Broadband SoHo
Voice ˜ Data ˜ DSL ˜ Wireless

ARRIS
Cornerstone - Touchstone
Network Interface Unit

Arris Interactive Cornerstone NIU- Voice Port

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This document contains confidential & proprietary information , for the installation of digital phone and data services via Arris Cornerstone & Touchstone NIU (Network Interface Unit).

The enclosed document was written in a non-technical context to give you a basic technology overview , implementation , and service of the product. If you have any questions regarding this document or require more in-depth technical information , you may contact me.

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Arris Cornerstone System

*The **Arris Cornerstone** system is the first and most widely deployed system throughout the world , that **allows a CATV provider to offer Digital Phone services.*** This service is currently in deployment and trial testing in various states with Comcast , and Cox cable. The system consists of a few major components , but with your job requirement , as a field premise technician the outdoor NIU (Network Interface Unit) is your responsibility. As you read the following pages you will notice this (NIU) is just like the RBOC NID (Network Interface Device) , except the Cornerstone (NIU) has electronics enclosed in its housing , and coax is the transport medium instead of copper. The Cornerstone system uses ToIP (Telephony Over Internet Protocol) this is Arris unique twist of the VoIP (Voice Over Internet Protocol) architecture. Without getting to technical to explain the differences , yes the Cornerstone does transport the voice calls over internet packet theory just not in the way of traditional VoIP. The Cornerstone (NIU) comes in two models , one offering two-voice ports , the other offering four-ports. Both of these models can operate via line powered , or LPSU (Local Power Supply Units) and offer true Class 5 POTS services (Caller ID , Call Waiting , Three-way , and Voice Mail) just like the RBOC's.
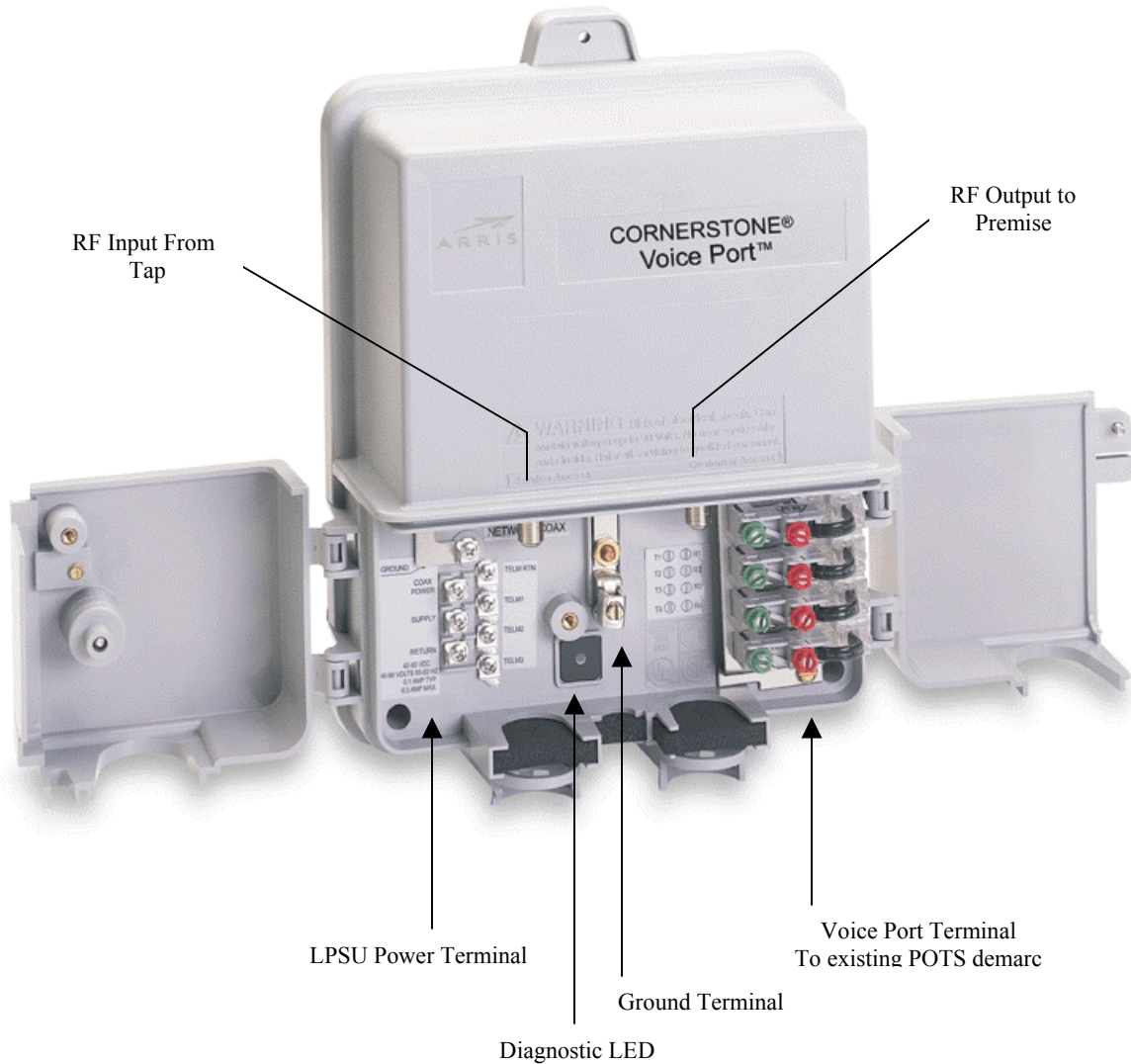
Arris Touchstone System

