

RE: Protective Coatings on Brass Parts

General

In our continuing effort to provide the finest products, we have performed extensive tests to determine the best way to protect the finish of all Mystery Electronics parts. Every consideration is made to allow the customer to enjoy the benefit of our products for many years. The brass versions of our product can be ordered with a proprietary protective treatment or an optional permanent protective coating applied. We acknowledge that some form of surface protection is needed. The proprietary protection method we furnish, as well as our reasons for selecting this method, are explained below. Please contact the factory if you have further questions. As always, we invite your comments.

Test Results

Our tests indicate that the long-term appearance of a natural brass luster is best achieved and maintained when a protective coating is not applied. For this reason Mystery Electronics brass parts do **NOT** have any type of "permanent" protective coating such as lacquer, polyurethane, or similar material applied. Such permanent coatings impair restoration of the finish when oxidization occurs.

Application Conditions

When brass parts have a permanent protective coating applied, and are installed in a location or application that receives little or no wear, they will retain a new look for an indefinite time period provided certain conditions are met. These conditions mandate that no humidity be present at the time of coating application, no humidity or adverse atmospheric chemical agents are present in the location where the part is to be installed, and that the part can maintain the continuity and integrity of the overall coating without abrasion. If the same parts are installed where abrasion or wear does occur, they too will show discoloration in a very short time, regardless of any protective coating. The coating usually wears off in some areas but not uniformly over the whole part, resulting in a splotched or "two-tone" appearance.

Normal Oxidization

Our tests demonstrate that routine shading of brass from a brite finish to a slightly yellowed finish is due to oxidization of the metal. This is considered normal for brass. Continued uniform yellowing causes the part to take on an overall cast. This too is normal when the metal is exposed to the air without oxidization protection. For many applications this is not considered to be a problem especially where the part receives enough abrasion thru regular use to retain the "brite" effect. It is when oxidization is excessive or not uniform that the subsequent discoloration becomes objectionable. Since discoloration of the "two-tone" variety will occur under the best of "permanent" protective coatings, when the surface is scratched or rubbed thru regular use, removal of even a minor discoloration becomes a major task, as the entire protective coating must be removed.

Floor Mounted Locations

It is important to consider that our products are designed to be used on floors and similar areas where abrasion and traffic are likely. To avoid a condition that eventually deteriorates to the aforementioned "two-toned" look, all Mystery Electronics brass parts are buffed to a uniform finish. The parts are then polished with a urethane based, silicone resin, non-wax, protective polish. This treatment method prevents discoloration during shipment/installation and minimizes oxidization throughout the life of the product. We have selected this method to keep the part looking new for the longest time period possible. As opposed to the aforementioned permanent protection problem, our method allows maintenance of the product to its original "new" appearance luster without extensive effort.

Installation

Fingerprints are caused by humidity reacting with the oils of the skin while in contact with the part. Our proprietary treatment prevents fingerprints under most circumstances. In the event that fingerprints do occur, they can be easily removed by rubbing the affected area with tissue paper. Using household baking flour or cornstarch on a tissue or soft rag also works.

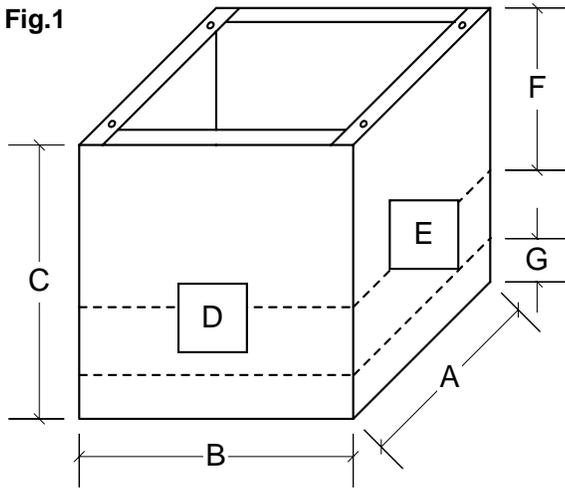
Maintenance

We recommend an automobile "car polish" or household metal polish that contains some form of wax or metal protective formula be used for later touch-up maintenance if needed. Avoid polishes made of abrasive compounds only, as they leave no moisture protection after application. Certain polishes may have stronger abrasive qualities, so caution is advised. If the brass finish is scratched, we recommend that a fine grade Scotchbrite pad be used in lieu of heavy abrasives for a more uniform result.

Surface protection must be reapplied after maintenance to afford long term protection performance. Results approximating our proprietary treatment can be had by using a silicone polymer auto polish such as Nu-care, Finish 2001, or similar brand car polish available at most auto parts and discount stores. We suggest that ANY polish be tried out on a small unseen area (such as the underside of the door) before applying larger amounts. The use of regular kitchen cleanser or other strong abrasive is NOT recommended.

RE: Installation Instructions for BB1000, BB2000 and BB3000 Backboxes

Important Note:
 Mystery Electronics backboxes are UL listed and conform to all applicable N.E.M.A. Standards. While locally available boxes may seem acceptable as substitutes, there are differences in certain critical dimensions. For a fast and easy installation and to avoid costly onsite rework, the user is strongly cautioned to use only Mystery Electronics backboxes. They are proven to be the lowest cost alternative.



Dimensions: nominal in inches - see also footnotes below

	A	B	C	D	E	F ₁	G ₂
BB1000	6	6	6	◆	◆	4.5	1.25
BB2000	12.5	6	4	◆	★	2.5	1.25
BB2000D₃	12.5	6	6	◆	★	2.5	1.25
BB3000	12.5	12	4	★	★	2.5	1.25
BB3000D₃	12.5	12	6	★	★	2.5	1.25

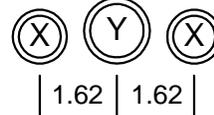
Knockout patterns: Trade size - patterns same on opposite sides.

