

7.2A PROUST RADAR: DECODING HARDWARE AND COHERENT INTEGRATION

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1. Characteristics

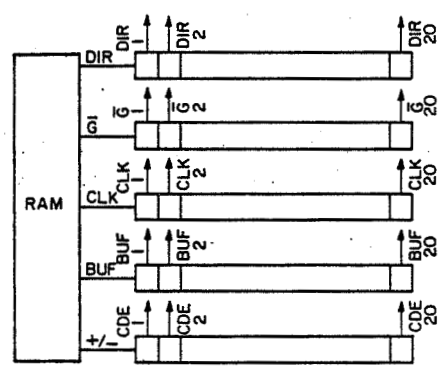
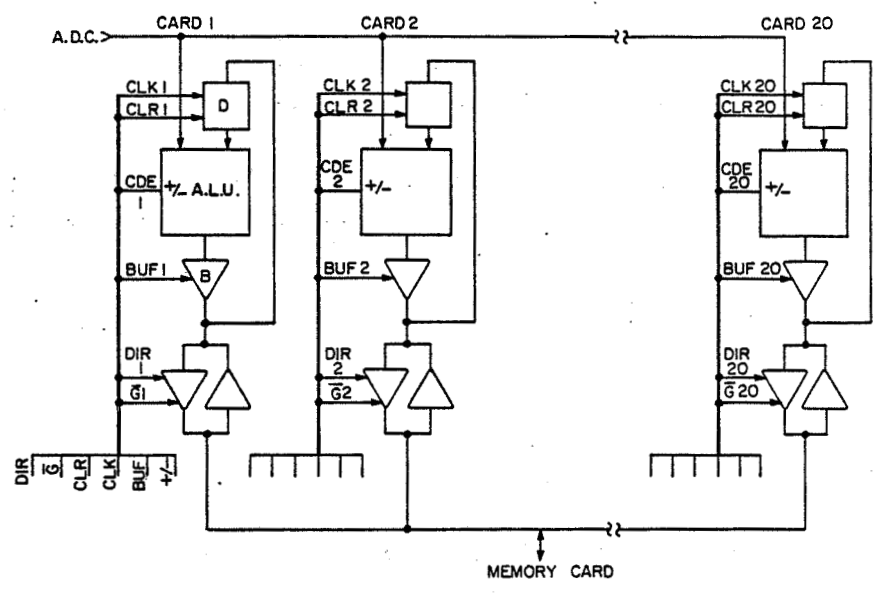
| | |
|----------------------------|--|
| -impulsion width | :4 μ s |
| -PRF | :140 μ s |
| -code | :quasi complementary |
| -number of different codes | :as many as number of coherent integrations (64) |
| -number of subcodes | :20 |
| -subcode width | :200 ns |
| -height resolution | :30 m |

2. Device

- decoding in real time before coherent integration
- 20 (number of subcodes) gates decoded in parallel but output delayed (200 ns) from one gate to the next one
- one card used for decoding and coherent integrations (Figure 1)
- number of cards: 20 identical cards + sequencer + memory card
- signal A.D.C. distributed at the same time on 20 cards. Code circulated with a time delay of 200 ns from one card to the next one

3. Advantages - limitations

- realization of one card for decoding and coherent integration and duplication for the others
- reliability of the device: one kind of spare cards
- possibility to get with the same device profile mode (600 m) or magnifier mode (30 m)
- change of altitude resolution by changing the width of the impulsion and subcodes
- limitation due to the kind of A.D.C. available for sampling frequency greater than 1 MHz, they are adjusted to one frequency only
- number of subcodes fixed



SEQUENCER: SHIFT REGISTER