THE NETWORK SERVICE TOOL IV

The Network Service Tool is a software package that can be used by CCN technicians to start up and troubleshoot CCN systems.

Because the Service Tool runs on a portable PC, it can be carried anywhere in a building to provide the technician with local access to any CCN network or system element.

An additional feature of the Network Service Tool is the ability to connect over telephone lines to a remote network.

The Service Tool enables a qualified technician to perform the following tasks:

- Connect to a remote building by means of a modem
- Search a network for active devices
- Display current data dynamically in both customary US and metric units
- Manually override automatic controls
- Create and edit BEST and BEST++ programs
- Trace system points over time
- Setup and configure the Comfort Controller
- Perform network diagnostics
- View current CCN alarms

The Service Tool is designed for ease of operation. It utilizes menus, special function keys, plain language prompts, and standardized screen format.

The following functions can be selected from the Main Menu of the Service Tool:

- Utilities
- Carrier Controls
- On-Line Comfort Controller Configuration Tool
- Quickstart for Comfort Controller
- BEST++
- BEST
- Report Configuration
- Address Search
- Diagnostic Trace
- Network Diagnostics
- Comfort System Software
- CCN Database Utilities
- DOS Prompt

Utility

The Utility function enables the service technician to Import and Export (save) building databases, set the Service Tool’s communication speed (baud rate), and connect to remote buildings by means of a modem. The technician can modify the modem command strings and can configure up to 99 remote site telephone numbers, directly from the Service Tool. Each of the 99 building databases can be automatically imported into the active Carrier Controls display on connecting to a remote building or simply by selecting a locally-connected database. An Autodial Gateway test program that allows the technician to verify proper Autodial Gateway alarm reporting operation is also included in the Utility function.

Carrier Controls

The Carrier Controls function enables the service technician to display, modify, and manipulate data from throughout the CCN system.

All displays feature dynamic data and can be configured to show data in either customary US or metric units. Points that are currently in alarm are highlighted.

Using the Carrier Controls function, the service technician can view, modify, and configure points, time schedules, and controlling setpoints.
Maintenance data is available for viewing to examine device performance.

The user will also receive an audible indication and can display any CCN alarms that occur while locally connected to a CCN. The alarms function stores the last 50 CCN alarms that have occurred along with the database. If that database is accessed at a later date, those alarms previously monitored can be displayed by selecting the Net-Alarms menu item.

**BEST**

This function of the Service Tool gives the qualified service technician access to BEST (Building Environmental Systems Translator), Carrier's custom programming language. This Carrier-designed programming language allows the technician to write custom programs when special control strategies are required. New BEST programs can be created using the Service Tool. Existing programs can be modified using the Service Tool even if they were created using the Building Supervisor. Although BEST programs can run only in FIDs, they can access information from any BEST-compatible element that is on the same communication bus.

**BEST++**

Selecting the BEST++ menu item provides access to Carrier's custom programming language. BEST++, which is based on Carrier's earlier programming language BEST, provides a service technician with the capability to write simple control routines in order to supplement or enhance the Comfort Controller's standard control algorithms.

**Address Search**

Address Search enables the technician to search and view or change the address (bus and system element numbers) or baud rate of any network element. It also enables entry of information into the device's ID table.

**Diagnostic Trace**

The Diagnostic Trace function enables a service technician to collect data from up to 20 points in the network as often as every one second. The data, which can be displayed on the screen, is saved in memory, or if more than 240 scans are required, the data can be archived to the hard drive. Trace points can easily be configured using Speedy Data Entry (F7). Diagnostic Trace can be configured to look for a configurable trigger event and stop when it occurs, or to collect a specified amount of data after the event occurs. Diagnostic Traces can be printed by the Service Tool or saved for future viewing or printing.

**Quickstart for Comfort Controller**

Selecting the Quickstart function provides access to Carrier's Comfort Controller database setup tool. This tool simplifies the database setup process by providing quick and easy hardware and software point, function, algorithm, time schedule, and other Comfort Controller database item allocation.

**On-Line Comfort Controller Configuration Tool**

This Service Tool function is designed to expedite the Comfort Controller configuration process. This tool, which is designed to resemble the Network Service Tool's Carrier Controls function, gives a service person the ability to bypass the Network Service Tool database and directly access Comfort Controller memory, thus eliminating the need for an upload and download process.

**Report Configuration**

The Service Tool gives the technician the ability to add, modify, and remove all report parameters that are associated with the Data Collection Module. It will not, however, allow the technician to create or view a report.

**Network Diagnostics**

The technician can run a CCN Bus monitor program that displays network communications between CCN system elements. The information displayed gives the source and destination addresses of the system elements communicating as well as the type of message. Network usage is also displayed, for example, the average and present percentage of network communication capability. The monitor can also be set to trap on a specific address in order to only display communication to or from the specified address. The Network Service Tool IV also has the ability to check for system
items such as a Network Acknowledger, Broadcast Acknowledger, Time Broadcaster, and duplicate system element addresses.

CCN Database Utilities

The Service Tool has the ability to convert its database to a ComfortWORKS format that can easily be imported into a ComfortWORKS workstation. The entire database can be converted at one time, or individual CCN elements can be converted. A ComfortWORKS database can be converted to Service Tool format. A technician can also use the CCN Database Utilities function to initialize (clear) a Comfort Controller for reprogramming.

Comfort System Software

The Service Tool Main Menu contains a menu item that will launch Carrier's Comfort System software, which was developed as a low tier user interface to the CCS stat product line (with limited CCN access).

SPECIFICATIONS

The Network Service Tool Kit includes:

- Network Service Tool Software
- Access key
- *Network Service Tool User's Manual*

Minimum PC requirements:

- 640K memory
- One 1.44 Mb 3.5" high density disk drive and a hard drive
- DOS, Windows 3.1, or Windows 95

The Network Service Tool requires a Carrier-approved RS232/485 Converter. The following RS-232 to RS-485 converters have been tested and approved for use with the Network Service Tool:

- B&B Electronics Model 485CARLP9
- B&B Electronics Model 485CARLP
- CCN Repeater

Specifications subject to change without notice.