Neutrik etherCON®
Guide for U.S. system integrators and installers

For specifying or installing etherCON other than in PCB (printed circuit board) mounting applications, this document gathers just about everything you need to know.

Throughout this document, in order to clarify part compatibility across the three Neutrik etherCON families:

- etherCON Cat 5 and etherCON Cat 6A (which can intermate together) are color coded blue.
- etherCON Cat 6 (which does not intermate with the other two etherCON families) is color coded red.

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I. Intersecting the three different etherCON families

1. How Neutrik’s three etherCON families do (and do not) intermate

etherCON Cat 5 and etherCON Cat 6A use a latch release mechanism. All of the products in the etherCON Cat 5 and etherCON Cat 6A series intermate freely; the lowest-rated connector determines the performance ceiling.

etherCON Cat 6 uses a completely different push-pull mechanism which is not compatible with etherCON Cat 5 and etherCON Cat 6A. etherCON Cat 6 is an island unto itself.

(Since all etherCON chassis connectors accept RJ45 connectors at the front, you can always overcome unexpected etherCON incompatibilities by using a standard, RJ45-equipped cable.)
2. Compatibility chart of cable carriers and chassis connectors

- In the following chart, **etherCON Cat 6**’s red color is a reminder that it will not intermate to **etherCON Cat 5** and **etherCON Cat 6a**.
- As discussed later in this document, all **NE8MC(-1)(-B)** parts were discontinued in early 2019.

<table>
<thead>
<tr>
<th>Neutrik cable carrier / cable connector part numbers</th>
<th>Terminate to the following category cables</th>
<th>Should cable be bare or pre-terminated with an RJ45?</th>
<th>Does part include a compatible RJ45 connector?</th>
<th>Notes</th>
<th>Meting chassis connector families</th>
<th>Cable to-cable couplers (with ingress protection ratings)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cat 5, Cat 6a:</strong> NE8MC, NE8MC-B NE8MX, NE8MX-1</td>
<td>Any cable up to 8 mm OD; generally used with Cat 5e</td>
<td>Pre-terminated or bare cable</td>
<td>No</td>
<td>Clamshell rear-boot wraps around the cable: Nickel and black finish options.</td>
<td>etherCON Cat 5 or etherCON Cat 6a (Performance limited to lowest-rated connector)</td>
<td>NE8FF Cat 5. No IP rating. NE8FFGX-W Cat 6a. No IP-rated protection.</td>
</tr>
<tr>
<td><strong>Cat 5, Cat 6a:</strong> NE8MC-1, NE8MC-B-1 NE8MX-1, NE8MX-B-1 NE8MX-TOP</td>
<td>Any cable up to 8 mm OD; generally used with Cat 5e</td>
<td>Bare cable only</td>
<td>No</td>
<td>One-piece boot slides over the bare cable prior to RJ45 termination: Chromium and black finish options, plus TOP option for IP 65 weather resistance</td>
<td>etherCON Cat 5 or etherCON Cat 6a (Performance limited to lowest-rated connector)</td>
<td>NE8FF Cat 5. No IP rating. NE8FFGX-W Cat 6a. No IP-rated protection.</td>
</tr>
<tr>
<td><strong>Cat 6:</strong> NE8MC6-MO</td>
<td>Cat 6 cable</td>
<td>Bare cable only</td>
<td>Yes: a standard shielded RJ45 is included</td>
<td>Acceptable cable OD range is limited to 5.5mm to 6.5mm. <strong>NE8MC6-</strong> pre-terminated cable assemblies also available.</td>
<td>etherCON Cat 6 only: NE8FDY-C6 and NE8FDY-C6-B IDC-termination chassis connectors</td>
<td>None</td>
</tr>
<tr>
<td><strong>Cat 6a:</strong> NE8MX6, NE8MX6-B NE8MX6-T, NE8MX6-B-T</td>
<td>Cat 6A cable</td>
<td>Bare cable only</td>
<td>Yes: a shielded RJ45 is included which requires specific pliers to terminate</td>
<td>While these connectors will also work with etherCON Cat 5, they are typically overspecified for Cat 5 applications due to higher cost. Nickel and black finish options. -T versions are for wire insulation diameters ≤ 1.1 mm.</td>
<td>etherCON Cat 5 or etherCON Cat 6a (Performance limited to lowest-rated connector)</td>
<td>NE8FX6-W Cat 6a. IP 65 protection. NE8FF Cat 5 (which is typically underspecified for these connectors). No IP-rated protection.</td>
</tr>
</tbody>
</table>
II. Selecting chassis connectors, wallplates, couplers

3. Most popular etherCON chassis connectors for installers

**etherCON Cat 5**
The most popular **etherCON Cat 5** chassis connectors for installations in the U.S. are:

- **Feedthrough** (RJ45 socket in the rear):
  - NE8FDP (nickel), NE8FDP-B (black), NE8FDP-R (nickel, right angle), NE8FDP-R-B (black, right angle).