X = 1/2 & 3/4"

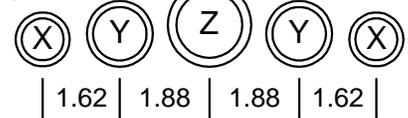
Y = 3/4 & 1"

Z = 1 & 1 1/4"

◆ pattern



★ pattern



Notes:

- 1) Low voltage conduits below line indicated by **F** - see Fig.1
- 2) R Option (120VAC duplex receptacle) conduit below line indicated by **G** - use **X** k.o.'s only - see Fig.1
- 3) Conduits to 3" use extra depth backboxes - bottom of k.o. at .4" from bottom of box
- 4) Backbox shall be mounted such that cover of box shall be not less than 1/2" or not more than 1" below finished floor to allow proper depth to mount appropriate FMCA series floor box.
- 5) All conduits shall enter backbox at or below the minimum distances indicated at 'F' & 'G'. - see Notes 1 & 2
- 6) On projects where fork lifts and other heavy equipment are present during construction, cover the backbox with adequate material (steel plate or equal) affording maximum protection as required.
- 7) Backboxes installed in floating floors require special consideration – contact factory for details.

Wooden construction - see Fig.2

As floor box may be subjected to long-term traffic and occasional heavy loads, it is strongly recommend that firm attachment of the backbox to the framing be made with four (4) each #8 or larger screws fastened on at least two (2) planes (sides), minimum. Nails will not offer long term installation integrity as they work loose over a very short time period. Additional blocking or framing may be required to provide solid attachment of the backbox as per Notes & details herein.

When placement adjacent to structural framing is not possible, blocking must be placed at the sides of the hole that is cut for the backbox. Blocking of 1" x 2" minimum must be screw attached to the floor decking on each side of the hole. Blocking should be a few inches longer than the dimension of the hole on the two sides that are parallel to the hinge of the FMCA unit. Feed each strip down into the cutout hole and pull it up against the underside of the floor. Place #8 or larger flat head wood screws on 3" centers thru the floor 1" back from edge of hole along each side into the blocking. Secure backbox to blocking as above. When FMCA unit is installed, the floor will be clamped securely between the FMCA cover and the blocking strip.

Fig.2: Wood Floor

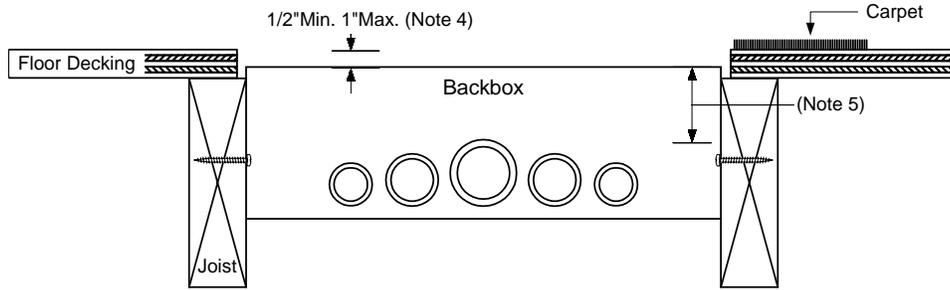
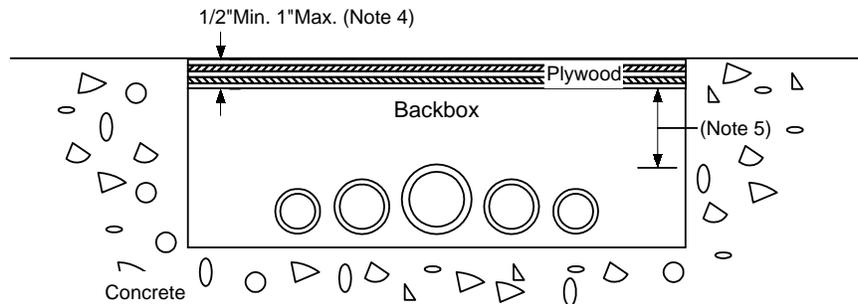


Fig.3: Concrete Floor



Concrete construction - see Fig.3

The Mystery Electronics FMCA Series are not recommended for unprotected outdoor or indoor wet, damp or severe weather locations. Certain local building codes may require that the backbox be coated with pitch for below ground applications. This can be done by spraying the outer surface of the box with automotive undercoating material available in spray cans from most auto parts or discount department stores (Wal-Mart, etc.). It is additionally advised that the contractor close all open cracks with packaging tape, duct tape, or similar to prevent concrete slurry from seeping into backbox during the concrete pour.

To automatically adjust for proper backbox depth before concrete is poured, attach a piece of 1/2" plywood of the same dimension as the backbox to the top of the box with screws. Screed concrete flush to the top of the plywood. This will result in the box being at the proper depth of 1/2" below the finished concrete surface as per Notes & details herein. Adjust depth accordingly when composite floor structures and materials are built over concrete.

R Option requirements - see also Note 2

When an R option (120 VAC duplex receptacle) is specified, the power circuit in a 1/2" conduit is brought into the side of the backbox at any of the 1/2" knockouts, pre-punched for the purpose (consult backbox cut sheet). The R option of the FMCA unit comes with all needed hardware and is equipped with a 16" flexible metallic conduit terminated with a straight flex connector. This pigtail is then connected to the power conduit with a 1/2" rigid coupling.

