401 Network Interface Units (NIUs) Description and Installation

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1. Overview

1.01 This practice covers the description and installation of the 401 Network Interface Unit (NIU).

1.02 This practice is reissued to convert measurements to metric units and to use the AT&T standard format.

1.03 The 401 NIU consists of a basic unit with a B2 Customer Service Closure base.

1.04 The 401 NIUs provide the following features:

- Equipped with or provisions for mounting a 125-type station protector.
- Provisions for terminating aerial or buried service wire.
- Provisions for terminating subscriber wiring. (Optional depending on local telephone company policy.)
- Equipped with wire retainers for good housekeeping.
- Equipped with or provisions for mounting two RJ11 Network Interface Jacks for subscriber testing.
- Provisions for remote testing circuitry.
- Field upgrade to 2-line service.
- Provisions for subscriber provided locks and telephone company override of subscriber lock.

The NIU provides an enclosed, secure, environment-resistant housing for the previous features.

1.05 AT&T welcomes your comments on this practice. Your comments will aid us in improving the quality and usefulness of AT&T documentation. Please use the Feedback Form provided at the back of this practice.

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1.07 This practice is issued by:

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AT&T Network Systems
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2. Precautions

DANGER:
Station protectors have the risk of electrical shock. Only trained telephone company craftpersons should open a swing plate or attempt to service protector units.

DANGER:
NIUs (especially those installed at an earlier time) may be mounted in close proximity to electrical wiring, outlets, or meters. Craftpersons should be alert for these electrical hazards and take the necessary actions to prevent accidental electrical shock.

3. Description

3.01 The 401 NIU (Figure 1) consists of a housing with a hinged cover, provisions for two modular plugs and jacks, and termination of subscriber wiring. The 401 NIU (Figures 1 and 2) also has a base with a grommet for entry of service wire, subscriber wire, and ground wire.