*The **Arris Touchstone** system is the first and most widely deployed system throughout the world , that **allows a CATV provider to offer Data and Digital Phone services through the same (NIU).*** The Touchstone (NIU) contains all of the features and options as the Cornerstone listed above , but the Touchstone (NIU) is a very unique all in one (NIU) offering video , data , and voice all through its enclosure. *(See page-6 for detailed view)*. This (NIU) is commonly called an E-MTA (Embedded Multimedia Terminal Adapter). This (NIU) has built on the legacy model of the Cornerstone and has taken it to another level with this unit being DOCSIS / Packetcable certified and for delivering VoIP. Well you might ask how can this be done , I thought that could only be possible with a cable modem ? Yes , that's true , but that is exactly what is enclosed in the Touchstone (NIU) enclosure , thereby getting the name E-MTA.

The Cornerstone & Touchstone (NIU) is a field proven system that will allow the CATV companies to offer another added service and compete with the RBOC's for there customers , offering a "one bill" solution for video , data , and voice services.

Arris Cornerstone NIU-Voice Port

The Cornerstone (NIU) is a line powered , or LPSU powered unit for delivery of POTS , and Video services across an existing CATV architecture. Each (NIU) can be provisioned for one to four lines , with complete Class 5 POTS services.

RF Input From Tap

RF Output to Premise

LPSU Power Terminal

Voice Port Terminal
To existing POTS demarc

Ground Terminal

Diagnostic LED

Arris Cornerstone NIU-Models

Cornerstone Two and Four port (NIU) models , with optional LPSU , which supplies power to the built in line cards and remote diagnostics of battery back-up.
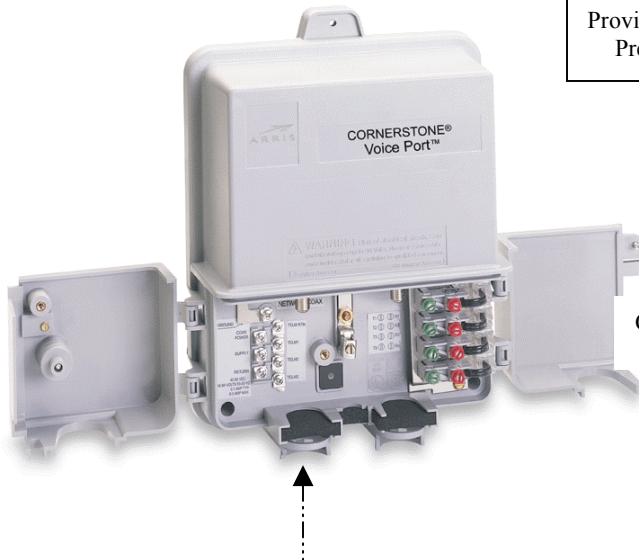
Cornerstone ~ Two Port NIU

Local Power Supply Unit (LPSU)