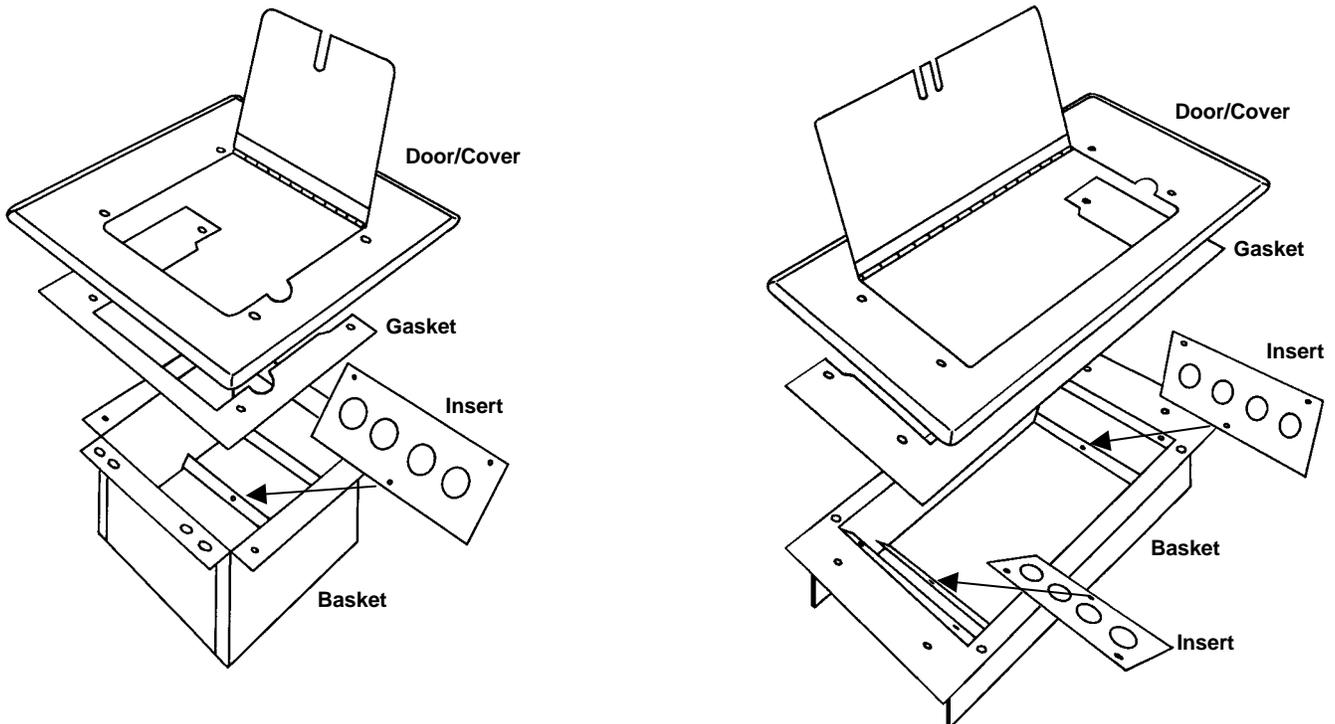
Bringing the power conduit into the bottom of the backbox should be avoided if possible, as extreme care is needed to assure the proper clearances for the FMCA unit are maintained. When this is the only alternative, the straight flex connector must be replaced with a 90-degree flex connector and the aforementioned 1/2" rigid coupling must be cut down to 1/2" in length to provide proper clearance for the FMCA unit. The short threaded ring in the center of a 1/2" 'Ericson' (Appleton EC50 or equal) three piece coupling or a 3/4 x 1/2 reducing bushing can usually be used as a substitute.

A 1/2" conduit for the power circuit is recommended. A 3/4" conduit can be allowed, provided a 1/2 x 3/4 male adapter is used to mate the power conduit to the backbox. This will eliminate extensive field modification of the R option during installation of the FMCA unit.

Leave 24" of the power circuit conductors in the backbox at rough-in to allow connection to R option pigtail.

RE: FMCA 1000/2000 series Installation Instructions**Important Note:**

Mystery Electronics backboxes are UL listed and conform to all applicable N.E.M.A. Standards. While locally available boxes may seem acceptable as substitutes, there are differences in certain critical dimensions. For a fast and easy installation and to avoid costly onsite rework, the user is strongly cautioned to use only Mystery Electronics backboxes. They are proven to be the lowest cost alternative.

**General:**

These instructions are provided to assist in the installation of all FMCA1000 and FMCA2000 series units, and are precise for most routine applications. Further technical support or application-specific instructions are available from our Technical Support Department. The FMCA series includes a variety of Insert Panel types to accommodate most applications with little or no modification. The purpose of this variety is to reduce installation labor and preparation work as much as possible. Laser cut custom inserts are also available or use the cost saving MultiPunch feature to attain custom results as detailed below.

Careful consideration and pre-planning should be given to both the immediate and long-term conditions of the proposed installation. FMCA units are typically located where they might be walked on, rolled over, and generally abused. Every effort should be made to keep the FMCA units out of the path of heavy traffic.

The Mystery Electronics FMCA satin black series 1000 or FMCA satin black series 2000 are not recommended for unprotected outdoor or indoor wet, damp or severe weather locations. The FMCA1100 and FMCA2100 series with solid brass Door/Covers, along with our All Weather Enclosures (AW series) are recommended for outdoor applications.

Backbox:

The backbox is an optional item and not furnished with the FMCA kit. Consult TechNote TN12 for backbox installation details. A backbox is required for all conduit system installations. The backbox is optional when a conduit system is not installed but is recommended to maintain secure integrity and ease of the installation. For applications where moderate to heavy traffic or movement of equipment or materials (pianos, scenery, props, "road cases", etc.) is expected, a backbox is strongly recommended.

Run all wiring lines into the backbox before proceeding to mount the Basket. Connector Insert Panel openings in the Basket of all models are large enough to allow most connectors to be mounted on the panel, have connections wired and still be fed thru the Basket. This allows off-site prefabrication. It also effectively prevents inadvertently "getting ahead of oneself".

