

Figure 4-4. Select Control Program File Window

3. Check the software version numbers shown in the Software Info section of the **Prg Load** display against the version numbers of the software files displayed in the **Select Control Program File** window. If files in the **Select Control Program File** window are a later version than those shown in the **Prg Load** display, proceed with the software download. If the version numbers shown in the Software Info section are the same as the version numbers of the files in the **Select Control Program File** window, the software download is not required.
4. Select the required file to download and click on the **OK** button.
5. Click on the **HOST Load** button (see [Figure 4-3](#)) to start the download.
6. Repeat steps 2 through 4 for the **REMOTE**.

2.3 Determine Forward Path Input Signal Level

The level of the composite RF input signal at the FORWARD RF IN port at the HU will vary depending on the type of BTS, the cable loss, the number of channels present, and the required forward path composite power. If maximum composite RF output is required, the signal level of the composite forward path RF signal at the HU forward path input must be adjusted to fall within a range of **-9 to -40 dBm**. If the signal level is not within this range, it must be adjusted to fall within this range through the use of an external attenuator capable of handling the BTS forward path output power.

If using the Conditioning Panel or Duplexing Panel, refer to the Digivance 800 and 1900 MHz Interface Panels User Manual (ADCP-75-147) for the procedures for measuring and adjusting the input RF signal level at the HU. If connecting a single HU to a single BTS, use the following procedure to measure and adjust the input RF signal level at the HU:

1. Connect a spectrum analyzer or power meter to the forward path output port of the BTS. The required signal levels and test points are shown in [Figure 4-5](#).

► **Note:** Check the input rating of the test equipment and the output rating of the BTS. To avoid burning out the spectrum analyzer or power meter, it may be necessary to insert a 30 dB 100W (or similar) attenuator between the BTS and test equipment.

2. If using a spectrum analyzer, proceed to step 3. If using a power meter, measure the composite signal power from the BTS and then proceed to step 5.
3. Measure the RF level of a single carrier, such as the control channel, in dBm. Make sure the resolution bandwidth of the spectrum analyzer is 30 kHz. Maximum power in any channel should not exceed 5W (+37 dB).
4. Calculate the total composite signal power from the BTS using the following formula:

$$P_{\text{tot}} = P_c + 10\text{Log } N - (\text{see Note})$$

Where,

P_{tot} is the total composite power in dBm

P_c is the power per carrier in dBm as measured in step 3, and

N is the total number of channels.

► **Note:** If calculating the composite power for a CDMA system, reduce the initial result by 16.23 dBm

5. Determine the total cable loss that is imposed by the forward path coaxial cable that links the BTS to the HU and also any insertion loss imposed by splitters or combiners.
6. Subtract the total cable loss and any insertion losses from the total composite power calculated in step 4.
7. Subtract -25 (midpoint of the required range) from the value determined in step 6. The difference (which should be positive) equals the value of the external attenuator that is required to reduce the forward path signal level to fall within the required range. The following formula outlines the required calculations for steps 6 and 7:

$$P_{\text{tot}} - (\text{Cable and insertion loss}) - (-25) = \text{Value of external attenuator required}$$

► **Note:** If the input signal level is already within the required range of -9 to -40 dBm, then no external attenuator is required.

8. Select an attenuator that is as close to the value calculated in step 7 as possible. Select a value that will adjust the signal level of the composite input signal to fall within the specified range.
9. Install the external attenuator in the coaxial cable that is connected to the FORWARD RF IN port at the HU.



Caution: *The Host Unit can be damaged if it is overdriven by the BTS. Always install an external protective attenuator at the Host Unit FORWARD RF IN port if the forward path composite input signal level is greater than -9 dBm.*

10. Subtract the value of the external attenuator used in step 9 from the total composite signal power (P_{tot}) and record the result. This value will be required when setting the attenuation of the HU's internal forward attenuator.

