# Compact Mini-Tripod Mast 

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Community-Based Environmental Education for the Self-Sufficiency and Sustainability of Small Rural Family Farms ชุมชนตามสิ่งแวดล้อมศึกษาเพื่อการพึ่งตัวเองและยั่งยืนชนบทขนาดเล็กครอบครัวฟาร์ม
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I found a broken and discarded minitripod. The pan head unit was broken. I removed the damaged parts, and kept the tripod and the central stem that projects above the tripod legs.

When collapsed for storage in its carrying bag, the tripod is 35 cm long. I took old 22mm PVC pipe discarded from a plumbing repair project and cut 3 pieces 35 cm long. The tripod and 3 PVC pieces fit into the tripod storage bag. I bought 2 couplers and put them

on the ends of 2 of the PVC pipes. In the third PVC pipe, I cut a slot 8 cm long 6 mm wide. This slot allows the coax from a $1 / 4 \lambda$ vertical VHF antenna with ground radials to extend down to the operating position. [Note: The $1 / 4 \lambda$ vertical VHF antenna is stowed separately. This is one of several optional support systems for the antenna.]

The PVC extension elevates the antenna 97 cm above the tripod base (where the tripod legs meet. The tripod legs can extend to 4 levels.

| Mini-tripod Mast Heights |  |  |  |
| :---: | :---: | :---: | :---: |
| Tripod Settings | Total Tripod Height | Total Tripod Mast Ht | Notes |
| Tier 4 | 82 cm | 1.79 m | The Mini-tripod Mast is best suited for <br> backpack operating when no other antenna <br> support is readily available. It can double as a <br> Tier 3$\quad 64 \mathrm{~cm}$ |
| camera support with an appropriate adapter. |  |  |  |
| Tier 2 | 46 cm | 1.61 m | 1.43 m |
| Tier 1 | 29 cm | 1.26 m |  |

## Additional Mini-Tripod Mast Information

The extension of the central tripod column is the key feature for mounting the PVC mast. The 22 mm ID PVC pipe slides over the central tripod column and is held in place by gravity. The weight of the PVC combined with the antenna and coax keeps the mast on the tripod.

When stored in the carrying bag, the Mini-Tripod Mast set weighs 0.8 kg , is 35 cm long and 8.6 cm in diameter. This compact unit easily fits in a day pack for pedestrian or bicycle mobile operating. Additional height can be easily attained by setting up the Mini-Tripod Mast on a table, or elevated platform.

Of course, increased antenna performance generally comes with increased antenna height. But this compact mast helps where there are no convenient ways to support our $1 / 4 \lambda$ vertical ground plane emergency antenna.


Tier $1=29 \mathrm{~cm}$ (floor top of the legs).


Tier $3=64 \mathrm{~cm}$ (floor top of the legs).


Tier $2=46 \mathrm{~cm}$ (floor top of the legs).


Tier $4=82 \mathrm{~cm}$ (floor top of the legs).