Basket installation with backbox:

For backbox applications, align the countersunk holes in the flange of the Basket with the corresponding holes in the top flange of the backbox and install the 1/4" flat phillips head self-tapping screws. The self-tapping screws furnished with the FMCA are designed to thread these holes readily. Make major adjustments for variations in site conditions (i.e. backbox depth below floor, carpet thickness, hardwood floors routed to flush mount the Door/Cover, etc.) by raising or lowering the 1/4" Basket mounting screws. Further adjustment may be required before attaching the Door/Cover to the Basket. **CAUTION:** *The self-tapping screws furnished with the FMCA hardware kit may not provide secure mounting of the FMCA if a backbox other than the appropriate Mystery Electronics backbox is used.*

Basket installation without backbox:

Use the Basket as a template and cut the opening 1/8" larger than bottom of the FMCA Basket. Substrate failure can occur in particleboard, plywood and even hardwood floors due to the location of the Basket mounting holes at the edge of the cut opening. To prevent this, solid wood blocking strips (1x2 is adequate) must be fastened beneath each side of the cut opening below each Basket mounting flange (two sides only). The wood backing strips should be cut 2" longer than the Basket flange. Place each strip thru the cut opening and pull it up against the underside of the floor. Center the strip along the edge of the opening and fasten it in place with long wood screws from above. TwinFast type screws, having aggressive threads, work very well here. This provides a ledger / backing strip for the Basket to be fastened to. Mount the Basket with four (4) wood screws (not furnished) thru the floor decking and into the backing strip. This effectively clamps the floor between the FMCA Basket flange(s) and the backing strip. Install wiring as required and route wiring lines thru the insert panel opening(s) of the Basket.

Door/Cover:

Place open side of U-shaped Gasket under the hinge side of the Door/Cover, lining up notch on gasket with finger notch on Door/Cover. Secure the Door/Cover to the Basket with four (4) flathead socket screws, passing thru holes in Gasket. All FMCA units mount to the respective backbox similar to the way a duplex power receptacle mounts in a single gang box. **When properly installed, the Door/Cover should compress the Gasket and "seat" directly onto the Basket without any gap between the Door/Cover and the Basket or the Door/Cover and the floor.** For carpet installations, further minor adjustment should be made by raising or lowering the Basket until Door/Cover "seats" properly as per above. The integral carpet trim flange should pull down into carpet snugly without causing any visible deflection of the Door/Cover. If the Door/Cover exhibits any deflection, raise the Basket until deflection no longer occurs with no gap showing and the edge of the integral Door/Cover carpet trim ring is pulled sufficiently far enough into the carpet so that the FMCA does not move when walked on. Patience in performing this step ensures that the installation will be able to withstand heavy traffic. Only with certain extremely thick carpet and pad combinations will cutting the pad or shaving the carpet be required.

On hard floor surfaces, the integral trim ring edge must be firmly in contact with the hard floor surface. The floor can be routed so that the Door/Cover provides an absolutely flush installation if this is desired.

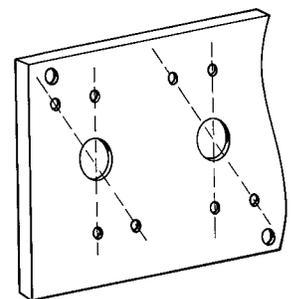
Connector Insert Panel:

Install the required number of connectors. Unused spaces may be filled with our HFP series Hole Filler Plugs. This allows future addition of connectors in these spaces while giving a professional, finished look to the installation. We recommend that the connectors be mounted to the Insert Panel with 1/8" stainless steel blind rivets ("Pop Rivet" brand or similar). Experience has shown that aluminum blind rivets often become loose after a short time, causing connectors to wiggle when microphone cables are inserted or removed.

Terminate all connections and secure the Insert Panel(s) to the Basket with three (3) 8/32 button head Insert Panel mounting screws.

MultiPunch Feature:

The MultiPunch feature lends itself to accommodating unusual configurations of connectors. The Type 9 Insert Panel has four of these positions. The MultiPunch position is laid out to accept 1/4" audio, 'F' type video, phono jack, BNC, etc. and similar connectors with little or no modification. By punching out the center hole to the required diameter, it will accept either Switchcraft female D*F or male D*M connectors with the connector mounting holes already punched. The center hole is the same size as a "Greenlee" or similar radio chassis punch drive screw to make such modification easier. Some deformation may occur when punching out the center hole of a MultiPunch position close to the edge of the Insert Panel to accommodate a D*F connector. To minimize this deformation use a sharp punch with the points of the punch oriented to align with an imaginary line from 1/8" below the upper left most D*F mounting hole to 1/8" above the lower right mounting hole. This moves the last part of the cutting edge of the punch (the last area to contact the metal before the punched out metal separates) away from the narrow edge of the Insert Panel. Any remaining deformation will be covered when the connector is installed.



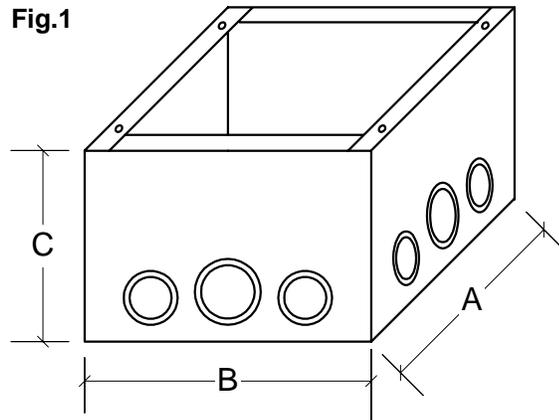
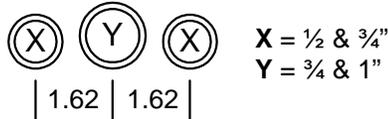
RE: Installation Instructions for BB40 and BB80 Backboxes

Important Note:
 Mystery Electronics backboxes are UL listed and conform to all applicable N.E.M.A. Standards. While locally available boxes may seem acceptable as substitutes, there are differences in certain critical dimensions. For a fast and easy installation and to avoid costly onsite rework, the user is strongly cautioned to use only Mystery Electronics backboxes. They are proven to be the lowest cost alternative.