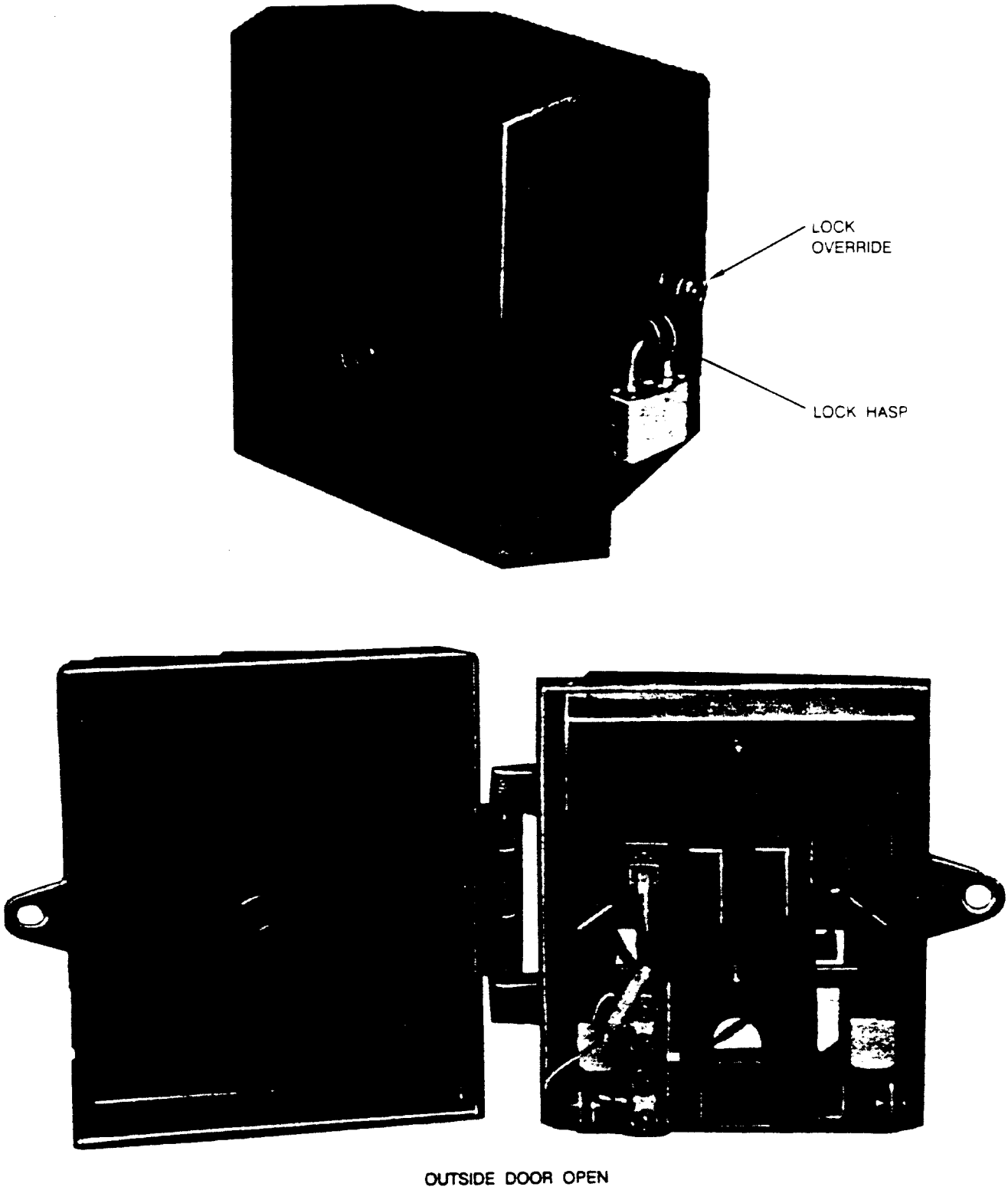


Figure 1. 401 NIU

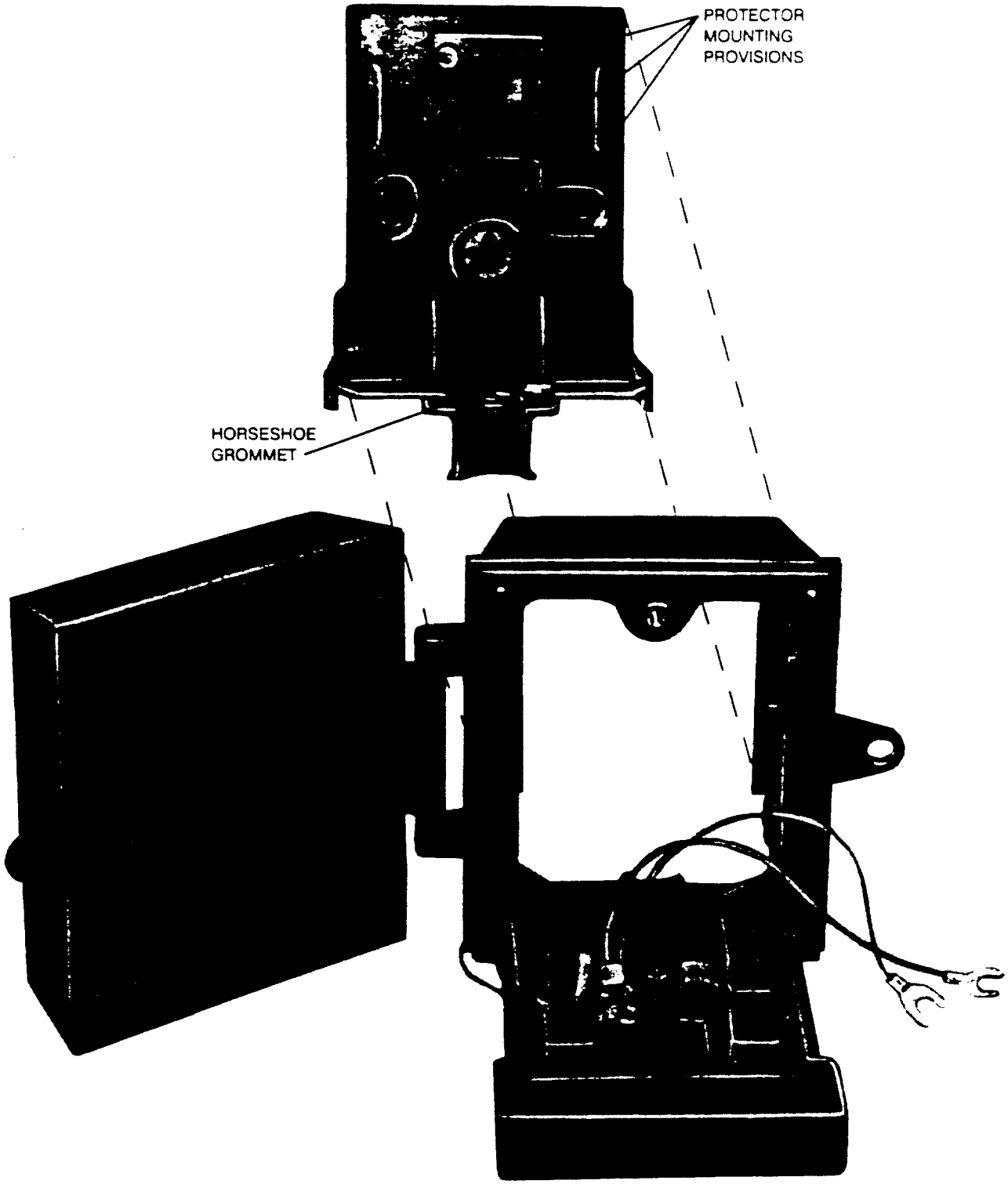


Figure 2. 401 NIU Disassembled from Base

3.02 The coding scheme for the 401 NIUs are as follows:

