

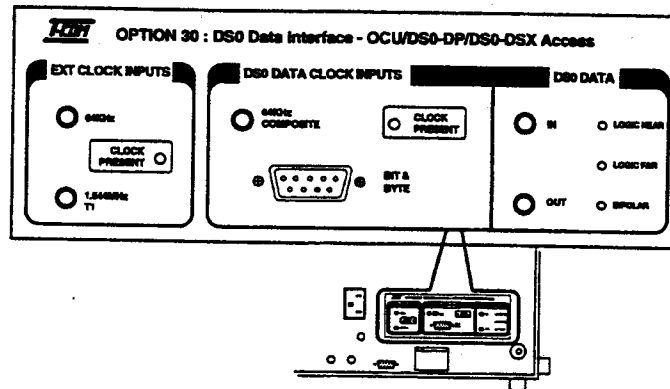
DDS Timing Comparison

(requires Option 30)

DDS Timing Comparison

When equipped with Option 30, the 440B/T-ACE can provide DDS timing clock slip display and measurement. This is obtained by comparing the DDS channel bank clock to the building integrated timing supply (BITS) outputs: the 8/64 kbps composite clock and T1 station clock.

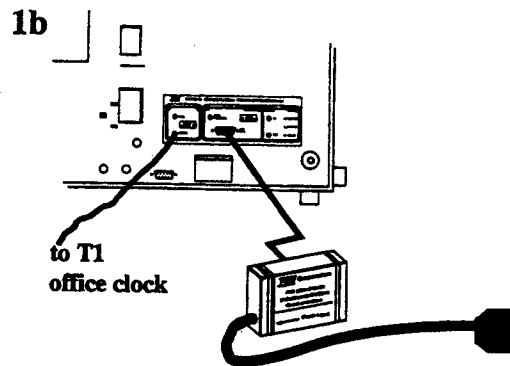
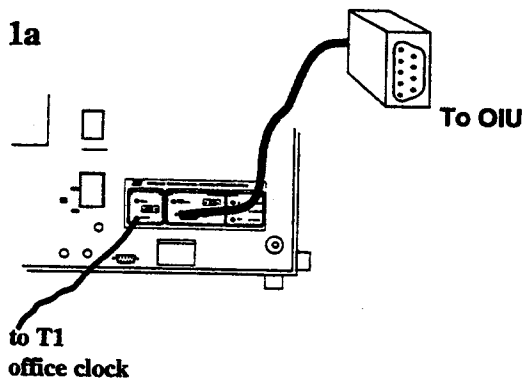
Option 30 has two bantam jacks accepting external reference timing. One jack, labeled 64 kHz, is designed to connect directly to an unused CC source at the output of the BITS system. The other, labeled 1.544 MHz T1, is designed to connect to the main T1 station clock, also available at the output of the BITS system. (It is also normally available at the DSX-1.)



COMPARING THE EXTERNAL REFERENCE CLOCKS TO THE DS0 DATA CLOCK:

One of two clock interfaces has been provided. If T-COM p/n 2998-013-00 was provided, use step 1a. If T-COM p/n 2700-087 was provided, use step 1b.

- 1a. If testing an AT&T D4 channel bank, connect the T-COM clock interface directly to the Option 30 BIT & BYTE DB-9 jack. The clock interfaces plugs directly into the Option 30 panel. A cable, p/n 2700-101-00, connects between the clock interface (bantam plug) and the DB-9 female connector on the OIU. The green clock present LED in the DS0 DATA CLOCK INPUTS section will light.



- 1b. If testing an AT&T D4 channel bank, connect the T-COM clock interface directly to the OIU. The cable from the clock interface has a female DB-9 connector which is connected directly to the male DB-9 jack on the Option 30 panel. The green clock present LED in the DS0 DATA INPUTS section will light.

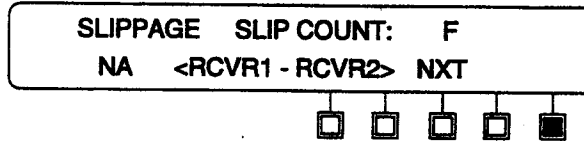
2. Using a bantam patch cord, connect the T1 station clock to the 1.544 MHz EXT CLOCK INPUT JACK. The green clock present LED in the EXT CLOCK INPUTS section will light.

DDS Timing Comparison

(requires Option 30)

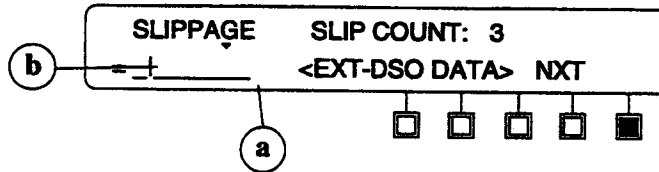
NOTE: If it is desired to compare to the 64 kHz reference composite clock, instead of the T1 station clock, connect the EXT CLOCK INPUT, 64 kHz jack to an unused (spare) BITS composite clock output source. This jack is always terminated, so do not connect it to a composite source output that is already in use.

3. Depress the DS1 STATS and then the SLIP softkey (F1). The screen reads:



NOTE: The F in the upper right should be flashing to indicate there is no input to Receiver 2.

4. Depress NXT softkey (F5)



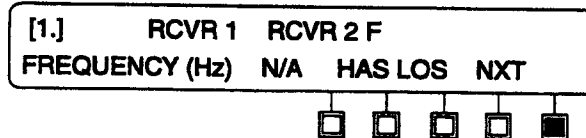
NOTE: The above screen compares the EXTERNAL reference clocks (1.544 MHz or 64 kHz) to the DSO DATA clock. This display gives two indications of slippage:

IMPORTANT: Press green RESTART key to start slip test and clear old results.

- a. A marker which moves horizontally every time more than seven bits of slippage occur. When this marker moves the equivalent of 193 bits, it returns to the center of the display and one slip is counted. This marker is useful for detecting slippage caused by a lack of synchronization or wander.
- b. A vertical bar which increases in height every time one additional bit of slippage is detected. This bar is useful for detecting jitter.

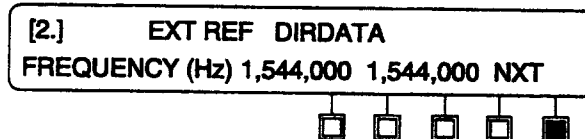
MEASURING THE REFERENCE DS1 FREQUENCIES:

5. Depress the DS1 STATS key again, and then depress MEAS softkey (F2).



NOTE: The F in the upper right should be flashing to indicate there is no input to Receiver 2.

6. Depress NXT softkey (F5). The screen reads:



NOTE: DIRDATA stands for Direct Data, which means the frequency of the 64kHz DSO clock multiplied by 24.125 to derive the associated DS1 frequency (1.544Mb/s). (When a 64kHz external reference is used, the EXT REF will also read the multiplied frequency.)