Dimensions: *nominal in inches*

	A	B	C
BB40	6	6	4
BB80	12	6	4

Knockout pattern: *Trade size – four sides.*



Notes:

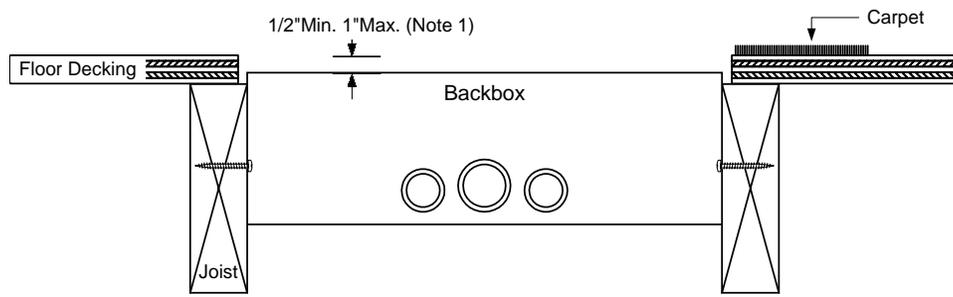
- 1) Backbox shall be mounted such that cover of box shall be not less than 1/2" or not more than 1" below finished floor to allow proper depth to mount appropriate MC series floor box.
- 2) On projects where fork lifts and other heavy equipment are present during construction, cover the backbox with adequate material (steel plate or equal) affording maximum protection as required.
- 3) Backboxes installed in floating floors require special consideration – contact factory for details.

Wooden construction - *see Fig.2*

As floor box may be subjected to long-term traffic and occasional heavy loads, it is strongly recommend that firm attachment of the backbox to the framing be made with four (4) each #8 or larger screws fastened on at least two (2) planes (sides), minimum. Nails will not offer long term installation integrity as they work loose over a very short time period. Additional blocking or framing may be required to provide solid attachment of the backbox as per Notes & details herein.

When placement adjacent to structural framing is not possible, blocking must be placed at the sides of the hole that is cut for the backbox. Blocking of 1" x 2" minimum must be screw attached to the floor decking on each side of the hole. Blocking should be a few inches longer than the dimension of the hole on the two sides that are parallel to the hinge of the MC unit. Feed each strip down into the cutout hole and pull it up against the underside of the floor. Place #8 or larger flat head wood screws on 3" centers thru the floor 1" back from edge of hole along each side into the blocking. Secure backbox to blocking as above. When MC unit is installed, the floor will be clamped securely between the MC cover and the blocking strip.

Fig.2: Wood Floor

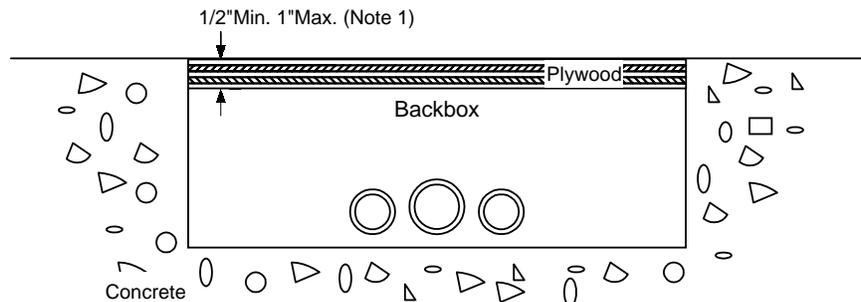


Concrete construction - see Fig.3

The Mystery Electronics MC Series are not recommended for unprotected outdoor or indoor wet, damp or severe weather locations. Certain local building codes may require that the backbox be coated with pitch for below ground applications. This can be done by spraying the outer surface of the box with automotive undercoating material available in spray cans from most auto parts or discount department stores (Wal-Mart, etc.). It is additionally advised that the contractor close all open cracks with packaging tape, duct tape, or similar to prevent concrete slurry from seeping into backbox during the concrete pour.

To automatically adjust for proper backbox depth before concrete is poured, attach a piece of 1/2" plywood of the same dimension as the backbox to the top of the box with screws. Screed concrete flush to the top of the plywood. This will result in the box being at the proper depth of 1/2" below the finished concrete surface as per Notes & details herein. Adjust depth accordingly when composite floor structures and materials are built over concrete.

Fig.3: Concrete Floor



RE: INSTALLATION INSTRUCTIONS FOR RP10 AND RP11**Important Note:**

Device is intended for raised wooden floor applications only. Cable storage is by gravity feed return and requires ten inches depth and one cubic foot of space below the floor for proper minimum operation (8-10 feet of cable). Cable storage length is determined by available depth of cavity below floor. Maximum 30 feet cable length is recommended.

General:

All Mystery Electronics products are designed to be "installer friendly". Careful preplanning will ensure a successful installation. The Mystery Electronics RP10 and RP11 Rocket Pocket In Floor Microphone Cable Storage Device can be mounted in a stage, pulpit, choir riser or any similar raised wooden floor.

RP10/11 devices are not intended for outdoor applications or for use in concrete floors, conduit backboxes or any location that does not provide adequate cable storage space as per **Important Note** above.

While RP10/11 devices are constructed to support heavy loads (pianos, road cases, etc.); care in selecting the location of each unit will prevent problems with the sliding door mechanism and result in years of trouble free service. Mystery Electronics strongly advises that another type of Mystery Electronics Floor Box be used when these requirements can not be met.

When a conduit is used with the RP10/11, terminate the conduit adjacent to the device location and use a handy box extension ring (open back) fastened securely to the floor joists to provide maximum installation integrity for the RP10/11 device. This method is also recommended for prewire installations.

