

Proper Installation of the RTS Box

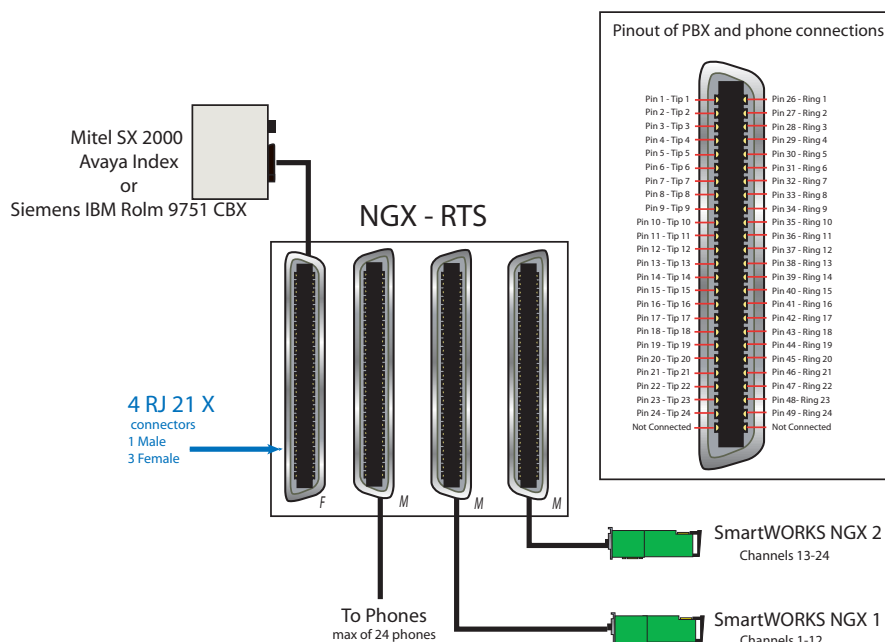
Issue Date: 03/20/07

An AudioCodes RTS is required while using the SmartWORKS NGX to tap an Avaya SDX INDEX, a Siemens Rolm9751 CBX, or a Mitel Sx2000 network.

NOTE: REV-D or earlier products can be damaged by in-rush current. Refer to the Technical Bulletin: RTS Box, Known Issue. Provisions made to REV-E or greater RTS Boxes have corrected this.

The RTS is designed with four RJ 21X connectors (one male, three female). The male connector interfaces the RTS to the network PBX while one female connector is used to interface with the phones. The other connectors are used to interface with SmartWORKS NGXs.

The following illustration shows where the RTS is installed on the network. The actual installation procedure varies depending on the design of the tapped network.



Protecting the RTS Box from In-Rush Current

NOTE: To protect the product from in-rush current, AudioCodes has improved the RTS with REV E or greater. Proper installation procedures should still be used.

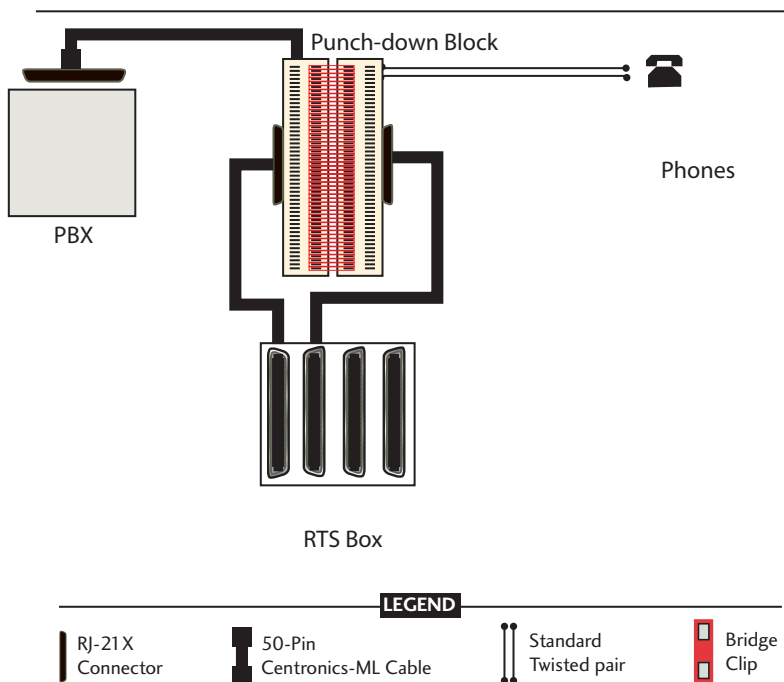
In-rush current, a momentary current surge, typically occurs after a phone is plugged into the network and is powering up. Most PBX line cards apply current limiting to prevent in-rush current. Typically, this current limiting feature is enough to protect the RTS box from damage. Should the RTS box be installed onto a network that is down and then all phones are simultaneously reconnected, the collective in-rush of current may damage the resistors on the RTS box. To protect the RTS box, users should follow the proper installation guidelines explained below.

