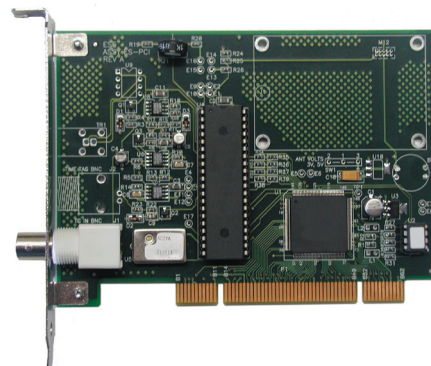


# ESE & SMPTE PCI CARDS

The **PC-471PCI** is a "PC" card designed to plug into any computer with a vacant PCI slot. The unit continuously reads Time Code (selectable **ESE** TC76, TC89, TC90 and SMPTE Formats L, E, S) and updates the time of the PC. The card may be installed in a 32-bit slot or a 64-bit slot. Windows® compatible software is provided which synchronizes the PC clock. The software also allows selection of Time Code, Update Rate and Time Zone Offset.

Alternatively if frames are required for your application the **PC-456PCI** which receives SMPTE or EBU timecode is available. The included Windows® and Linux drivers provide access to the Time, User and Auxiliary Bits for use in editing or other timecode uses. The card reads in forward and reverse, 1/30 to 30x playspeed.



## Specifications

**Signaling Protocol:** 3.3V or 5 V  
**Time Code Input:** **PC-471PCI** - ESE (TC76, TC89, TC90) or SMPTE (Formats L, E, S)  
**PC-456PCI** - SMPTE or EBU  
**Drift Rate:** +/- 1 Second per month

**Card Size:** 5.25" L x 3.75" H  
**OS Requirements:** Windows® 95 or higher  
**Connector:** BNC

# NTP TIME SERVERS

**ESE's** line of NTP (Network Time Protocol) Time Servers provides a simple method of putting accurate time information onto a network. NTP is arguably the most reliable method for sharing time information on a network (LAN, WAN or Internet, etc.). And, each of these four NTP Time Servers offers a perfect solution for providing accurate and synchronized time throughout a network.

## Features

- Create NTP From Most Any "Non-NTP" Master Clock
- NTP Primary Time Server (**ES-104A**)
- Several Options Available
- Platform Independent
- Simple Installation & Hands-Free Operation
- 10/100BaseT - NTP Data Port (RJ-45)
- Rugged Desktop Enclosure
- **ESE** Time Code Output



The **ES-104A** employs an internal GPS Receiver as its time reference. This provides the user a source of UTC (Universal Coordinated Time) from an NTP Primary (Stratum 1) Time Server. In contrast, **ES-289A**, **ES-299A** and **ES-911A/NTP** receive their time reference from external sources of time code. They are in essence time code translators, each receiving time code and "outputting" NTP.

## Specifications

**I/O Connection:** Network: 10/100BaseT Ethernet, RJ-45  
**Outputs:** **ESE** Time Code™ TC89 or TC90, Drives 100 Slaves @ 4000', BNC  
**GPS Receiver:** Internal 12-Channel (**ES-104A** only)  
**Antenna:** Indoor/Outdoor with 16' Cable (**ES-104A** only)  
**Antenna Input:** L1, 1.57542 GHz, TNC (**ES-104A** only)  
**Time Code Input:**  
**ES-289A:** **ESE** (TC-90), SMPTE or EBU Time Code with Date data, BNC  
**ES-299A:** IRIG (A,B or E), NASA 36, BNC  
**ES-911A/NTP:** ASCII (RS-232C): NENA (format "1"), **ESE** ("A"), or NMEA 0183 (GPRMC), DB-9  
**ESE** (TC-90) via BNC

**Drift:** 33ms/Day (if no GPS signal)  
**Configuration:** Web page or Telnet  
**Enclosure:** Desk-Top, Black Anodized Aluminum  
**Dimensions:** 1.6" H x 7" W x 5" D  
**Electrical:** 117 VAC, 50/60 Hz  
**Power:** 5W maximum  
**Options:** Ant (**ES-104A** Only), BBU, J, P, P2, UL