- **110-blade punchdown**:
  - NE8FDV-Y110 (nickel),
  - NE8FDV-Y110-B (black).

These **etherCON Cat 5** connectors have a main body with a PCB on it. Place this main body **behind** the rack panel. Additionally, the connectors have a front flange. Place this flange in **front** of the rack panel. Then, screw the flange through the rack panel into the main body using the included screws. (Screws are not included with “-D”, bulk-packed connectors. For those products, purchase E-SCREW1-12NI [nickel] or E-SCREW1-12 B [black] separately.)

**etherCON Cat 6**
Only two chassis connectors are offered for **etherCON Cat 6**—the **IDC-termination** NE8FDY-C6 (nickel) and NE8FDY-C6-B (black).

**etherCON Cat 6A**
**etherCON Cat 6A** offers two basic termination options. The feedthrough connectors are more popular.

- **Feedthrough** (RJ45 socket in the rear):
  - NE8FDX-P6 (nickel), NE8FDX-P6-B (black), and NE8FDX-P6-W (IP 65 weather resistant).

- **IDC termination**:
  - NE8FDX-Y6 (nickel), NE8FDX-Y6-B (black), and NE8FDX-Y6-W (IP 65 weather resistant).
4. Wallplates

Neutrik USA offers 108E and 208E. These are standard wall plates that have either one or two etherCON Cat 5 NE8FDP connectors installed, respectively.

The two screws required for fastening the wallplate are included.

Neutrik does not offer the wall plates on their own, without connectors installed; nor are these available in black. The two part numbers listed here are Neutrik’s only options. For any other configurations, engage a third-party panel vendor.

5. Inline (cable-to-cable) couplers

- For etherCON Cat 5, Neutrik offers the NE8FF coupler.

- For etherCON Cat 6, no coupler is available.

- For etherCON Cat 6A, Neutrik offers the NE8FFX6-W coupler, which adds IP 65 weather resistance and performs at Cat 6A data rates of up to 10 Gbps.

Both NE8FF and NE8FFX6-W accept etherCON Cat 5 and etherCON Cat 6A cable ends. The lowest-performing component determines maximum overall system performance.
III. Shielded twisted pair (STP) cabling; PoE (Power over Ethernet); color coding options

6. Using etherCON with shielded twisted pair (STP) cable

All etherCON products—100% of them—work perfectly well with either unshielded (UTP) or shielded (STP) cable.

**Chassis connectors**
All Neutrik etherCON chassis connectors properly receive and pass through shield signals from STP cables.

**Cable connectors and cable connector carriers**
etherCON Cat 6 and etherCON Cat 6A cable connectors include shielded RJ45s which properly pass the shield signal from STP cables. These connectors also work fine with unshielded (UTP) cables.

For etherCON Cat 5 cable connector carriers, choose third-party shielded RJ45s if you wish to pass the shield signal from STP cables.

7. Using etherCON in PoE (Power over Ethernet) applications

All etherCON products are compliant to both PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at Type 2). Thus, they are all suitable for Power over Ethernet (PoE) applications.
8. Color coding options

All etherCON D-size **chassis connectors** other than the weather-resistant NE8FD*-SE and NE8FD*-TOP (etherCON Cat 5) and NE8FDX*-W (etherCON Cat 6) can be color coded using DSS-* lettering plates (10 colors) or SCDP* colored gaskets (6 colors; SCDP* requires wider horizontal spacing on the panel):

<table>
<thead>
<tr>
<th>Color</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>0</td>
</tr>
<tr>
<td>Brown</td>
<td>1</td>
</tr>
<tr>
<td>Red</td>
<td>2</td>
</tr>
<tr>
<td>Orange</td>
<td>3</td>
</tr>
<tr>
<td>Yellow</td>
<td>4</td>
</tr>
<tr>
<td>Green</td>
<td>5</td>
</tr>
<tr>
<td>Blue</td>
<td>6</td>
</tr>
<tr>
<td>Violet</td>
<td>7</td>
</tr>
<tr>
<td>Grey</td>
<td>8</td>
</tr>
<tr>
<td>White</td>
<td>9</td>
</tr>
</tbody>
</table>

