IDEAL DataComm

DataComm Relevant Tools

Cut

Strip

Terminate
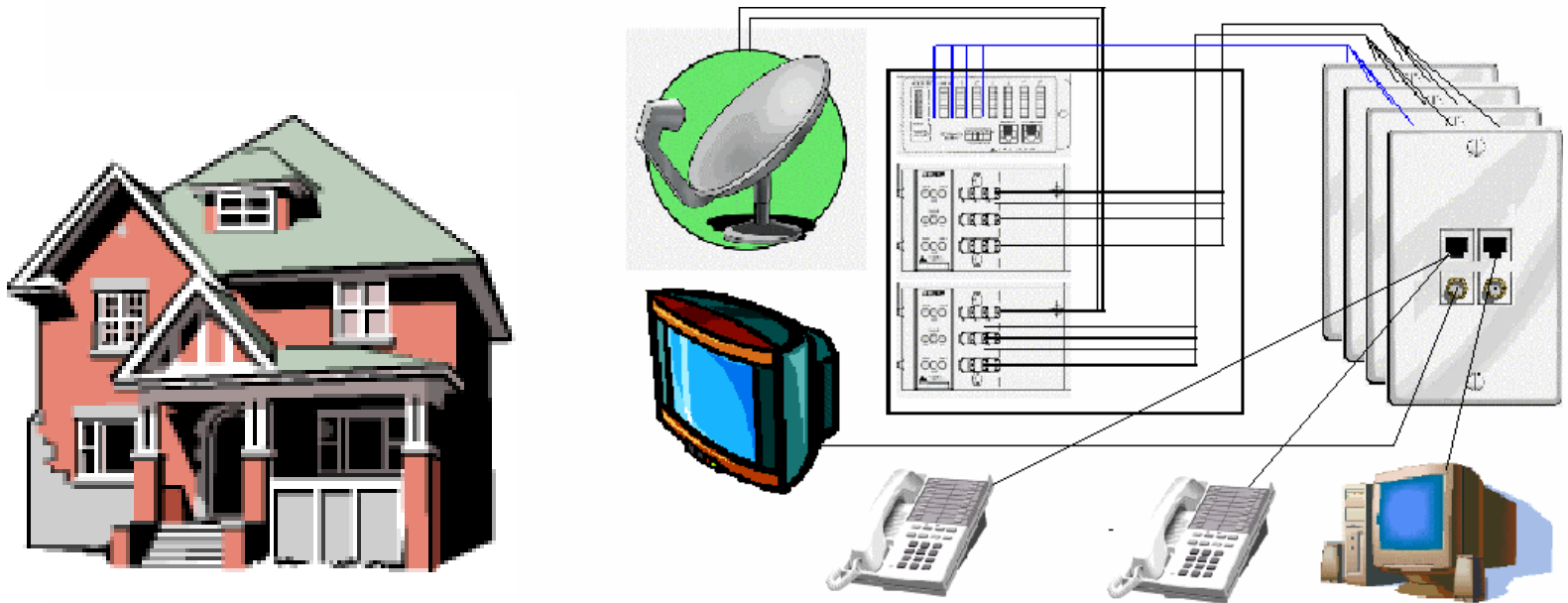
Test

To order: 087-929-3178

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DataComm Tools

- **Used in the project of every field of Voice/Data/Video communication networks**
- **Also used in the project of Security, Alarms, Sensors, Intercoms system**

The Physical Medium of Comm.

