

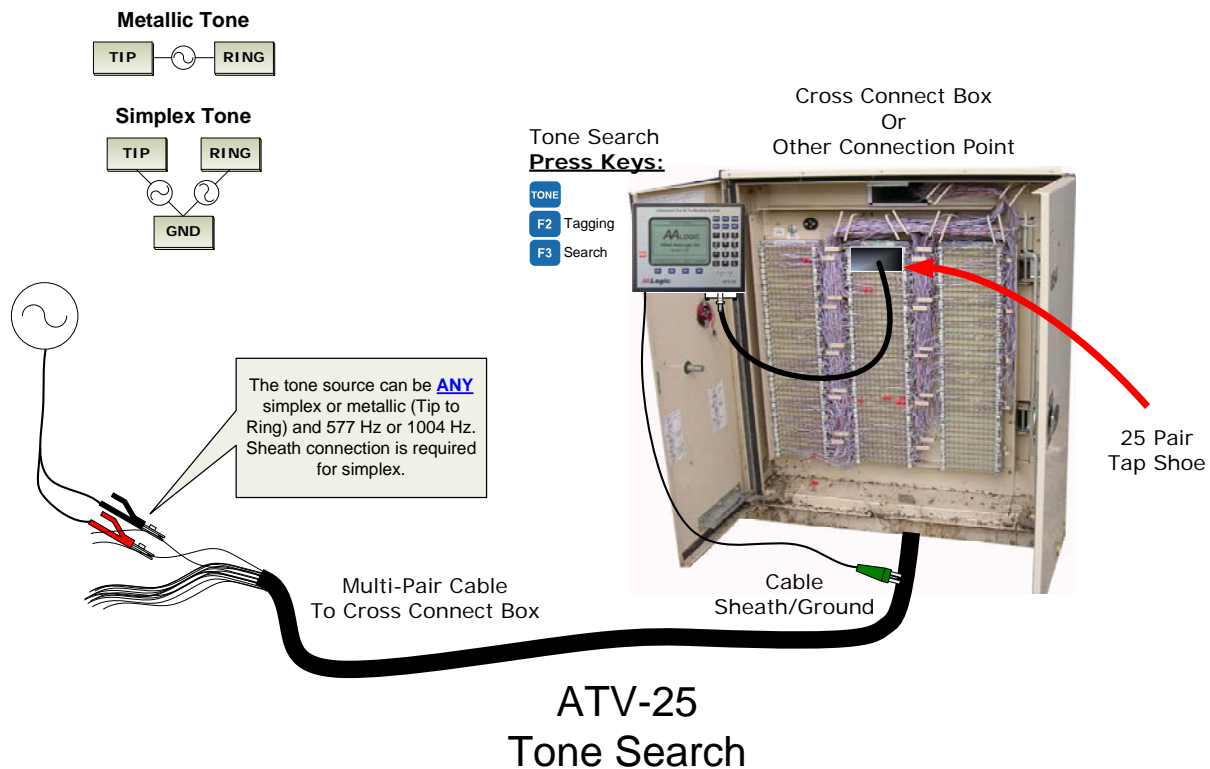
ATV-25 Pair Identification Features

The ATV-25 Construction Test System includes two primary pair identification programs, Tone Search and Pair Tagging. Either program can be used for working and vacant pairs.



Tone Search

The Tone Search program searches the 25 pair module for a specified tone and reports the pair number. The program supports 577Hz and 1004Hz tone applied either metallic (Tip to Ring) or Simplex (Tip to Ground and Ring to ground simultaneously). The diagram below shows a typical connection for Tone Search.

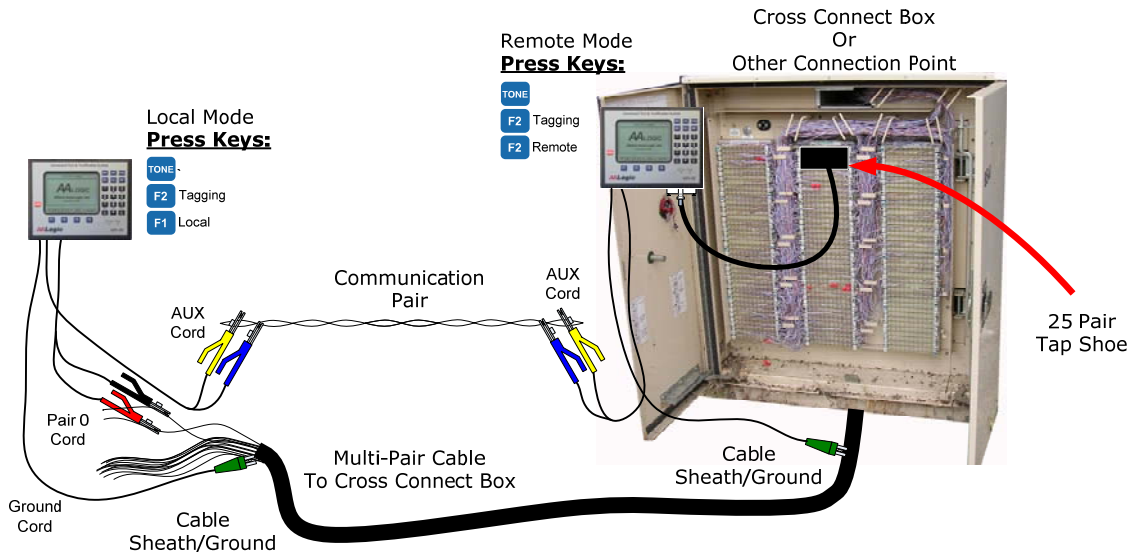


The tone source in the diagram can be any available source capable of 577Hz or 1004Hz tone normally used to tone cable pairs. The ATV-25 will also identify additional pairs that may have cross-coupled tone. In this case, the amplitude of the tone on the pairs is compared and the pair with the highest amplitude is reported as the pair found.