**Cable connectors** can be color coded as follows:

<table>
<thead>
<tr>
<th>Cat 5, Cat 6a:</th>
<th>NE8MC, NE8MC-B</th>
<th>BSE*- colored bushings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NE8MX, NE8MX-1</td>
<td>These bushings have a hole that is wide enough to slip over the RJ45 which is already attached to the cable.</td>
</tr>
</tbody>
</table>

**Retrofitting existing etherCON terminations:** The default black bushing can always be replaced. Unscrew the housing to do so.

<table>
<thead>
<tr>
<th>Cat 5, Cat 6a:</th>
<th>NE8MC-1, NE8MC-B-1</th>
<th>BSX*- colored boots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NE8MX-1, NE8MX-B-1</td>
<td>These boots have small holes to slide over the cable.</td>
</tr>
</tbody>
</table>

**Retrofitting existing etherCON terminations:** The small holes in these boots do not allow them to be retrofitted after the connector has been terminated. Rather, for retrofitting, you must cut off the RJ45, replace the default black boot, and terminate the cable again.

<table>
<thead>
<tr>
<th>Cat 5, Cat 6a:</th>
<th>NE8MX-TOP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No color coding available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat 6:</th>
<th>NE8MC6-MO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No color coding available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cat 6a:</th>
<th>NE8MX6, NE8MX6-B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NE8MX6-T, NE8MX6-B-T</td>
</tr>
</tbody>
</table>

| XXR*- (colored) and XXCR (clear) rings |

**Retrofitting existing etherCON terminations:** The default black ring can always be replaced. Unscrew the housing to do so.
IV. Weather/environmental resistance options

9. Weather resistance options in the mated condition

**etherCON Cat 5** offers weather resistance as follows:

- For **IP 54** weather resistance, choose the NE8MX-TOP cable connector along with either
  - (a) a chassis connector with the -SE suffix or
  - (b) the SE8FD sealing kit.

- For **IP 65** weather resistance along with UV protection per UL 50 E, choose the NE8MX-TOP cable connector along with either
  - (a) a chassis connector with the -TOP suffix or
  - (b) the SE8FD-TOP sealing kit.

**etherCON Cat 6** is **IP 65** weather resistant in all configurations.

**etherCON Cat 6A** offers **IP 65** weather resistance when using:

- either the **etherCON Cat 6A** cable connectors (NE8MX6*) or NE8MX-TOP along with
- **etherCON Cat 6A** chassis connectors carrying the -W suffix—either NE8FDX-P6-W or NE8FDX-Y6-W.

*What the IP ratings mean:*

IP 54 = Protected against dust and splashing water.
IP 65 = Dust tight and protected against water jets.
10. Weather resistance accessories for the unmated condition

Chassis connectors
A number of different weather-resistant options for chassis connectors are available. These include the following. Check your particular chassis connector’s available accessories at http://www.neutrik.us.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Image</th>
<th>IP rating: notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCCD-W</td>
<td><img src="image1.png" alt="Image" /></td>
<td>IP 65.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UV rated plastic for extended use outdoors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self closing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Requires additional vertical space above the connector.</td>
</tr>
<tr>
<td>SCDX-*</td>
<td><img src="image2.png" alt="Image" /></td>
<td>IP 42.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>All plastic, with integrated hinge.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Available in multiple colors as p/n:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCDX - (black).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCDX-S-GREEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCDX-6-BLUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCDX-9-WHITE</td>
</tr>
<tr>
<td>SCF</td>
<td><img src="image3.png" alt="Image" /></td>
<td>Not IP rated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lanyard can be attached to etherCON connector’s fastening screw.</td>
</tr>
<tr>
<td>NDF</td>
<td><img src="image4.png" alt="Image" /></td>
<td>IP 5x.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part of Neutrik’s dummyPLUG series.</td>
</tr>
</tbody>
</table>

Cable connectors and cable carriers:
etherCON cable connectors and carriers other than the etherCON Cat 6 NE8MC6-MO cable connector can be protected by RUBBER-CAP-CABLE.

Note that RUBBER-CAP-CABLE is not typically deployed.