NOTE: Should the resistors become damaged, the line's circuit is broken and the phones can no longer receive power from the PBX.

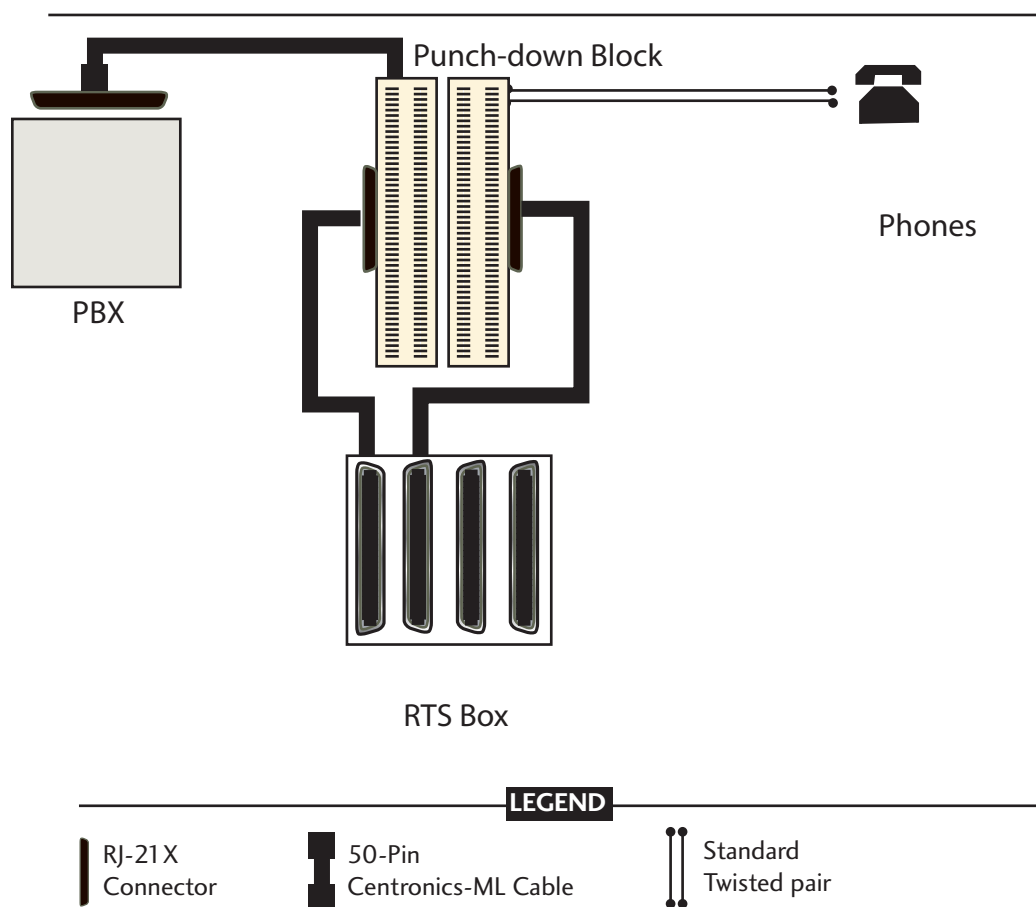
Installation Procedure

While connecting the RTS to the network, it is important that the connection between the PBX and phones is never broken. This assures that the RTS box is never present on the line while all phones are simultaneously powering up. To demonstrate the proper installation procedure, this application note will demonstrate how to install the RTS onto a network where the PBX and phones are wired together with a punchdown block using bridge clips.

NOTE: The RTS must be installed when the network is live and all phones are connected to the PBX.



The easiest installation requires a punch down block with two RJ21 connectors terminated on the panel. In this type of installation, the RJ21 connector that terminates the PBX pins on the punchdown block are connected to the male connector on the RTS box. The other connector terminates the phones pins. From there, both are connected to the RTS. Once these connections are made, the bridge clips may be removed from the punchdown block *while the phones are active*. In this scenario, the current between the phones and PBX is never broken. This concept is illustrated in the following diagram where the bridge clips have been removed from the punchdown block after the RTS was completely installed:



Event Reporting

When using the RTS box, two of the NGX channels are used per each channel that is tapped on the live network. One NGX channel is used to receive D-Channel information while the other is receiving the voice data. All events are passed to a single event queue for both channels. If your GCI index is set to 0, then channels 0 and 1 receive data for the first line on the network. All events are reported in channel 0's queue while event reporting continues on channel 2, 4, 6... for all subsequent channels.