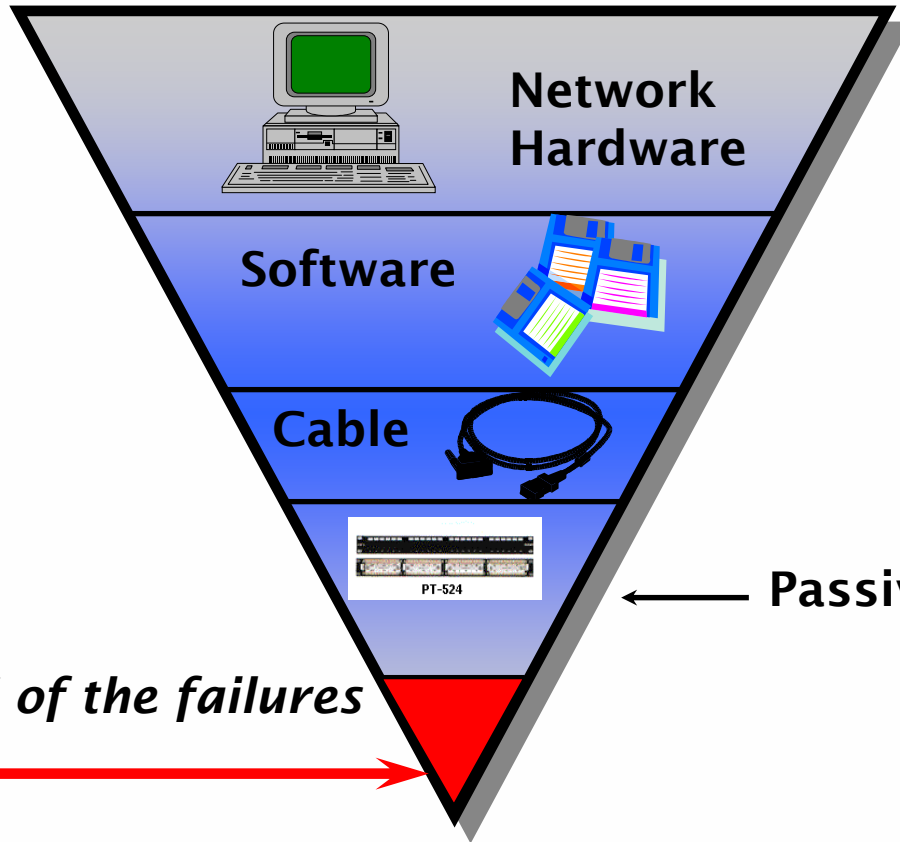4-pair UTP/STP (Unshielded/Shield Twisted Pair) cable (Cat.5/5e/6 or higher)

- Coax cable $(75\Omega, 50\Omega)$

- Optical cable or fiber

Communications market pyramid

Network Hardware

Software

Cable

PT-524

Passive Hardware

5% of job cost, 75% of the failures

Termination

**The use of quality tools & connectors help ensure the termination**

IDEAL CSTT - System Solution

- **4 Things done to 3 kinds of cable**
  - **C**ut
  - **S**trip
  - **T**erminate
  - **T**est
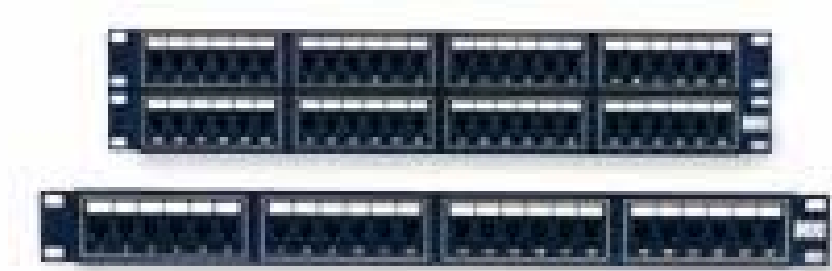- **Cable Types**
  - Twisted Pair
  - Coaxial
  - Fiber Optic