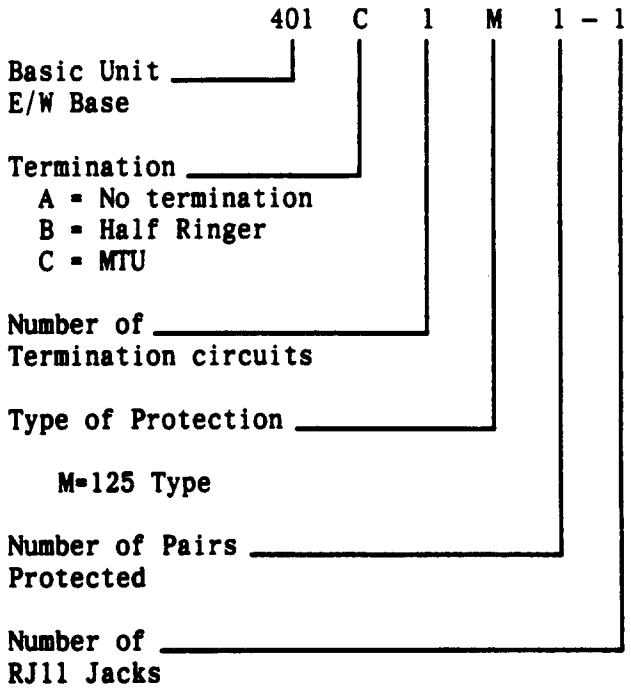


Table A lists the 401 NIUs and their features by code.

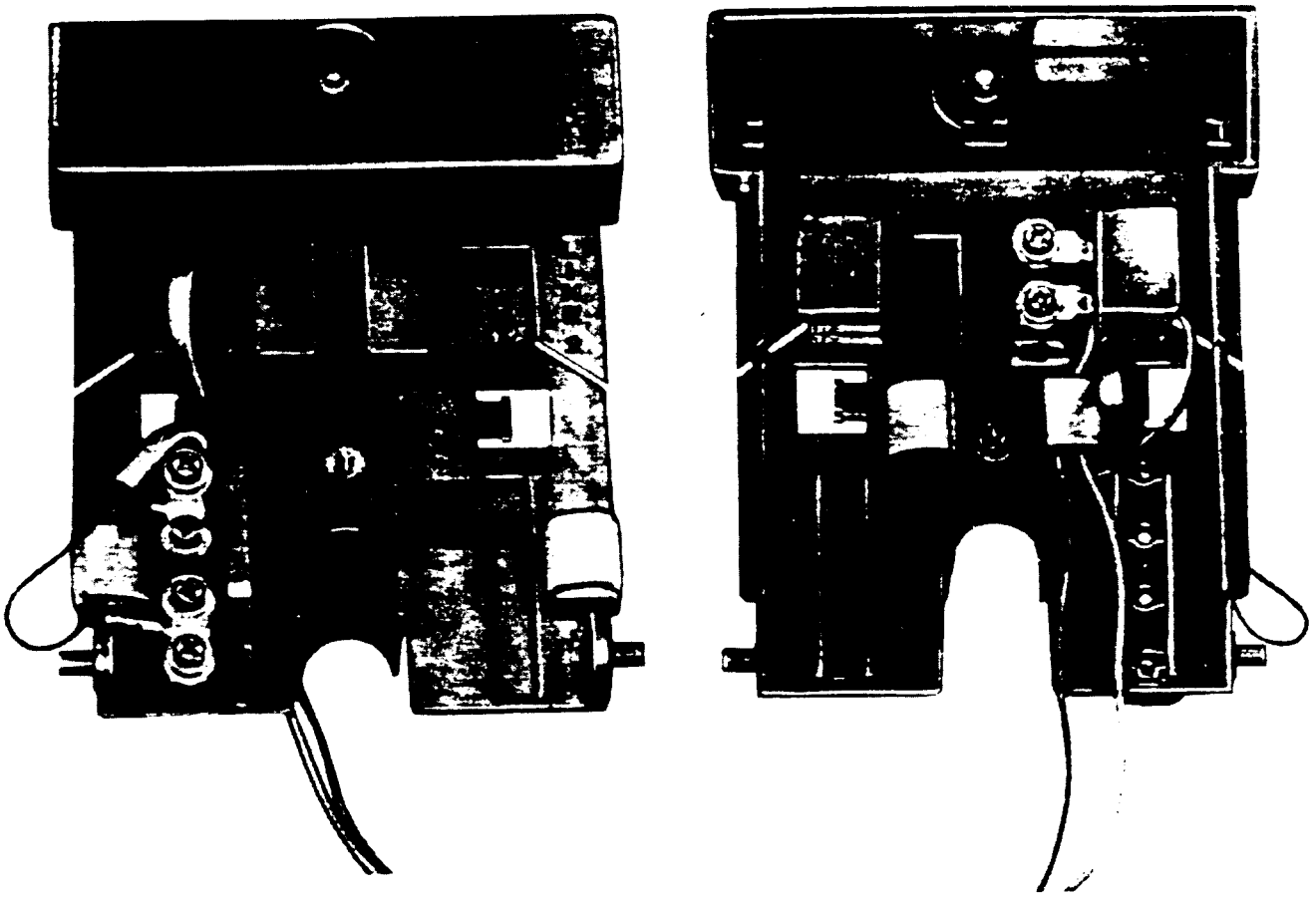
Table A
Network Interface Units (NIUs)