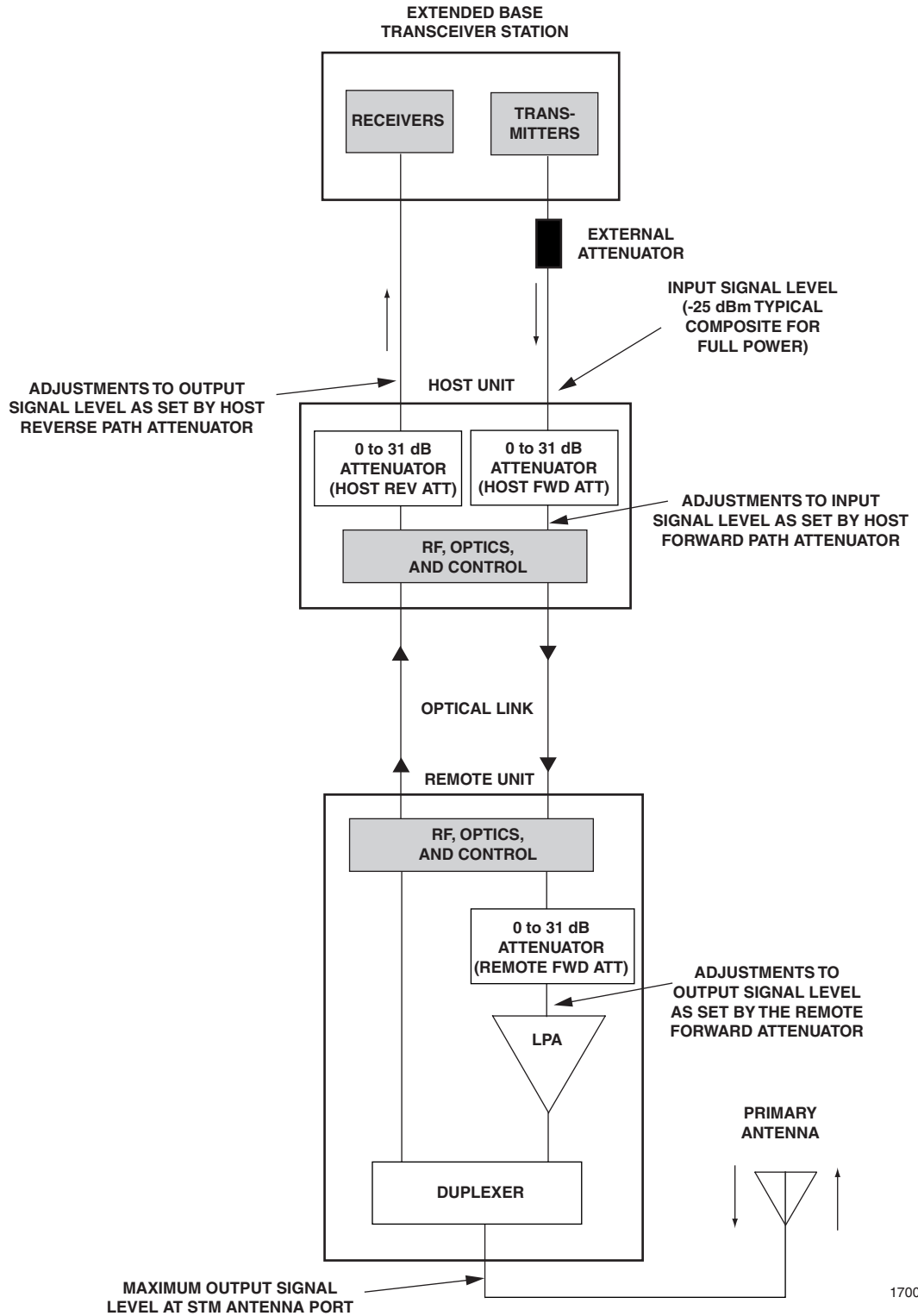


Figure 4-5. Signal Levels, Test Points, and Adjustments

2.4 Enter Site Name and Site Number

All HU's and RU's are programmed with the same site name and site number. It is therefore necessary to assign a unique site name and site number to the HU and RU before they can be connected to the same CAN. Use the following procedure to assign a unique site name and number to each HU and RU system:

1. Click on the **HOST Config** tab and on the **REMOTE Config** tab. The **HOST Config** display and the **REMOTE Config** display will open within the EMS main window as shown in [Figure 4-6](#).

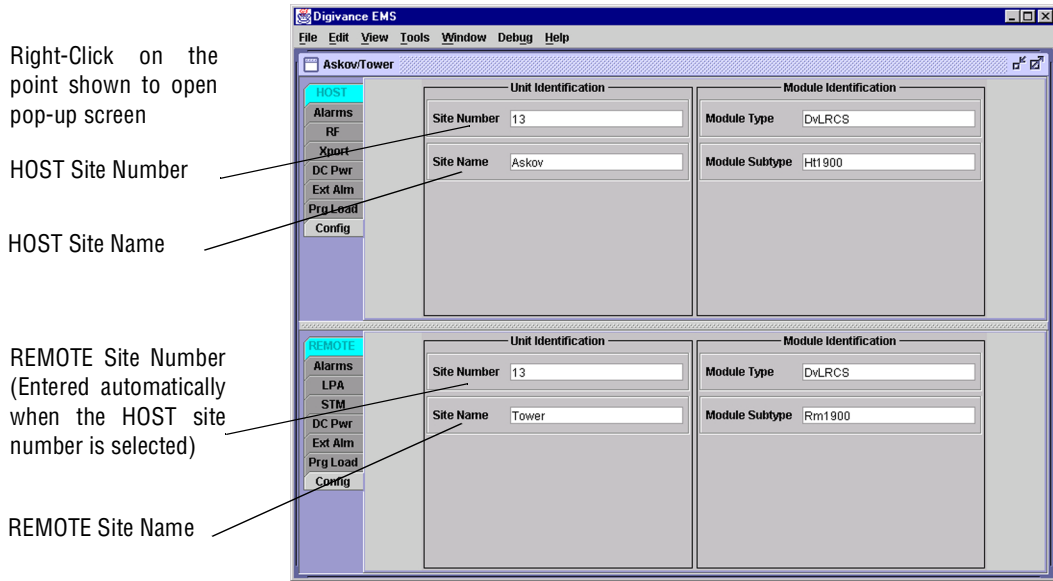


Figure 4-6. HOST and REMOTE Config Displays

2. Right-click on the **HOST Site Name** field (see [Figure 4-6](#)). The **Site Name** pop-up screen will open as shown in [Figure 4-7](#). Enter a unique name for the HOST. The name may be up to 32 characters long and must not contain any spaces. The name may include numbers, punctuation, and upper or lower case letters and must always begin with a letter. Click on **OK** to close the screen and make the changes take effect.

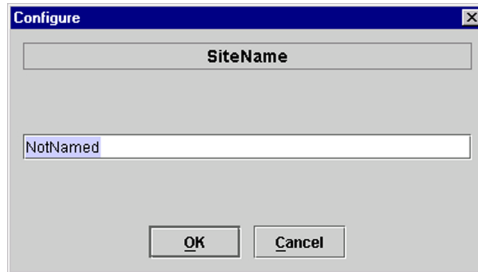


Figure 4-7. HOST Site Name Pop-Up Screen