Cut   Strip

Terminate   Test

Process Twisted pairs cable

- ## Used in almost every new network installation today *(except fiber)*
- ## Used in new telephone installations (Cat 3 minimum)
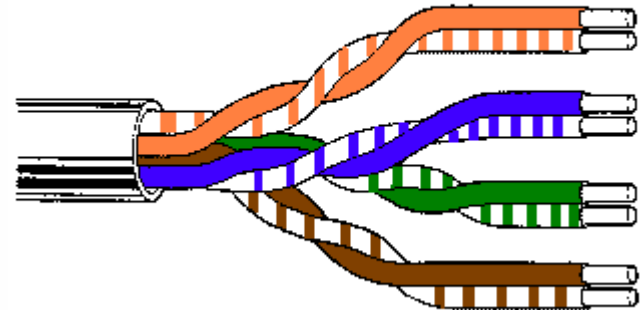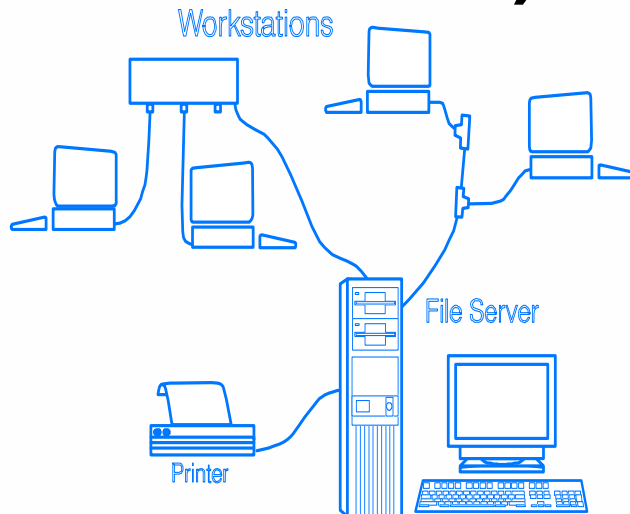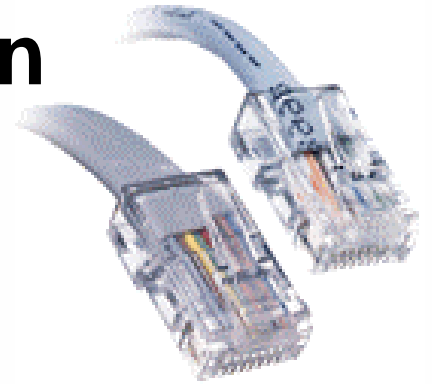
Termination types

- **Modular Plugs**

- **Modular Jacks**

- **Modular Patch Panels & Block**

Modular Plugs

- **Least used type of termination**
- **Most difficult**
- **Most frustrating**
- **Most time consuming**
- **Used in:**
  - Commercial Applications w/no Patch Panels, typically smaller installations
  - Some Residential Distribution Centers

Let's pull out:

- **UTP Cable**
- **RJ-45 Plugs**
- **UTP Stripper**
- **Data T-Cutter**
- **CrimpMaster**
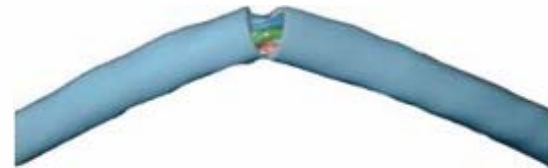
Page F-12~14

Stripping UTP

- **45-165 UTP Stripper**
- **Adjustable blade depth prevents nicks to copper conductors**
- **Replaceable blade**

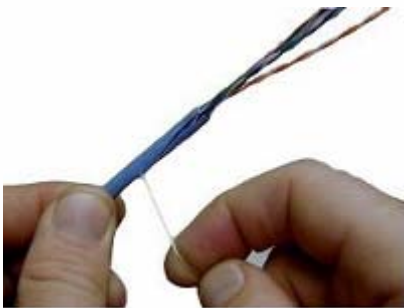# *Stripping UTP*

Ring cable about 3" from end to score sheathing

Bend cable to separate at score mark, remove scrap sheathing (slug)

Pulling ripcord through sheathing assures that there will be no nicks in center conductor