Note: Simplex tone requires good ground/sheath continuity between the tone source and the search location. Metallic mode should be used in cases where the ground/sheath are not reliable.

Pair Tagging

Pair Tagging requires a local ATV-25 and a remote ATV-25. The advantage of this mode is that it is more precise and it compares both AC and DC values of the pair. The following diagram shows a typical connection and a description of the test follows.



ATV-25 Cable Pair Tagging

The local ATV-25 is connected at the tagging location and the remote is positioned at the known location. A spare pair is used to communicate between the local and remote. This allows the local machine to send information to the remote for a more accurate identification.

- The local ATV-25 applies simplex tone and DC voltage to the pair to be identified.
- The local ATV-25 sends the AC and DC measurements to the remote ATV-25.
- The remote ATV-25 then searches the 25 pair Cinch connector to locate a pair matching both the AC and DC parameters. The pair, if found, is sent back to the local ATV-25.
- The local ATV-25 reports the found pair number or "PAIR NOT FOUND" if no match is located.

Note: Tagging requires good ground/sheath continuity between the local and remote ATV-25 units. Vacant pairs should be bonded to the sheath as augmentation if the sheath/ground are not reliable.



ID Tone Generation

The ATV-25 also provides ID tone generation that is compatible with standard tone probes. Tone can be sent on a single pair using the PR0 cord or any of the 25 pairs of the Cinch connector. The ATV-25 provides the following combinations of ID Tone:

Frequency	Metallic	Simplex	Tip to Ground	Ring to Ground
577Hz	X	X	X	X
1004Hz	X		X	X

End-to-End Continuity Test

Another pair identification feature is the End-to-End test. This program uses two ATV-25 units and checks 25 pairs to 25 pairs to verify and optionally store the results of the:

- Tip and Ring continuity between the local and remote ATV-25 units
- polarity of the Tip and Ring to identify color reverse conditions
- Tip to Ring, Tip to ground, and Ring to ground resistance measurements for vacant pairs.

The End-to-End test is suitable for both working and vacant pairs. This test can be used as a completion record for new construction, verifying cable moves, and pre-testing prior to transfers.

Additional Features and Capabilities

The ATV-25 is a complete cable testing system with electronic storage of test results. The following highlights the features of the ATV-25. Complete information is available online at <http://www.AALogic.com/atv25main.html> .

Overview

The ATV-25 is a construction testing system with electronic data storage. The unit is fully portable and can automatically test single pairs or multiple pairs.

Test results for up to 4,000 pairs can be stored in internal memory. The provided PC Software, ATV Tools, allows uploading of test information and configuration management for multiple ATV-25 units. PC data files are stored in XML files to ensure compatibility with spreadsheets, databases, etc.

The ATV-25 provides the testing and utility features required daily when working with new construction, reconditioning, records verification, pre-testing, post-testing, and proof of performance. The PC records assist in dispatching, work record reporting, cable record maintenance, and problem analysis.



Auto and Manual Tests

The ATV-25 manual tests provide a variety of tests that can be combined to create an auto test. Auto test results can be saved in internal memory and optionally uploaded to a PC. The following lists the test and measurement options.

- DC Voltage**
- Ohm meter**
- Open Meter with capacitive balance**
- Load Coil Detection**
- Noise (Vacants) – longitudinal and metallic**
- Special Circuit Identification – T1, HDSL, and xDSL)**
- Spectral Plot – frequency sweep of the line**
- Loop Current on POTS lines**
- Number Retrieval (DTMF ANAC)**
- Number Retrieval (CID)**
- POTS Noise using Quiet Termination**
- POTS Loss using 1004Hz mW reference**

Metering

The ATV-25 meters display continuously updated views of the Tip to Ring, Tip to Ground, and Ring to ground measurements. The metering capabilities of the ATV-25 include:

- DC Voltage
- AC Voltage
- Ohmmeter with resistance to distance conversion
- Open meter

The ATV-25 meters are digital, auto-ranging, and auto-mode. The ohmmeter displays DC voltage if voltage is present. The open meter displays DC voltage or resistance if present. This feature allows the user to select the open meter and immediately read the DC volts, resistance, and open length to quickly view the profile of the pair.

The meters can measure the values on the PR0 cord or any pair connected to the Cinch connector.

Talk Battery

The ATV-25 supplies talk battery and a call/wait circuit for use with butt sets and/or headsets for establishing site to site communications over a vacant pair.



Line Monitor

The ATV-25 provides line monitoring for POTS and data lines. This feature is similar to a butt set.

The user can monitor, go off-hook, and dial on POTS lines. A three number memory is provided for frequently dialed numbers such as ANI numbers. This allows the user to listen for line noise, verify dial tone, and obtain the telephone number.

The data line monitoring mode allows the user to listen to the line for data signals. Preset frequencies are provided for T-1, HDSL, and xDSL. The user can also listen to a specific frequency. This can be used to listen for suspected external interference.

Memory Recall

Stored test results can be recalled and reviewed on the ATV-25. A review option at the end of the test allows the user to correct and retest pairs with errors before the test results are stored.

Once stored, the Recall feature allows the user to quickly review the completed tests and the test results. This lets the user review all results before leaving the job site to ensure all the work is completed and test or retest if necessary.