No protection option is available for NE8MC6-MO.
V. Choosing amongst and identifying etherCON families

11. Choosing between etherCON Cat 5 and etherCON Cat 6 / etherCON Cat 6A

Cat 5x solutions are appropriate for data rates of up to 1 Gigabit (1 Gbps). Cat 6x solutions are appropriate for data rates of up to 10 Gigabits (10 Gbps).

In the AV world, this often divides into:

- **Audio-only devices and protocols** (Dante, Ravenna, etc.). In audio applications, data rates are relatively low. etherCON Cat 5 is typically appropriate.

- **HDBaseT, AVB and similar devices and protocols**. These protocols carry video or audio along with audio, control data, intercom, etc. The devices used for this signal transport most often (but not always) operate at Cat 5x data rates, making etherCON Cat 5 appropriate.

However, the general trend for these protocols—including recommendations from many manufacturers of active equipment in this space—is to future-proof these deployments by installing Cat 6x cabling and either etherCON Cat 6 or (more typically) etherCON Cat 6A, where budgets allow.

- **Uncompressed video or video & audio transport devices and protocols**. Where uncompressed HD (3G SDI) video and, increasingly 4K and 8K video are transmitted, only etherCON Cat 6 and etherCON Cat 6A offer sufficient throughput.

Consider your current and future use cases, including associated cabling. If your installation will never need data rates higher than 1 Gbit, there may be no need to spend more money for higher-performing solutions.
12. Deciding between etherCON Cat 6 and etherCON Cat 6A

When presented with the choice, etherCON Cat 6A is generally recommended over etherCON Cat 6.

The most significant advantages of etherCON Cat 6A over etherCON Cat 6 are that etherCON Cat 6A:

- is downward compatible with etherCON Cat 5 (the lowest-rated component determines the performance ceiling),
- offers full 10 Gbps throughput at up to 100 meters (Ethernet Cat 6A performance),
- is less expensive as a system,
- is easier to terminate,
- works with a wider range of cable,
- offers more chassis connector termination options,
- offers more cable connector options,
- offers cable connector color coding options,
- offers an inline (cable-to-cable) coupler (NE8FFX6-W), and
- allows you to use your own RJ45 along with an etherCON NE8MX(-B)(-1) or NE8MX-TOP cable connector carrier if you prefer.

On the other hand, the most significant advantages of etherCON Cat 6 over etherCON Cat 6A are:

- etherCON Cat 6 has a unique geometry which will keep it from accidental intermatting with other etherCON Cat 5 and etherCON Cat 6A installations (so long as a standard RJ45 is not plugged into the front of those chassis connectors).

- Neutrik offers pre-terminated, shielded cable assemblies for etherCON Cat 6, either with the rugged etherCON cable connector carrier on both ends (e.g. p/n NKE6S-1) or with the rugged cable connector carrier on one end and a standard shielded RJ45 on the other end (e.g. p/n NKE6S-1-WGC). By contrast, for etherCON Cat 5 and etherCON Cat 6A, Neutrik does not offer pre-terminated cable assemblies: such assemblies either need to be built or procured from a non-Neutrik cable assembler.
13. Determining etherCON Cat 6, Cat 6A, and Cat 5 by Neutrik part number and through visual identification

All Neutrik etherCON chassis connector and cable connector/cable carrier part numbers begin with “NE8”. etherCON Cat 6 pre-terminated cable assembly part numbers begin with “NKE6S”.

If the part number includes either “C6” or “NKE6S”, then it is etherCON Cat 6:

- NE8MC6-MO cable connector;
- NE8FDY-C6 and NE8FDY-C6-B chassis connectors;
- NKE6S-* pre-terminated cable assemblies.

- VISUAL IDENTIFICATION: etherCON Cat 6 chassis connectors have “CAT6” molded into the top center of the front metal flange; the etherCON Cat 6 cable connector has a distinctive geometry and appearance.

If the part number includes both an “X” and a “6”, then it is etherCON Cat 6A:

- NE8MX6(-B)(-T) cable connectors;
- NE8FDX-P6(-B)(-W) and NE8FDX-Y6(-B)(-W) chassis connectors.

- VISUAL IDENTIFICATION: etherCON Cat 6A chassis connectors and cable connectors have “C6A” molded into their metal housings.