Cut away excess sheathing and ripcord

Terminating UTP

- **Put all conductors in order, parallel and touching**

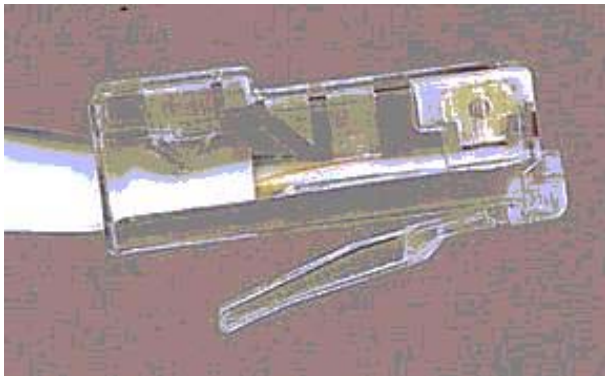2. **Cut excess off, leaving NO MORE than ½"**

3. **Put connector on, seating all conductors fully**

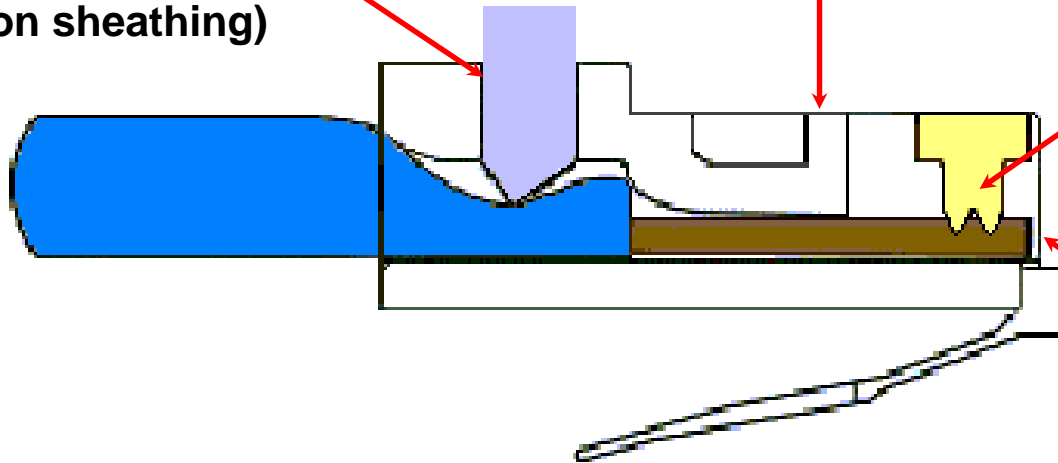4. **Crimp connector, using a ratcheting connector**

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Modular Plugs

**Secondary Strain Relief
(on conductors)**
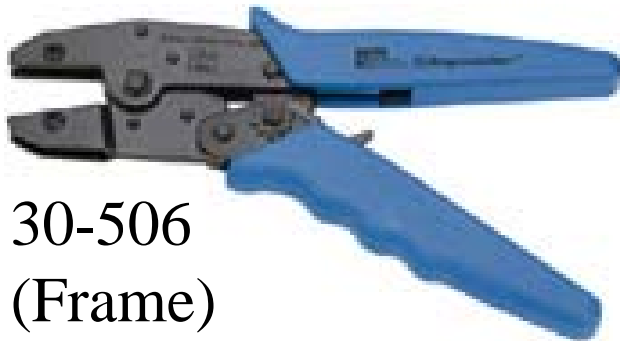
**Primary Strain Relief
(on sheathing)**

**IDC Contact Point
(Insulation Displacement)**

**Conductors MUST
be inserted past the
IDC point**

Terminating UTP

- **Use a ratcheting-style crimper to terminate network connections**
- **Assures the same crimp *every* time**
- **Reduces failure rate tremendously**

30-506
(Frame)
page F-14

30-696
page F-11

Modular Jacks

- **Place orange pair in corresponding slot with sheathing up against back of jack. DO NOT UNTWIST WIRES!**