NIU Code	Comcode	No. of RJ11 Jacks	Protector	Half Ringer Equivalent	MTU (Remote Testing)
401A1-1	104403100	1	—	—	—
401A2-2	104403134	2	—	—	—
401B1-1	104403167	1	—	1	—
401B2-2	104403191	2	—	2	—
401C1-1	104403225	1	—	—	1
401C2-2	104403258	2	—	—	2
401A1M1-1	04403126	1	125EBW-1	—	—
401A2M2-2	104403159	2	125EBW-2	—	—
401B1M1-1	104403183	1	125EBW-1	1	—
401B2M2-2	104403217	2	125EBW-2	2	—
401C1M1-1	104403241	1	125EBW-1	—	1
401C2M2-2	104403274	2	125EBW-2	—	2

3.03 The housing and cover are molded from rigid, high-impact, self-extinguishing, ultraviolet stabilized plastic in oxford gray. The outside hinged cover is equipped with a captive fastener having a screwdriver slot which allows the subscriber access to the replaceable bridge connector(s) and the modular plug(s).

3.04 The outside cover and housing are equipped with a hasp for a subscriber provided lock (Figure 1). The hasp attached to the housing is equipped with a security screw for telephone company override of the subscriber provided lock.

3.05 The swing plate (Figure 3) inside the NIU provides access to the network side of the box. This cover has a recessed locking nut assembly to safeguard against subscriber entry.



FRONT VIEW REAR VIEW

Figure 3. Swing Plate

3.06 The 401 NIU, when equipped with a 125-type protector (Table A), provides station protection for one or two pair(s) of wires, respectively. See AT&T 462-005-100 for detailed information on protectors.

3.07 The half-ringer is an equivalent (dummy ringer) for loop testing. The Maintenance Termination Unit (MTU) allows mechanized loop testing (MLT) or the local test desk (LTD) to automatically sectionalize premises faults from faults in the network. Faults which may be sectionalized with the MTU include tip-to-ring shorts or conductor-to-ground resistive faults, and open premises conditions.

3.08 Upgrade kits (Table B) are available for adding to the basic NIUs.

Table B
401 NIU Upgrade Kit of Parts

Contents	400J3B	400J6B	400D7L	400A2T	400A3T	400A6T
Subscriber Wiring Bridge Assembly	X	X	X	X	X	X
Modular Plug and Cord	X	X	X	X	X	X
Back Plate	X	X	X	X	X	X
Rubber Boot	X	X	X	X	X	X
645A Jack	X	X	X	X	X	X
Network Bridge Assembly	X	X	X	X	X	X
125EW Protector				X	X	X
MTU		X				X
Half Ringer	X		X		X	
Lead Assembly Wires (Red and Green)	X		X	X	X	
Comcodes	105459838	105459846	105459796	105459804	105459812	105459820

4. Ordering Information

4.01 Subscriber NIU feature requirements are satisfied through ordering the 401 NIUs by apparatus code and comcode. See Table A for available NIUs and related comcodes.

5. Installation

5.01 The 401 NIUs are designed for inside or outside wall mounts. The 401 NIU is mounted and wired as detailed in paragraph 5.03 and Figure 4 through 11.

