

Mat-Matics #130 cont'd:

Interior Backplane

Interior: The backboard/plane of the unit is a one-eighth inch copper-clad aluminum plate. This is attached to the back of the enclosure. I had to cut a large opening in it to route the feedlines through the conduit into the house. The backplane provides a common electrical bonding point for everything, and a convenient place to mount items like lightning protection.



Ground plane with arrestors (left), finished box (right)

Note the cable glands. The cable glands are nice for sealing, but they will not allow connectors to be pushed through: I would need to crimp a connector on the cable once inserted through the gland. I left other holes large enough for a PL-259 UHF connector in case I need them (w/ seals to keep wasps and dirt out).

You can also see the grounding wire from the backplane going out (through a small gland) to an external earthing rod. This rod is bonded to all my other earthing rods (I think I have 6 total now including the two for my electrical service entrance).

Bill of Materials (BOM)

- ◆ NEMA weatherproof enclosure (swap meet find; pre-drilled holes)
- ◆ 2-inch steel conduit for wall penetration (plus fittings as needed)
- ◆ 1-1/2 inch Unistrut and mounting hardware (bolts/nuts/washers)
- ◆ Concrete anchors for attaching Unistrut to basement wall
- ◆ 1/8 inch copper-clad aluminum backplane/ground plate
- ◆ Coaxial surge protectors/lightning arrestors (mounted/bonded to backplane)
- ◆ Cable glands (for sealed cable entry where connectors won't pass through)
- ◆ Sealant/caulk for weatherproofing and pest exclusion at the wall/conduit
- ◆ Bonding/grounding conductor and lugs/clamps to connect the backplane to the building grounding electrode system



MONROE HAMFEST

and Computer Show

Father's Day - June 21, 2026

7:30am to 1:00pm - Set-up 6:30am Presented by:
The Monroe County Radio Communications Association

Monroe County Fairgrounds

M-50 at Raisinville Rd. (2 Miles west of Monroe)
FREE PARKING

Indoor Facilities / Trunk Sales
Computers and Equipment
Distributors / Hot Food

QSL Card checking by Stan Arnett AC8W

Over Night Camping \$50 (electric included)

Tables indoor 8': \$15 each, does not include admission ticket. Electric available in all buildings, bring cords.

Trunk 10' Spaces: \$10 each, does not include admission ticket.

Tickets Advance \$7 each.



Ticket, Trunk Sales, & Table Reservations online at: <http://www.mcrca.org>

Mail to: Fred VanDaele K8EBI, 4 Carl Drive, Monroe, MI 48162, ka8ebi@yahoo.com

Name _____ Call _____ e-mail _____

Address _____ City _____ State _____ Zip _____

Tickets _____ Trunk Spaces _____ Tables _____ Amount Enclosed _____

Advance Tickets \$7 ea. / 10 ft Trunk Spaces \$10 ea. / 8 ft Tables \$15 ea.