Installation:

To mount the RP, cut a hole in the floor with a 2¼" max. diameter hole saw or jigsaw to clear the terminal strip bracket. Prep microphone line building (home run) wiring by stripping overall jacket insulation and insulation from each individual conductor. Provide heat shrink and/or PVC tubing insulation on the shield and drain wire to avoid shorting the microphone line. Terminate the building wiring conductors on the left-hand side of the RP terminal block when facing the screw heads of the terminal block. After conductors have been terminated, loop the conductors so that jacketed cable butt is laid alongside and parallel to elongated small hole of the strain relief bracket. Tie-wrap the cable to the bracket by inserting tie-wrap thru elongated hole and around cable. Feed end of microphone cable down thru RP top plate opening and then up thru the strain relief opening. Prep microphone cable as above and terminate on right side of terminal strip. Loop cable as above and place nylon strain relief bushing around cable and push from above into 1/2" round hole at right side of strain relief bracket. Strain relief bushing must be installed so that pulling microphone cable out of RP works against nylon strain relief bushing.

Fasten terminated and assembled RP10/11 to floor with two (2) #8 x 1½" Flat Phillips screws furnished. If flooring material is less than 1½" thick, wood backing blocks (1x2" typ.) are recommended to maintain a sturdy long-term installation. On thin floors, without blocking, the device will work loose over a short period of time and degrade the installation.

Assemble the Neutrik NC3FXY microphone connector (furnished) per instructions on reverse side. Lower microphone cable thru RP10/11 into below floor cavity. The installation is now complete.

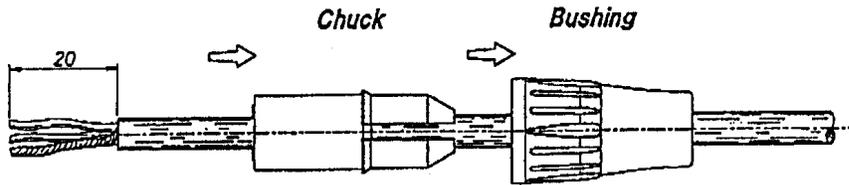
Neutrik NC3FX Assembly Instructions

1 Cable Requirements

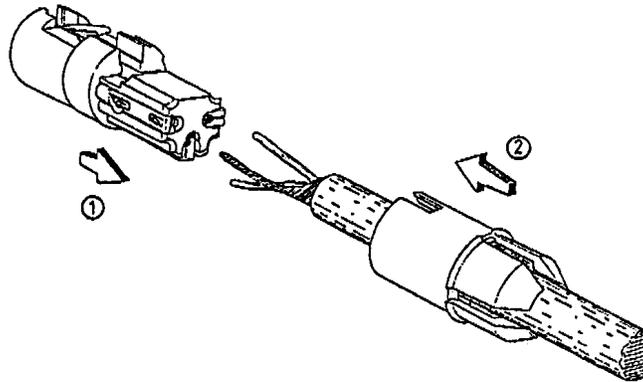
- 1.1 Cable outside diameter range (strain relief guaranteed): ϕ 4 mm - ϕ 7 mm
- 1.2 Wire gauge (IDC width): AWG24 (0,22 mm²) and AWG26 (0,14 mm²)
- 1.3 Insulation outside diameter: $\leq \phi$ 1,5 mm

2 Cable Preparation

- Assemble bushing and chuck onto the cable.
- Strip the jacket of the cable as shown (\approx 20 mm).
- Twist the shield.

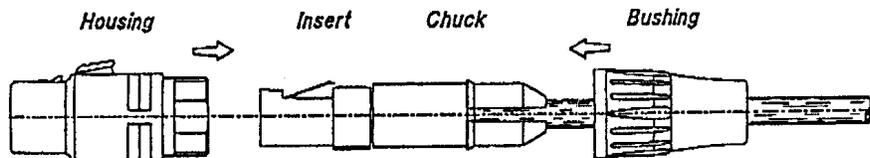


- Insert the wires into contacts '2' + '3' up to the inner stop (around 12 mm) and after that lift the ground contact and insert the twisted shield strands under the contact element. Press the IDC contacts with your fingers and then force the chuck over completely up to the stop face.



⚠ Note: There are two possible positions the chuck can be assembled. In case of a metal housing you can choose whether or not the housing will be grounded by rotating the chuck 90°.

- Push the housing onto the insert and screw on the bushing.



NEUTRIK
CONNECTING THE WORLD

RE: Installation Instructions for FMCA Series 3000**Important Note:**

Mystery Electronics backboxes are UL listed and conform to all applicable N.E.M.A. Standards. While locally available boxes may seem acceptable as substitutes, there are differences in certain critical dimensions. For a fast and easy installation and to avoid costly onsite rework, the user is strongly cautioned to use only Mystery Electronics backboxes. They are proven to be the lowest cost alternative.

General:

These instructions are provided to assist in the installation of all FMCA3000 series units, and are precise for most routine applications. Further technical support or application-specific instructions are available from our Technical Support Department. The FMCA series includes a variety of Insert Panel types to accommodate most applications with little or no modification. The purpose of this variety is to reduce installation labor and preparation work as much as possible. Laser cut custom Inserts are also available or use the cost saving MultiPunch feature to attain custom results as detailed below.

Careful consideration and pre-planning should be given to both the immediate and long-term conditions of the proposed installation. FMCA units are typically located where they might be walked on, rolled over, and generally abused. Every effort should be made to keep the FMCA units out of the path of heavy traffic.

The FMCA Series 3000 (satin black) are not recommended for unprotected outdoor or indoor wet, damp or severe weather locations. The FMCA Series 3100 with solid brass Door/Covers, along with our All Weather Enclosures (AW series) are recommended for outdoor applications.