If the part number does not include “C6,” “NKE6S”, or both an “X” and a “6”, then it is etherCON Cat 5:

- NE8MX(-B)(-1) cable connectors;
- NE8MX-TOP cable connectors;
- the discontinued NE8MC(-B)(-1) cable connectors;
- NE8FAH, NE8FBV, NE8FDP*, NE8FDV-Y*, etc. chassis connectors.

- VISUAL IDENTIFICATION: Unlike etherCON Cat 6 and etherCON Cat 6A parts, there is no text on etherCON Cat 5 parts to indicate their series.
VI. Cable connector / cable carrier topics

14. Standard versus Tiny (-T) etherCON Cat 6A cable connectors
Neutrik offers four etherCON Cat 6A cable connectors— NE8MX6 (nickel) and NE8MX6-B (black), as well as NE8MX6-T (nickel) and NE8MX6-B-T (black). The “-T” suffix stands for “tiny”: this is for cables in which each individual wire’s insulation diameter is ≤ 1.1 mm. For such small wire insulation diameters, the IDC termination block of the standard connectors may not pierce the wire insulation and terminate to the wire properly. Therefore, the “-T” connectors are offered with an alternate termination block for this smaller wire.

Check your cable datasheet for the wire insulation diameter. Contact your cable manufacturer if it does not provide this important data.

15. Spare parts for etherCON Cat 6A cable connector re-termination
8MX6-B and 8MX6-T (Tiny) are available for re-terminating NE8MX6* cable connectors.

16. etherCON NE8MC(-B)(-1) cable connector carriers have been discontinued, replaced by NE8MX(-B)(-1) and NE8MX-TOP
In February 2019, Neutrik discontinued the long-standing NE8MC, NE8MC-B, NE8MC-1, and NE8MC-B-1 etherCON carriers. Inventory is limited to stock on hand at Neutrik USA and Neutrik distributors.

The successor parts carry the same part numbers, only with an “X” rather than a “C”: NE8MX, NE8MX-B, NE8MX-1, and NE8MX-B-1.

These new NE8MX(-B)(-1) parts feature a different housing design along with a new strain-relief chuck. The new chuck incorporates guidance for the RJ45 directly into the plastic, dramatically streamlining assembly and eliminating the small plastic pieces that the prior-generation parts required in order to hold the RJ45 in place.

Another new part is NE8MX-TOP. NE8MX-TOP is IP 65 rated (when mated to an etherCON Cat 5-TOP chassis connector) and UV resistant per UL 50E. NE8MX-TOP is the recommended mating connector for etherCON TOP chassis connectors.

Weather resistance note
The only NE8MX* part with IP-rated weather resistance is NE8MX-TOP.

Unlike the prior hard-boot NE8MC-1 and NE8MC-B-1, which were weather resistant to IP 54 when mated, the new hard-boot NE8MX-1 and NE8MX-B-1 are not IP rated in either the mated or unmated condition.
VII. Important assembly considerations

17. Within etherCON cable connector carriers, use an approved RJ45
Most—but not all—RJ45s fit well into the NE8MX(-B)(-1)(-TOP) and NE8MC(-B)(-1) cable connector carriers. To ensure compatibility, choose an RJ45 from Neutrik’s “etherCON compatible RJ45 connectors” document (available on the Neutrik website). Alternatively, your Neutrik distributor may be able to recommend RJ45s which they know fit successfully inside Neutrik’s etherCON cable connector carriers.

18. Cut off the plastic locking tab of 3rd-party RJ45 connectors assembled into etherCON cable connector carriers
You must cut the little plastic locking tab off of RJ45 connectors assembled into the etherCON cable connector carriers NE8MX(-B)(-1)(-TOP) and NE8MC(-B)(-1).

This is because, when the etherCON cable connector carrier is mated to a chassis connector, it is the outer metal housing that performs the locking, not the RJ45 connector’s locking tab.

If the RJ45’s locking tab were not cut off, it would lock into the mating socket upon mating. The tab would remain locked there as you attempted to unmated the cable carrier. Were that to happen, the only way to unmate the cable carrier would be to pull so hard that you overcame the force of the RJ45’s locking tab—an exercise that, in addition to being unpleasant, would prematurely wear down the components.

The one exception to this requirement is the RJ45 included with the etherCON Cat 6 NE8MC6-MO cable connector. NE8MC6-MO’s RJ45 positioning components capture the RJ45’s locking tab in a depressed position. Therefore, the locking tab should not be cut off of the RJ45 within NE8MC6-MO. (This is clear from the NE8MC6-MO assembly instructions.)