2. **Push conductors into slots**

3. **Punch down each conductor, cutting edge out**

4. **Repeat procedure for other pairs separate where necessary**

5. **Terminated jack**

6. **Place dust caps over conductors**

Modular Punchdowns

- **Used in telephone & data applications**
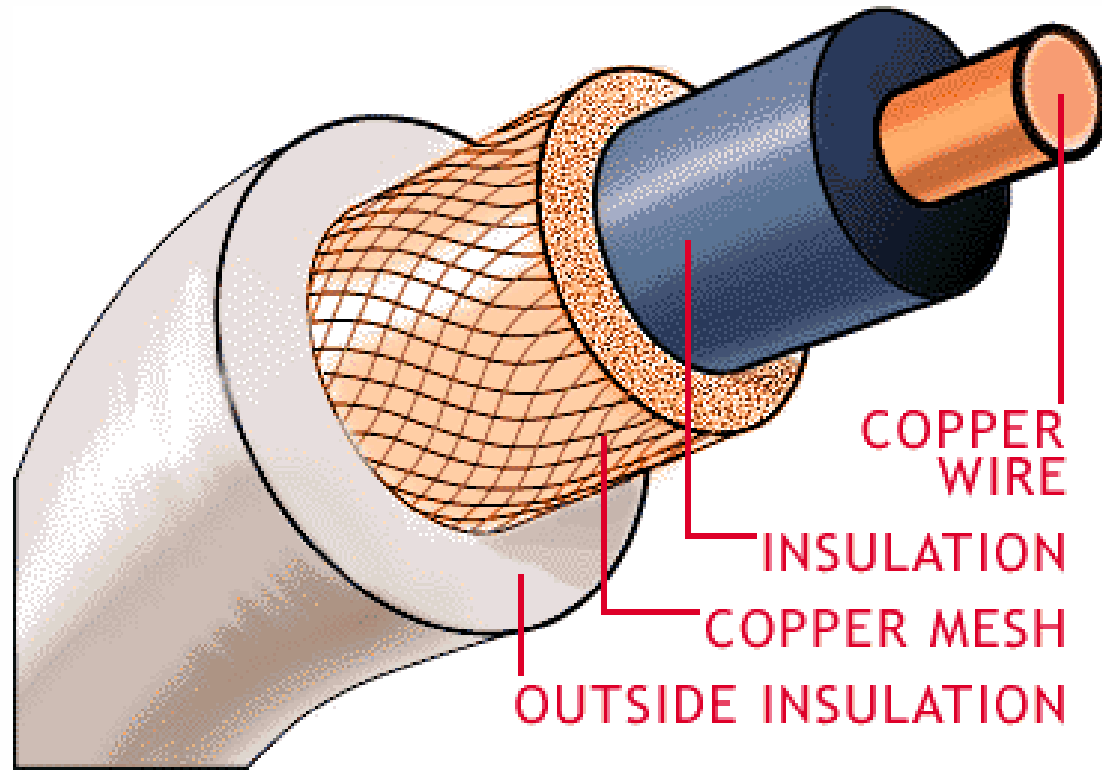 - Cross Connects
  - Patch Panels
  - Modular Jacks

Modular punchdowns

- **Most often used termination**
- **Easiest to master**
- **Can still be a great cause of termination failures**
- **Adjustable high-low setting**
- **Convenient blade storage**
- **Interchangeable blades for:**
  - 110
  - 66
  - BIX
  - Krone

Process Coax cable

COPPER WIRE

INSULATION

COPPER MESH

OUTSIDE INSULATION

Coaxial geometry

- **Braiding needs to be equidistant from center conductor for signal integrity**