Providing -48v Battery to Premise POTS ISW

Cornerstone ~ Four Port NIU

Arris Cornerstone NIU-MDU Models

These modules are designed for MDU (Apartment) installations where its easy to install this unit compared to multiple Two or Four line (NIU)'s. They offer the same features as the other Cornerstone (NIU)'s and are powered by an MLPSU (Multi Line Power Supply Unit).
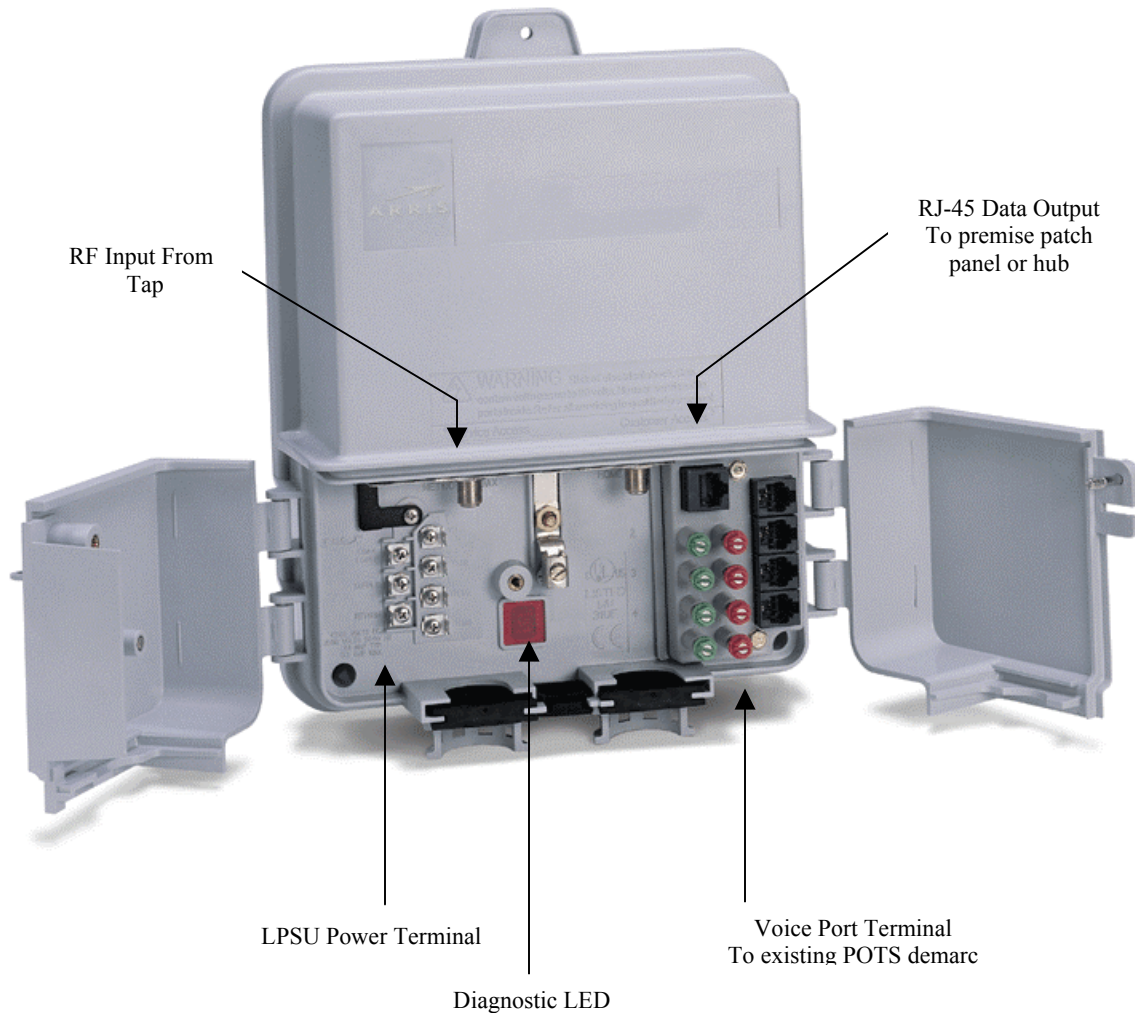

Cornerstone MLVP (Multi-Line Voice Port) ~ can be pole mounted , or wall mounted for small office applications offering twelve lines for service.

Cornerstone Access Max 24 ~ consist of three modules that support eight lines each for shared-tenant service.

Arris Touchstone NIU-Voice & Data Port

The Touchstone (NIU) is a line powered , or LPSU powered unit for delivery of POTS Data , and Video services across an existing CATV architecture. Each (NIU) can be provisioned for one to four lines , with complete Class 5 POTS services. The Data connection is via the RJ-45 , which can be extended to the premise with a category 5 ethernet cable to a patch panel or ethernet hub.

RJ-45 Data Output
To premise patch
panel or hub

RF Input From
Tap

LPSU Power Terminal

Voice Port Terminal
To existing POTS demarc

Diagnostic LED

Arris Touchstone & Cornerstone System Overview

Below is a basic diagram of both systems , and some of the components that complete the overall system. The left side of the center diagram is the Touchstone with CMTS Data IP integration , the right side a Cornerstone Voice only system.

Cadant C4 - CMTS

Cornerstone - HDT (Host Digital Terminal) This is the interface between the digital phone switch to PSTN. A single HDT shelf can support a mixture of Cornerstone units with a total of 3,360 lines. While each headend within each HDT will support 240 lines.

Touchstone E-MTA (NIU)

Cornerstone Voice Port (NIU)