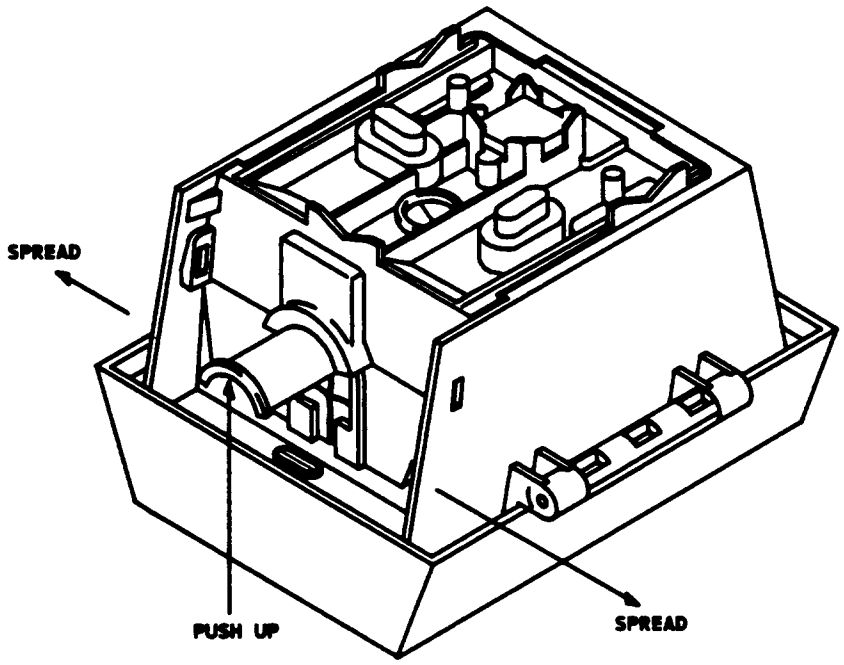


Figure 4. 401 NIU — Disassembly

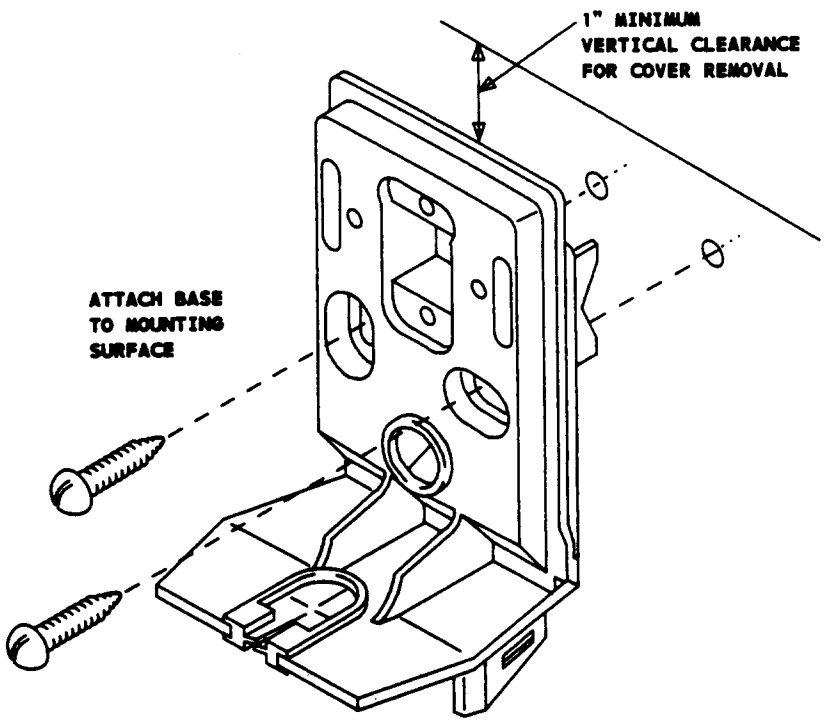


Figure 5. 401 NIU — Mounting Base onto Wall

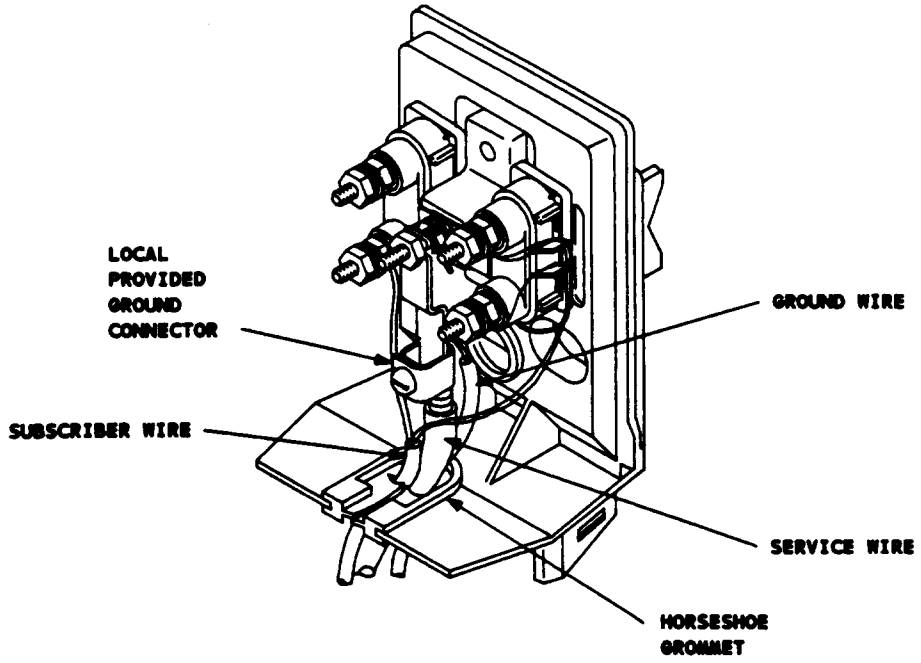


Figure 6. 401 NIU — Completing the Protector Wiring

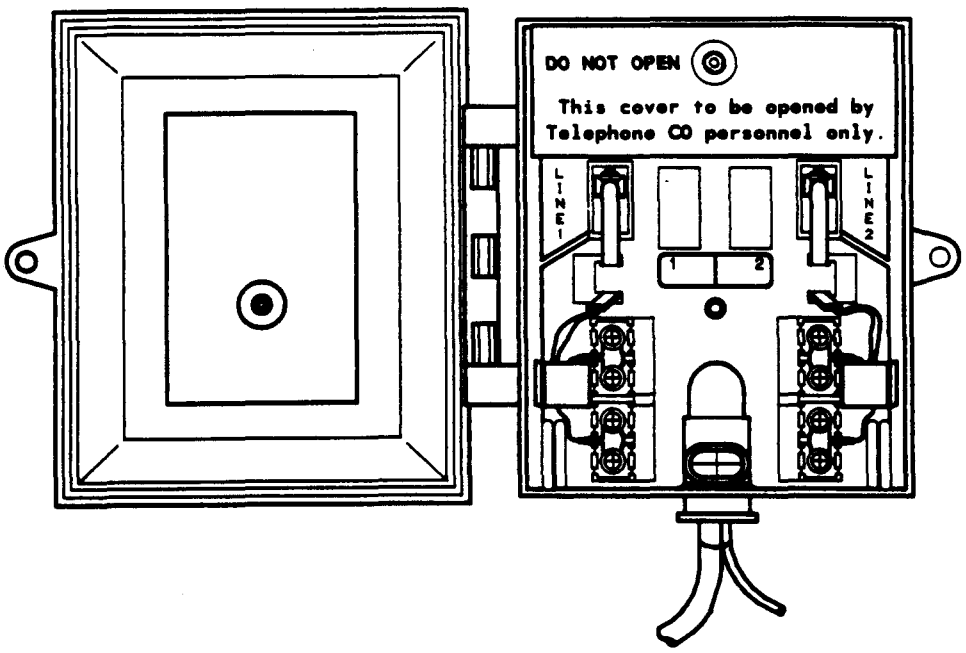


Figure 7. 401 NIU — Installing Network Interface Unit onto Base

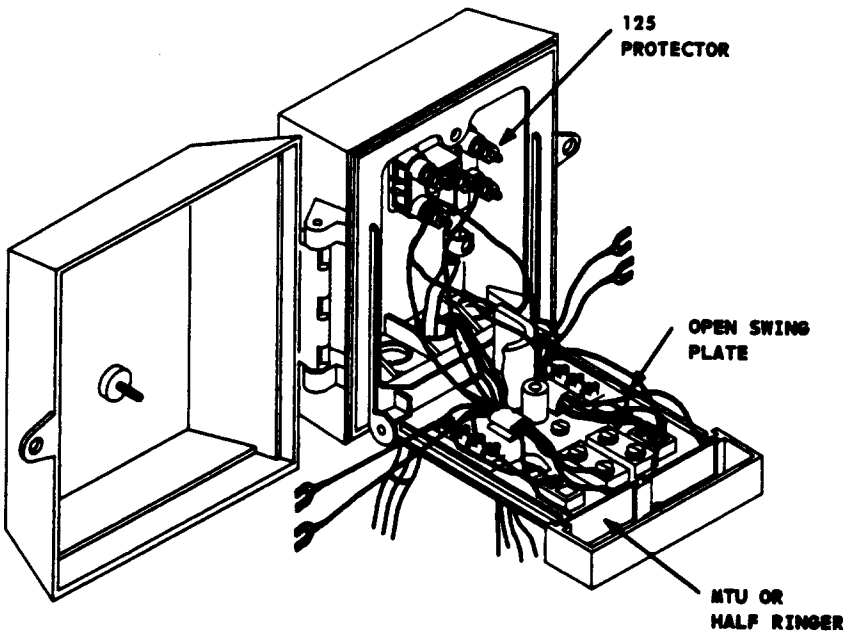


Figure 8. 401 NIU With Swing Plate Open

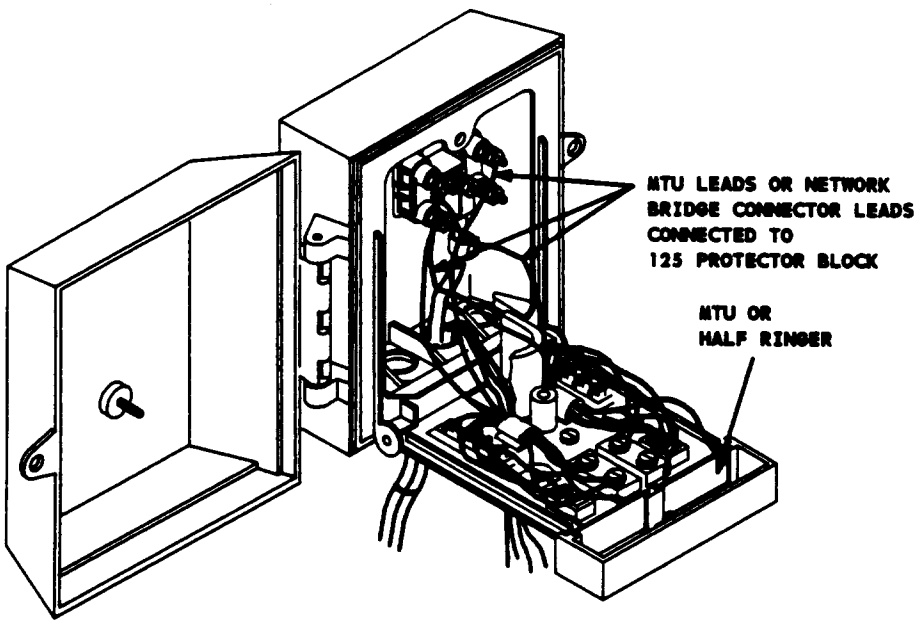


Figure 9. 401 NIU — Wiring MTU to Protector Unit

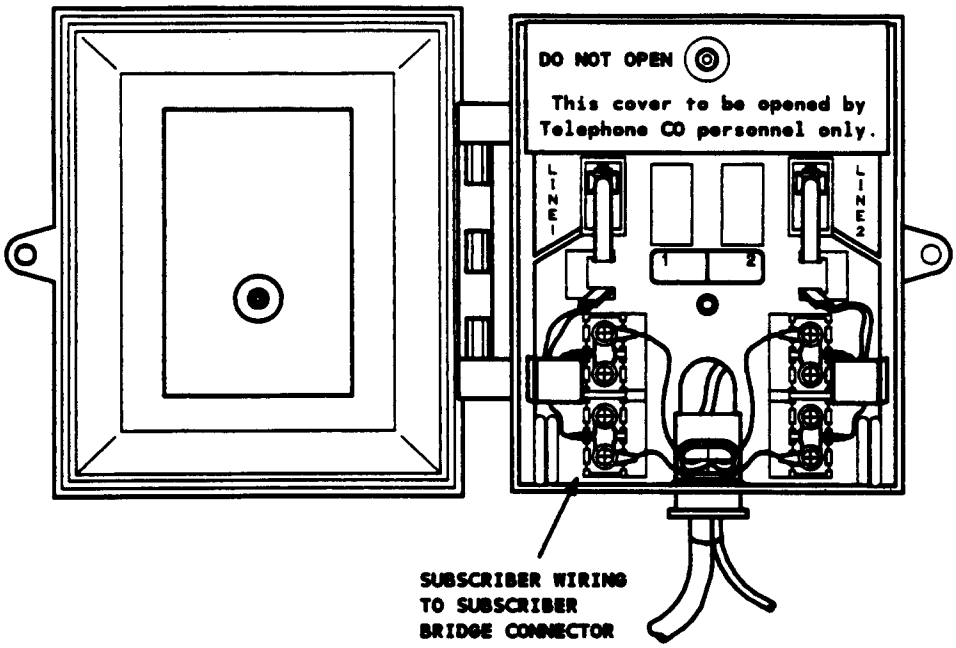


Figure 10. 401 NIU — Wiring Subscriber Inside Wiring to Subscriber Wiring Bridge

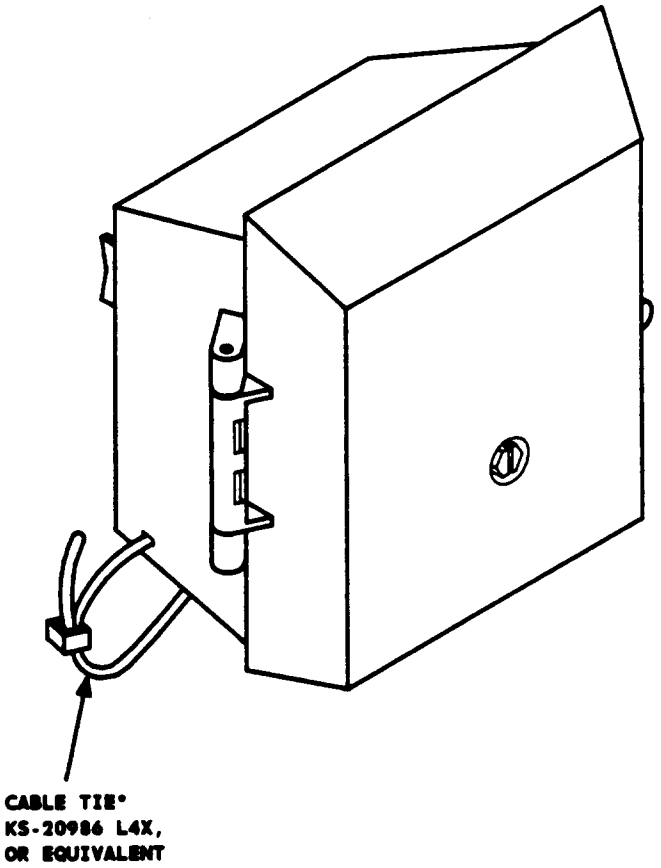


Figure 11. 401 NIU — Installing Tie Cables for Added Security

A. Wiring Connections

