

CTP2000 Clock Interface Modules

Clock interface modules provide clock distribution between modules when the backplane is in use by voice applications.

The clock rear transition module (RTM) is used to input a reference clock into the CTP2000 platform. The module provides a DB-25 connector, and the differential clock input is provided on pins 24 and 11. The clock RTM is installed in the rear of the chassis behind the first interface module as follows:

- On CTP2008 devices, the first slot above the processor RTM.
- On the CTP2024 and CTP2056 devices, the first slot below the processor RTM.

Clock distribution is accomplished through a “hub-and-spoke” configuration composed of a main module and a spoke module. Clock main modules (Figure 1) and clock spoke modules (Figure 2) allow more clock input types in the CTP2000 chassis and provide the capability for clock distribution when both serial or T1/E1 interface modules and voice modules are installed in the same CTP2000 chassis.

Figure 1: Clock Main Module

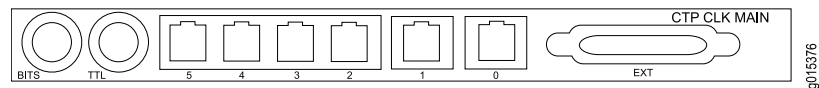
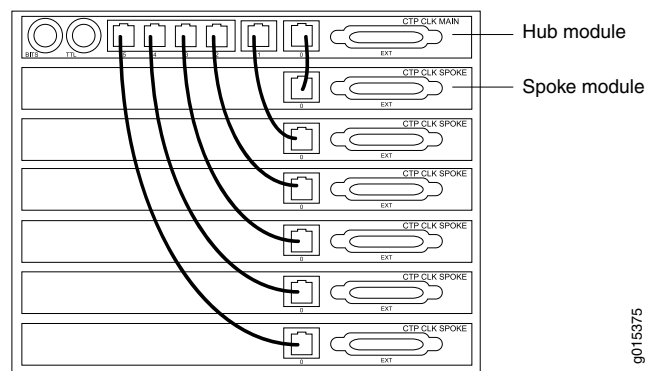


Figure 2: Clock Spoke Module



The clock main module accepts a node reference and distributes it to the spoke module using a twisted pair cable. Each nonvoice card receives the clock on the first RJ-45 and sends it to the front module.

Figure 3: Hub-and-Spoke Setup



The main clock module has six RJ-45 ports and one DB-25 port. (It also has two BNC inputs (BITS and TTL) that will be enabled in a future software release.) Each RJ-45 port can be connected to one spoke module. The spoke module has one ingress RJ-45 port and one DB-25 interface. (See Figure 1, Figure 2, and Figure 3.)

There are no configurable options for the clock module. Main modules and spoke modules are not hot-swappable.

- Nonvoice modules and voice modules can be installed in any slot.
- Main clock RTMs must be installed in slot 0 behind either a serial module or a T1/E1 module.
- Spoke RTMs must be installed behind serial modules and the lowest-numbered T1/E1 slot.
- If a T1/E1 module is installed in the slot that is closest to the processor, a spoke RTM is not needed behind any T1/E1 modules. They will synchronize to the H.100 clock.
- For platforms with only nonvoice boards (serial or T1/E1 module), only a main RTM is needed for external node reference input.

Published: 2010-05-11