Braiding

Center Conductor

Good

Bad
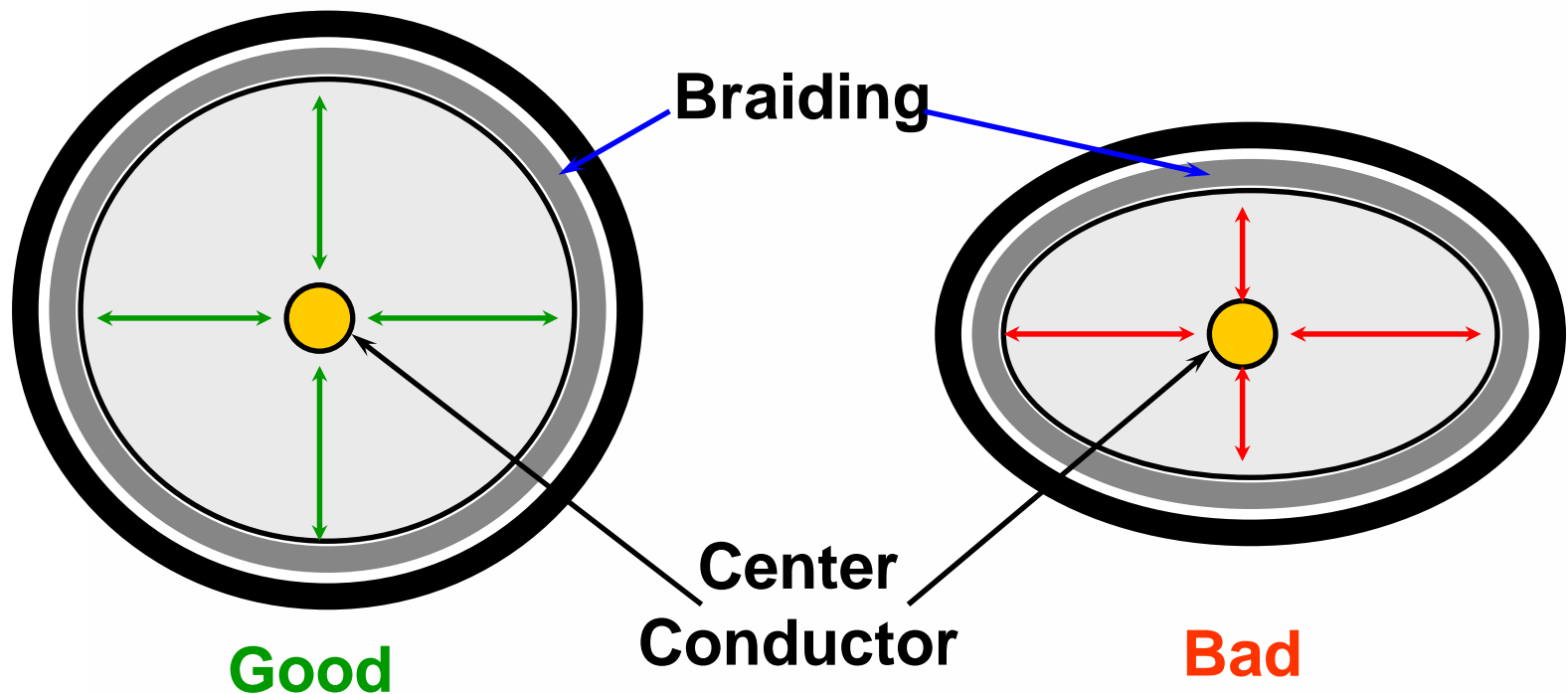
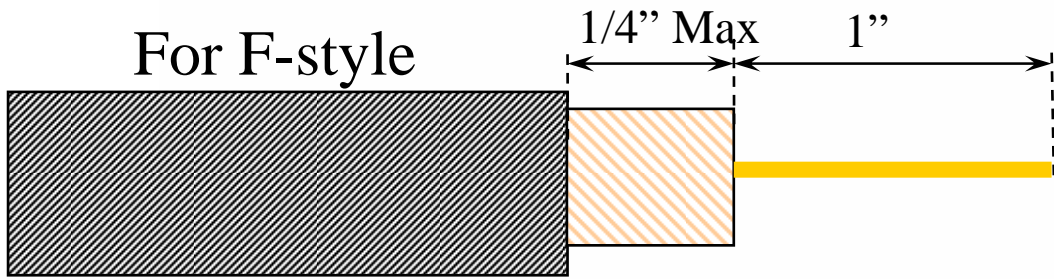# *These just won't do...*

