize DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS application.
- 4) Through the program application, specifically in the POWER CONTROL BOX, set the POWER MODE to MANUAL.
- 5) With the MANUAL POWER CONTROL sliding button set power in order to have a reading of 44 dBm (25W) for the SD2500C and 47 dBm (50W) for the SD5000C at the external power meter. Account for the directional coupler factor.
- 6) Enter the same number as above in the SYSTEM FORWARD POWER SET VALUE field.
- 7) Press the SYSTEM FORWARD POWER CALIBRATE button.
- 8) On the upconverter plug-in, display the Forward Power measurement by:
  - a) (Considering the LCD display is in its default state): SELECT (to make the STATUS option of the STATUS / CALIBRATE screen to flash)
  - b) ENTER (to display PS / LO / DRIVER status screen)
  - c) SELECT, SELECT (to highlight the DRIVER STATUS option)

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- d) ENTER (to display options INSIGNAL / SYSTEM FORWARD POWER / SYSTEM REFLECTED POWER / DRIVER FORWARD POWER under the DRIVER STATUS menu)
- e) SELECT, SELECT and SELECT (to highlight the DRIVER FORWARD POWER)
- f) Enter to display the measurement
- 9) Verify that the reading on the LCD display is consistent with the reading on the external power meter. Output power of the System is now calibrated.
- 10) Set POWER MODE to AUTO
- 11) Slide AUTO POWER CONTROL to recover power to the value previously read at the external power meter (if necessary).
- 12) Re-check the upconverter plug-in LCD reading.
- 13) Close DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS application and disconnect PC.
- 14) Return the system to its original interconnections.

#### SYSTEM REFLECTED POWER CALIBRATION:

- 1) If you haven't already performed the system forward power calibrations do so now, as described above, omitting steps 13 and 14.
- 2) Put the system in stand-by with the program application.
- 3) On the upconverter plug-in, display the Forward Power measurement by:
  - a) (Considering the LCD display is in its default state): SELECT (to make the STATUS option of the STATUS / CALIBRATE screen to flash)
  - b) ENTER (to display PS / LO / DRIVER status screen)
  - c) SELECT, SELECT (to highlight the DRIVER STATUS option)
  - d) ENTER (to display options INSIGNAL / SYSTEM FORWARD POWER / SYSTEM REFLECTED POWER / DRIVER FORWARD POWER under the DRIVER STATUS menu)
  - e) SELECT, SELECT and SELECT (to highlight the DRIVER FORWARD POWER)
  - f) Enter to display the measurement
- 4) Swap FORWARD and REFLECTED POWER cables coming out of the output coupler.
- 5) Enter the number 44 for an SD2500C system and 47 for an SD5000C system in the SYSTEM REFLECTED POWER SET VALUE field.
- 6) Put the system in TRANSMIT MODE.
  - a) While performing steps 7 and 8 the system will shut down due to the high-reflected power simulated measurement, this is necessary; if these steps are completed within 5 seconds this will not occur.
- 7) Press the SYSTEM REFLECTED POWER CALIBRATE button.
- 8) Verify that the reading on the LCD display is consistent with the reading on the external power meter. Reflected power of the System is now calibrated.
- 9) Once the system shuts down because of the high reflected power simulated measurement. Put it in STAND-BY mode.
- 10) Put the FORWARD and REFLECTED POWER cables back to their original positions.
- 11) Set the system mode to TRANSMIT
- 12) Close DRIVER\_PLUG\_IN\_CAL\_&\_ADJUS application and disconnect PC.
- 13) Return the system to its original interconnections.

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