5.02 The connections listed in Table C are wired (as required). The subscriber connects local prescribed wiring to the corresponding tip-ring subscriber connections located on the subscriber bridge connector. The local telephone company needs only to connect the network pairs to the station protector. With the exception of the protector-to-NIU connection, the connections are shown in Figure 3.

Table C
401 NIU Wired Connections

From	To
125 Protector	MTU or Half Ringer
MTU or Half Ringer	Network Bridge Connector
Network Bridge Connector	RJ11 Jack/Plug
RJ11 Jack/Plug	Subscriber Bridge Connector

B. 401 NIU Installation and Wiring

5.03 Install and wire the 401 NIU as follows:

(1) Separate the base from the closure as indicated in Figure 4.

(2) Mount the base (Figure 5). Ensure that a minimum 1-inch (2.5 cm) clearance is left between the top of the base and any obstruction.

(3) Place the wires through the horseshoe grommet and secure the wiring in the grommet (Figure 6). Attach ground and service wire(s) per Practice 462- 005-101.

(4) As shown in Figure 7, install the NIU by mounting it on the base the same way as the B2 Customer Service Closure. Open the outside door of the NIU, using a 216 tool or screwdriver.

(5) Open the swing plate using the KS-19191, L1 security tool to gain access to the protector (Figure 8).

(6) Attach leads of the MTU or network bridge connector to corresponding terminals on the 125-type protector (Figure 9). After the wires are attached, close and secure the swing plate. Record subscriber line identification information on labels 1 (for Line 1) and 2 (for Line 2).

(7) (Installation of subscriber inside wiring is optional depending on local telephone company policy.) Insert subscriber inside wires into the swing plate grommet. Attach subscriber inside wiring in accordance with the procedure of (a) or (b).

(a) To service **one inside line**, terminate the Green-Red pair of the inside line to the subscriber bridge screw terminals color coded Green and Red (Figure 10).

(b) To service **two inside lines**, using one quad station wire, terminate the Green-Red pair to the subscriber bridge screw terminals (color coded Green and Red) for line 1. To connect the second line, the Black-Yellow

pair should be terminated to the screw terminals color coded Green and Red for line 1 (Figure 10).

(8) After the subscriber wiring is complete, close the cover and secure it with a 216 tool. If added security is needed, secure the cover on each side with locally-provided cable tie (Figure 11).

C. 401 NIU Access for Repair or Upgrade

(1) To bypass subscriber provided lock, unscrew the security screw on the hasp bracket located on the side of the unit using the KS-19191, L1 security tool.

(2) Access the 401 NIU per section B, paragraph 5.03, steps (4) and (5).