Flattened Cable

But these will
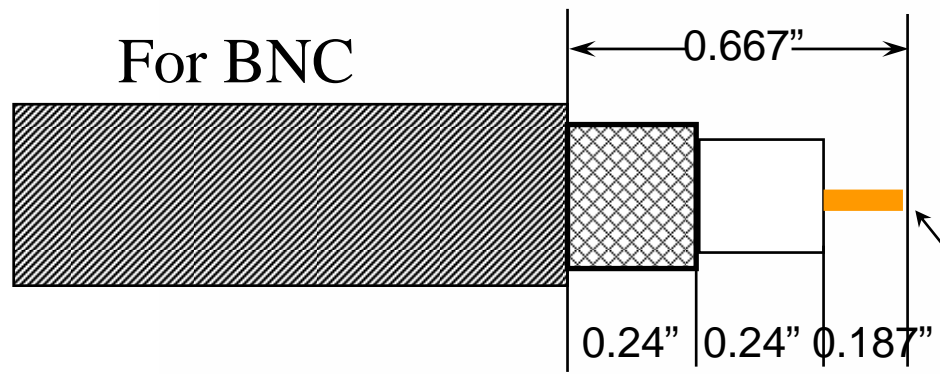
- **Curved cutting blades will reduce distortion of the cable**
- **Data T-Cutters for Coax and UTP**

Stripping Coax for F-style & BNC

For F-style

1/4" Max   1"

45-524 Coax Stripper

For BNC

0.667"

▪**45-262 Stripmaster®**

0.24"   0.24" 0.187"

Cut center
conductor with
35-060 Center
Conductor Cutter

30-433 Combo Tool

Page F-12~14

Stripping coax with the Stripmaster®

1. **Place cable in smaller hole ½" protruding**

2. **Squeeze handles together firmly & quickly**

3. **Place cable in larger hole ¼" protruding, squeeze**

4. **Stripped cable**

45-520 Coax Stripper

- **Quick and accurate**
- **Replaceable cassette blades**
- **Fully adjustable**
- **For popular crimp BNC connectors**
- **Can be used as F-style stripper by backing one blade out**

Adjusting & Replacing Blade

Adjusting blade

1. Remove hex wrench from handle

**2. Insert wrench into adjusting grommets.
Adjust by rotating 1/3 of way around at a time**

3. Check by re-stripping cable.

Replacing blade

•**Pull front door open**
•**Lift cassette up & out**
•**Insert new cassette & close door**

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Resi

Stripping for F-style

1. Set sliding window to cable size

2. Place cable in stripper with 1/8" protruding

3. Rotate stripper in direction of lettering

4. Remove cable from stripper

5. Remove slugs

6. Stripped cable for F- style

Stripping for BNC

1. Set sliding window to cable size
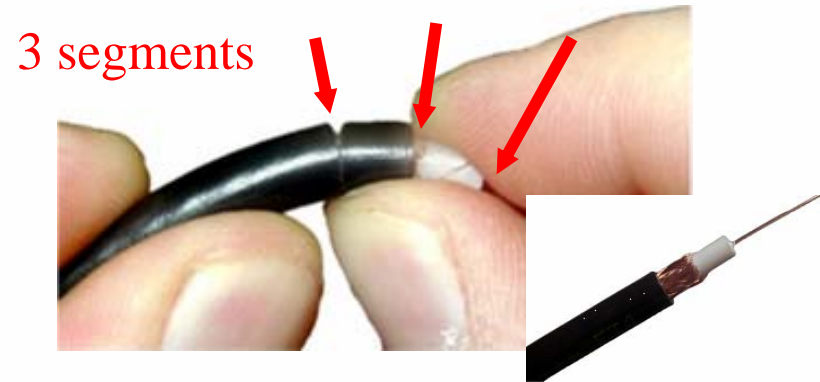
2. Place cable in stripper with 1/4" protruding