19. Use an appropriate tool to terminate etherCON Cat 6A IDC contact cable connectors and chassis connectors
All etherCON Cat 6A, NE8MX6(-B)(-T) cable connectors—and the etherCON Cat 6A, IDC-contact chassis connectors NE8FDX-Y6, NE8FDX-Y6-8, and NE8FDX-Y6-W—must be terminated using a parallel-press plier with smooth jaws. Neutrik offers HX-CAT6A for this purpose. You can also purchase this tool as Knipex 86 03 0150.

Use of this tool or a similar one is mandatory. Using a diagonal plier or a plier with serrated jaws may not result in sufficient force being evenly applied across all eight wire contacts.
VIII. General Ethernet topics

20. Differences between Category 6 cable and Category 6A cable

There are significant construction differences between Category 6 and Category 6A cabling. Most notably, Cat 6A cable is constructed with a tighter twist plus an internal separator which keeps the wire pairs away from one another at a defined distance.

These features allow Category 6A cabling to transmit signals at double the electrical frequency of Cat 6 (500 MHz for Cat 6A versus 250 MHz for Cat 6). Additionally, Cat 6A cabling can carry 10 Gbps signals further than Cat 6—100 meters for Cat 6A versus only about 37-55 meters for Cat 6. Category 6A cabling generally costs significantly more as a result.

How does Cat 6x cabling achieve a 10 Gbit bit rate from a 250 MHz or 500 MHz signal frequency?

In twisted-pair digital signaling, maximum bit rates are typically higher than maximum frequencies. This is accomplished by employing multiple, simultaneously transmitting wire pairs along with a signal encoding scheme such as pulse amplitude modulation (PAM). Between the multiple wire pairs and the encoding, the 250 / 500 MHz frequencies of Cat 6 and Cat 6A cables can transmit bit rates of up to 10 Gbps.

Category 6A / 6x connectors must be able to accommodate the 500 MHz frequency of Cat 6A cable.
21. Using Neutrik etherCON with Category 7 cable

As you can see in the photo on the prior page, Category 7 cabling dispenses with the internal separator used in Cat 6A cabling while adding a foil shield around each of the four wire pairs in addition to the overall shield. This results in there being five distinct shields within the cable, all of which should tie to a common ground.

Generally speaking, the most notable value to using Category 7 cabling is not increases in speed or distance. Rather, it is Cat 7’s increased immunity to electrical interference in heavy RF environments.

Category 7 cabling can be terminated to Category 6A connectors. Neutrik recommends the use of etherCON Cat 6A connectors whenever Cat 7 cable is deployed.

22. The meaning of the subscripted “A” in “Cat 6A”

Unusually for such an important I.T. initiative, when Cat 6A was being defined, the American (TIA/EIA) and European (IEC/ISO/EN) standards bodies disagreed on performance parameters so significantly that they were unable to harmonize their specifications.

The result was that the world now has two simultaneously active standards—“Cat 6A” in the U.S. and “Cat 6A” in Europe. While the standards have much in common, the European “Cat 6A” ("Class E A") standard is stricter and better performing than the American “Cat 6A” standard, particularly in regard to crosstalk at higher frequencies.

Neutrik’s products meet the higher, "Cat 6A" European standards. “Cat 6A” is fully compatible with “Cat 6A”: "Cat 6A" can be considered as simply a better performing “Cat 6A.”

You may want to discuss the difference between "Cat 6A" and "Cat 6A" with your equipment vendors. In many cases, there will be no functional difference between the two standards (or your vendors will not be aware of how the difference affects their equipment; in those cases, the distinction may be unimportant). However, in other cases, the differences may be relevant.

23. The difference between “cable connector carriers” and “cable connectors”

Neutrik calls NE8MC, NE8MC-B, NE8MC-1, NE8MC-B-1, NE8MX, NE8MX-B, NE8MX-1, NE8MX-B-1, and NE8MX-TOP “cable connector carriers,” not “cable connectors.” This is because these products require that a third-party RJ45 be terminated to the cable. That third-party RJ45 is, technically speaking, the “connector”; it is “carried” within the Neutrik part.

By contrast, NE8MC6-MO and NE8MX6(-B)(-T) integrate and include RJ45 connectors. That makes NE8MC6-MO and NE8MX6(-B)(-T) true “cable connectors.”