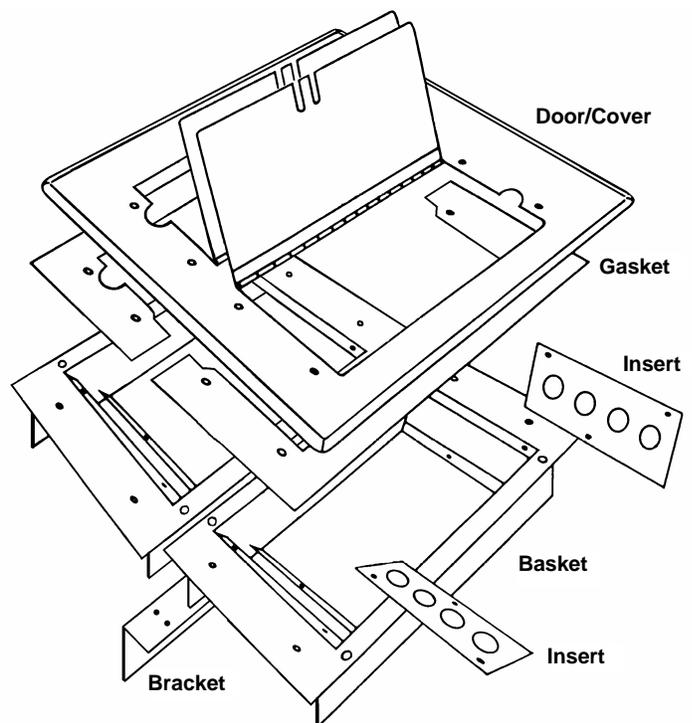
Backbox:

The backbox is an optional item and not furnished with the FMCA kit. Consult TechNote TN12 for backbox installation details. A backbox is required for all conduit system installations. The backbox is optional when a conduit system is not installed but is recommended to maintain secure integrity and ease of the installation. For applications where moderate to heavy traffic or movement of equipment or materials (pianos, scenery, props, "road cases", etc.) is expected, a backbox is strongly recommended.

Run all wiring lines into the backbox before proceeding to mount the Basket. Connector Insert Panel openings in the Basket of all models are large enough to allow most connectors to be mounted on the panel, have connections wired and still be fed thru the Basket. This allows off-site prefabrication. It also effectively prevents inadvertently "getting ahead of oneself".

Dual Basket assembly:

Assemble the Dual Basket by securing the Baskets (two each) to the Center Support Bracket. Attach each Basket to Center Support Bracket by threading 8/32 x 1½" flat phillips machine screws (two each per Basket) thru each Basket's mounting flange holes into the tapped holes on the top flange of the Center Support Bracket. The Center Support Bracket must be installed as it provides support to the center of the FMCA Series 3000 unit.



Dual Basket installation with backbox:

For backbox applications, align the countersunk holes in the flange of the Basket with the corresponding holes in the top flange of the backbox and install the 1/4" flat phillips head self-tapping screws. The self-tapping screws furnished with the FMCA are designed to thread these holes readily. Make major adjustments for variations in site conditions (i.e. backbox depth below floor, carpet thickness, hardwood floors routed to flush mount the Door/Cover, etc.) by raising or lowering the 1/4" Basket mounting screws. Further adjustment may be required before attaching the Door/Cover to the Basket. **CAUTION:** *The self-tapping screws furnished with the FMCA hardware kit may not provide secure mounting of the FMCA if a backbox other than the appropriate Mystery Electronics backbox is used.*

Dual Basket installation without backbox:

Use the Dual Basket as a template and cut the opening 1/8" larger than bottom of the FMCA Dual Basket. Substrate failure can occur in particleboard, plywood and even hardwood floors due to the location of the Basket mounting holes at the edge of the cut opening. To prevent this, solid wood blocking strips (1x2 is adequate) must be fastened beneath each side of the cut opening below each Basket mounting flange (two sides only). The wood backing strips should be cut 2" longer than the Basket flange. Place each strip thru the cut opening and pull it up against the underside of the floor. Center the strip along the edge of the opening and fasten it in place with long wood screws from above. TwinFast type screws, having aggressive threads, work very well here. This provides a ledger / backing strip for the Basket to be fastened to. Mount the Basket with four (4) wood screws (not furnished) thru the floor decking and into the backing strip. This effectively clamps the floor between the FMCA Dual Basket flange and the backing strip. On floors without carpet, notch the area below the Center Support Bracket until mounting flanges sit flat on the floor surface. Install wiring as required and route wiring lines thru the Insert Panel openings of the Dual Basket.

Door/Cover:

Position Gaskets on top of Dual Basket with open sides of U-shaped Gaskets toward center of Dual Basket (directly under hinge) and line up notches on Gaskets with finger notches on Door/Cover. Secure the Door/Cover to the Dual Basket with four (4) flathead socket screws, passing thru holes in Gasket. **When properly installed, the Door/Cover should compress the Gasket and "seat" directly onto the Basket without any gap between the Door/Cover and the Basket or the Door/Cover and the floor.**

For carpet installations, further minor adjustment should be made by raising or lowering the Basket until Door/Cover "seats" properly as per above. The integral carpet trim flange should pull down into carpet snugly without causing any visible deflection of the Door/Cover. If the Door/Cover exhibits any deflection, raise the Basket until deflection no longer occurs with no gap showing and the edge of the integral Door/Cover carpet trim ring is pulled sufficiently far enough into the carpet so that the FMCA does not move when walked on. Patience in performing this step ensures that the installation will be able to withstand heavy traffic. Only with certain extremely thick carpet and pad combinations will cutting the pad or shaving the carpet be required.

On hard floor surfaces, the integral trim ring edge must be firmly in contact with the hard floor surface. The floor can be routed so that the Door/Cover provides an absolutely flush installation if this is desired.

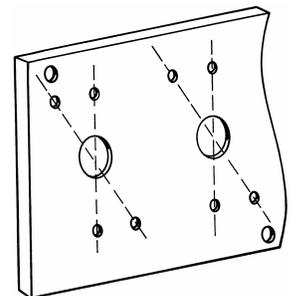
Connector Insert Panel:

Install the required number of connectors. Unused spaces may be filled with our HFP series Hole Filler Plugs. This allows future addition of connectors in these spaces while giving a professional, finished look to the installation. We recommend that the connectors be mounted to the Insert Panel with 1/8" stainless steel blind rivets ("Pop Rivet" brand or similar). Experience has shown that aluminum blind rivets often become loose after a short time, causing connectors to wiggle when microphone cables are inserted or removed.