3. Rotate stripper in direction of lettering

3 segments

4. Remove cable from stripper

5. Remove 1st two slugs

6. Remove 3rd slug by bending cable

Center Conductor Cutter 35-060

Cut center conductor with 35-060 Center Conductor Cutter

1. Stripped cable

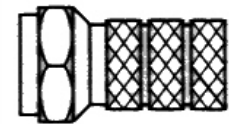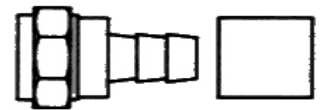**2. Lay side of cutter against white dielectric, ensure center conductor length is 0.187"(about 4.8mm)**

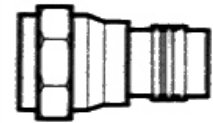**3. Finished cable**

IDEAL has these connectors, see page F-22

- **One-piece**
  - Most preferred, easiest installation
- **Two-piece**
  - More pullout strength
- **Twist-on**
  - What twists on will twist off…

The number one cause of video distribution problems is tightening F connectors finger tight. Tighten them with an F connector tool.

F-Connector installation Tool

- **Using leverage to install an F connector will seat every connector properly**

- **Most video signal problems are caused by loose connections. Tighten all connectors with an F-Connector tool.**

35-046

Coax Strip & Crimp Tool

- **Cuts, Strips & Crimps RG-6 & RG-59**
- **No need to carry separate tools**
- **Good for occasional contractor use**
- **30-433**

Terminating coax - CrimpMaster™

- **Consistency & repeatability**
- **More leverage, less installer fatigue**
- **The same crimp every time**
- **28 interchangeable dies**
- **For the installer with more than an occasional crimp to do**

The best Crimp tool

Page F-14

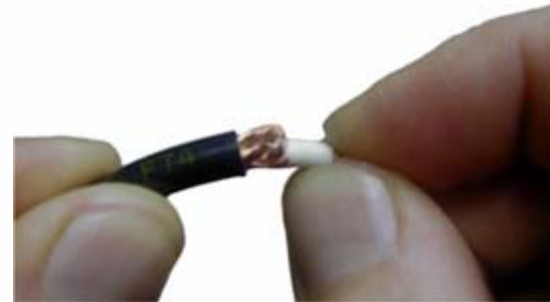# *Terminating BNC Connectors*

1. Close CrimpMaster to 1/8" open

2. Place center contact pin point down into smallest crimp nest

Wrong side up

3. Place center conductor all the way into center contact pin and crimp

4. Rotate dielectric to bend back braiding

Terminating BNC Connectors

1. **Seat connector body onto dielectric, underneath the braiding, listen for click of captive contact pin**

2. **Seat the ferrule against the connector body with equal, opposing force**

3. **Squeeze handles together completely**

4. **Finished Connector**

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The newest connector and tools
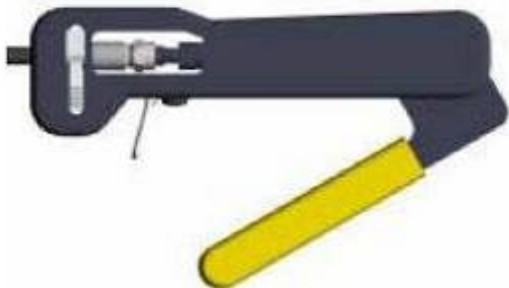
Figure 1

Figure 2

Figure 3

Figure 4

- Compression F&BNC connectors

- Fast and reliable solution to Coax projects

- Different types for different cables

- Permanent connection, connector never loose

30-603   30-703   30-633

Page F-15

Yes, they're used…

No, they shouldn't

Best tools, work best!

- **IDEAL offers various "System Solution" kits**

Page F-16~19

It's time to talk about Optical

And God said, Let there be light: and there was light.

--Genesis The Old Testament

Processing Optical Fiber

Cut - Strip - Clean - Scribe - Polish - Terminate - Inspect - Test

Watch the Video

TEST & TESTERS

- **The last step of CSTT system solution**

- **Verification**
- **Certification**

See DataComm Tester Presentation

More detailed information, PLS look at Catalog part F

Questions?