

## PT300/PT400/PX300 "Lunchbox"

### General Information

The radios resemble an old lunchbox (hence the nick name). They were often used as radio-telephone units, and most were produced as VHF-high band.

These are crystal controlled radios, but we have created this page to provide information on the different power configurations used to power these radios. The appropriate schematics are presented below, courtesy of Micheal Salem, N5MS, from the Motorola Service Manuals.

The PX300-S was in fact a programmable lunchbox. The PX300-S is essentially the guts of a MX300-S portable married to a 10W RF Power Amp. So if you're familiar with an MX300-S (which requires the R-1801 suitcase programmer) you already know a lot about the PX300-S.

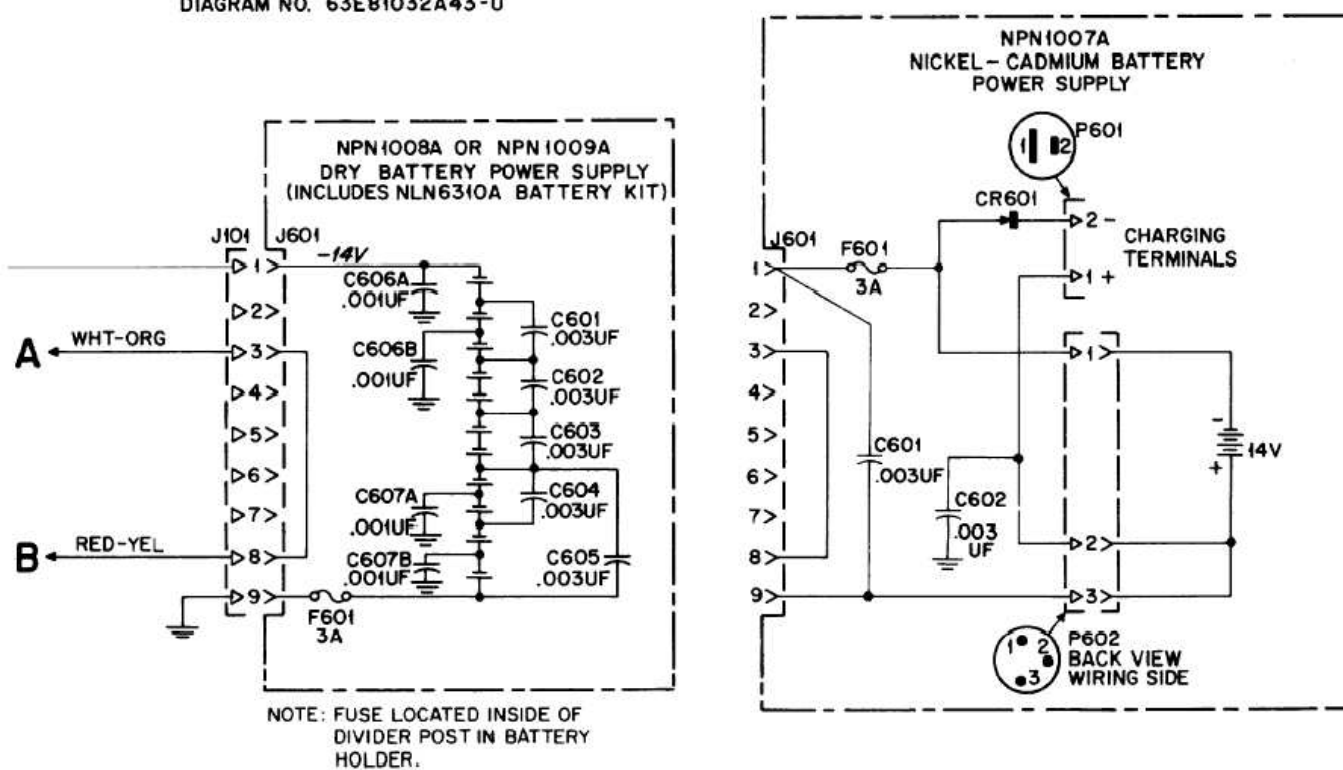
Actually, the PROMS used for the PX300-S are the same as that for the MX300-S:

- REX-1090A - No Time-out-timer
- RLN-1004A - 30 sec. Time-out-timer
- RLN-1005A - 60 sec. Time-out-timer

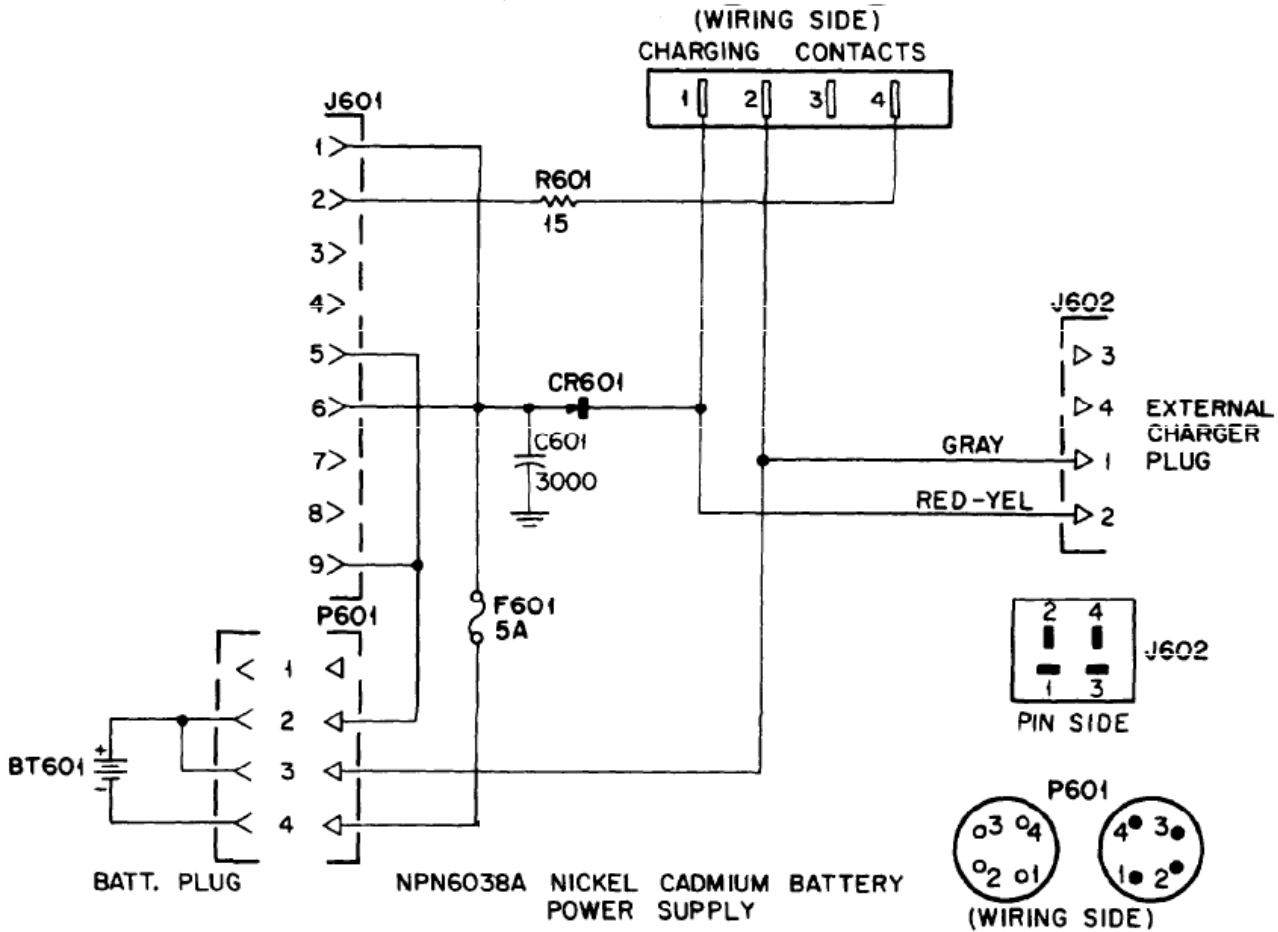
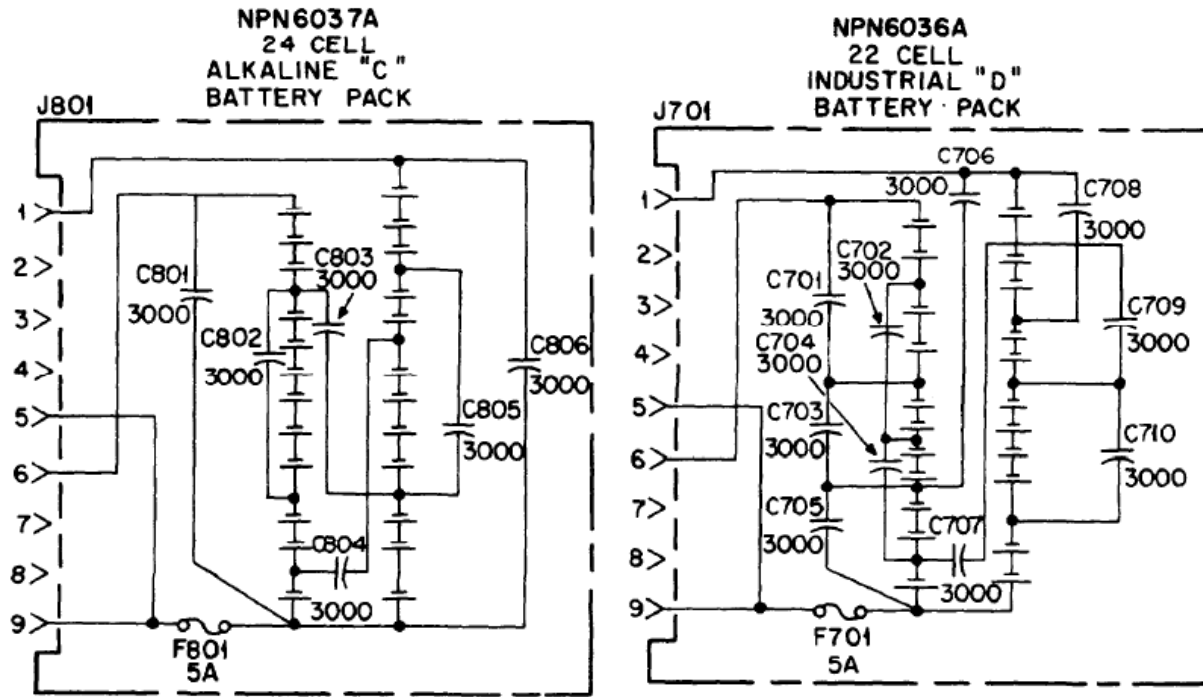
### Schematics