Terminate all connections and secure the Insert Panels to the Basket with three (3) 8/32 button head Insert Panel mounting screws.

MultiPunch Feature:

The MultiPunch feature lends itself to accommodating unusual configurations of connectors. The Type 9 Insert Panel has four of these positions. The MultiPunch position is laid out to accept 1/4" audio, 'F' type video, phono jack, BNC, etc. and similar connectors with little or no modification. By punching out the center hole to the required diameter, it will accept either Switchcraft female D*F or male D*M connectors with the connector mounting holes already punched. The center hole is the same size as a "Greenlee" or similar radio chassis punch drive screw to make such modification easier. Some deformation may occur when punching out the center hole of a MultiPunch position close to the edge of the Insert Panel to accommodate a D*F connector. To minimize this deformation use a sharp punch with the points of the punch oriented to align with an imaginary line from 1/8" below the upper left most D*F mounting hole to 1/8" above the lower right mounting hole. This moves the last part of the cutting edge of the punch (the last area to contact the metal before the punched out metal separates) away from the narrow edge of the Insert Panel. Any remaining deformation will be covered when the connector is installed.



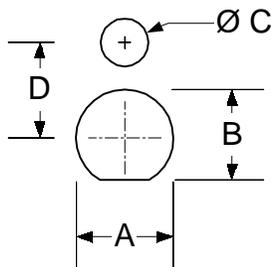
RE: Installation Instructions for Type V Insert

The **Type V** insert can be used in any Mystery Electronics **Moduline Enclosure**. Some models have only limited space behind the panel. When using RG6 and/or data grade standard coax cable, it is recommended that allowance be made to meet the cable manufacturers' minimum bend / radius requirements.

The **Type V** insert is pre-punched for five (5) BNC connectors and five (5) color-coded hole plugs. It is intended for applications having five separate signals such as; RGB, sync, and composite; RGB, horizontal and vertical, etc.

The color-coded hole plugs are used to denote the signal type; red = R, blue = B, green = G, yellow = sync or vertical, white = composite or horizontal. Further designations for sync, composite, horizontal, etc., are possible by using a fine point permanent marker to custom label the hole plugs as required.

The hole pattern used on **Type V** inserts produced after Oct. 1997 is as follows:



	Inches	Millimeters
A	.506 (+.005 -.000)	12.852 (+.127 -.000)
B	.475 (+.003 -.000)	12.058 (+.076 -.000)
C	.250	6.350
D	.500	12.700

Any crimp style, solder tab, or feed through (bulkhead) connector based on a single "D" hole with clearance for ½ - 28 UNEF threads is compatible with this hole pattern without field modification. The hole pattern accommodates the largest selection of BNC style connectors, available from a variety of manufacturers, and is generally considered a standard in the video and RF instrumentation industry.

Non compatible connector brands or versions that use an insulated bushing system may require minor modification.

Compatible connectors are available from **Aim, Amphenol, Cambridge, Canare, Switchcraft, etc.**, and through electronics parts distributors in most markets.

Note: The previous version of the Type V insert had a smaller hole pattern for use with the connectors specified in the original release of TechNote TN19. This smaller hole pattern will be available as a special order Moduline Plus insert until existing stock is depleted. If you need this earlier version please contact the order desk.

Mystery Electronics, LLC
 6438 Morton Road
 Greenbrier, TN 37073
 800 798 2256 or 615 643 8460
 615 643 8464 Fax

RE: QMA Adaptor installation instructions for use with RJ11/RJ45 tel/data jacks

The **QMA Adaptor** is punched for mounting RJ11/RJ45 (tel / data) type jacks on 3 pin audio connector hole patterns, both Switchcraft D*F and "universal style", without field modification. The **QMA Adaptor** will accept a variety of modular compatible tel / data jacks. These jacks are available in common wiring configurations (EIA/TIA 586, 10 base T, etc.) for both Category 3 and Category 5 service designations. See *compatibility list below*.

Certain modular tel / data jacks, shown as generally compatible on the chart below, may actually be wider than the **QMA Adaptor**. Use of these wide jacks should be avoided when the **QMA Adaptor** is used in adjacent audio connector mounting holes of **Moduline Inserts**, which have a center to center spacing of 1.10". The Leviton QuickPort Series jacks listed below are considerably narrow and work very well when using the **QMA Adaptor** with **Moduline Inserts**.

Some vendors refer to "snap-in" modular jacks as "keystone jacks". This term has become a generic name for several types of modular jacks. Many early versions, still found on vendor's shelves, are not category rated and do not conform to any dimensional standard. Those jacks listed as compatible below are designed to fit a generally similar dimensioned opening, but may vary slightly due to each manufacturer's tolerances.

Manufacturer	Telephone	Product
Compatible		
Leviton Telcom	800 / 722-2082	QuickPort series
Hubbel	800 / 626-8005	HD series
ICC Corp. (International Connectors & Cable Inc.)	800 / 993-3333	IC107 Multi-Port system
Siemon	860 / 274-2523	MAX series
Generally compatible		
AMP	800 / 522-6752	110Connect System
Gruber Industries	800 / 659-5883	80-30 series
Hubbel	above	5110 series
Non compatible		
AT&T		M11 series
Panduit		
Seimon		CT series
Leviton		InfoTap series
Ortronics		IMO system
Amp		ACO system
IBM		ISDN system
Distributors		
AllTel Supply	800 / 533-3161	
Graybar	Major Cities Nationwide	
Mouser Electronics	800 / 346-6873	
Electronic Cable & Connector	615 / 822-3151	Contact: Bruce Graves

Mounting detail:

If notch is in the upper left corner (as shown), the **QMA Adaptor** fits "universal style" holes. If notch is in upper right corner it will fit Switchcraft D*F holes.

