

DB4060 NOTES
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LOOP ASSEMBLIES:

-B model (143-156 MHz)
 Low-pass loop is -004
 High-pass loop is -005

-C model (154-174 MHz)
 Low-pass loop is -003
 High-pass loop is -004

To convert a -C model to a -B:

1. Relabel “high pass” (-004 loop assembly) cavities as “low pass”.
2. Replace the loops on the former low-pass (-003) assemblies with -005 loops.
 Remark the bottom of the assemblies as -005 to denote the change.
 Relabel “low pass” as “high pass”.

Intra-cavity cables are RG214 w/type N males, 10.0" TT on all “C” models evaluated to date. No appreciable change in notch depth when increasing length of intra-cavity cable lengths when moving from -C to -B, keep 10”.

-C common port factory cables vary, and are not always symmetrical. Several units measured were 10.0" TT for high-pass leg, 10.5" for low-pass leg (yes, this seems backwards, but it's not). Be sure to flip harness after swapping high-pass and low-pass orientation as part of the conversion if the factory harness is not symmetrical. Other -C common port factory cables were measured as 11.0" symmetrical.

Common port lengths can be optimized further when converting from -C to -B, but may not be worth it on 147 MHz pairs. However, if building a new harness from scratch or to further optimize performance below 147 MHz, see update notes below.

MAR 2016 UPDATE for DB4062-WC: Factory harness 11.0" TT to common port, optimized length 12.5" RG-214 for 145 MHz subband, 1.9 dB insertion loss and 110+ dB notch depth for six cavities.

MAR 2016 DB4060: Insertion loss 1.1 dB, 75 dB notch depth using same cables as above, 146 MHz pair. Notch depth shallow. Removed loop assemblies, cleaned/burnished contact area between loop assembly and top of cavity, re-assembled, notch depth increased to 84 dB, no change in IL.

FEB 2017 DB4060: New harness, RG-400, 13-1/8" symmetrical to common port, 12-5/8" between cavities. Insertion loss 1.0 dB, 86 dB notch depth.

JAN 2023 DB4060-C Newer Black conversion. Factory 11.0 and 11.5" mix between cavities (odd). 11.0" tee to high-pass (-004) side, 11.5" to low-pass (-003) side. Re-do with new --005 loops on high side (004's moved to low side). 12.5" between cavities, 13" tee. Per cavity -0.44/-36 typical, net -0.94/-83.

Older cavities (beige paint, pre-1980) prone to noise problems as they age. Older cavities with old-style locknut at top of center tuning rod develop poor contact due to oxidation at high-current point – losses go up, notch depth goes down, notch frequency jumps around with minor mechanical jarring, etc.