This schematic shows the connections to the NPN1007A/NPN1008A/NPN1009A PT300 Battery Packs:

DIAGRAM NO. 63E81032A43-U



These schematics show the connections to the NPN6037A and NPN6036A Battery Packs, as well as connection of the charger. J801 and J701, respectively, on the battery packs connect to the radio, or to J601 (the charger). J601 can also be plugged into the radio.



You can find the Motorola manual on the NLN6531A charger [here](#). You may also want to refer to a board layout created from a final production unit, that can be found [here](#).

**Charger Modifications**

You can modify the charger by replacing the SPST switch with a SPDT switch with center off. You have to use a switch with a short handle. A very suitable switch is a NKK toggle switch (on-off-on), available from Mouser, part no. 633-M201304. Center is off and the same trickle charge of about 12 ma.

Use the other switch position to put a 2.7 ohm resistor in parallel with R4, the 47 ohm resistor. Make this the down position. This will charge

the battery with about 100 ma which is a little bit easier on the battery since the PX radio draws about 55 ma squelched and this means about a 45 ma charge which is about the correct trickle charge.

You could actually set this charge at whatever you wanted up to 150 ma, the maximum charge which the charger is capable.

Because the switch is center off, it is not as strong as the SPST switch. Thus, the rubber boot that fits over the switch may prevent keeping the switch in either up or down, but in the center. You can also leave the boot off altogether, or taken an Exacto knife and cut the boot back until it does not move the switch.

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