**Caption List:**

1. **Page 2, Figure 2:** (b) For both cases, ⓐ, ⓑ, ⓒ, and ⓓ.
2. **Page 5,Figure 7** : Rectangular carrier pulses with a duty cycle T/Tc≤50% (Tc: period, ①: - unipolar pulse, ②: - nonsymmetrical bipolar pulse,
3. **Page 8, Figure 11**: Signal power gain, correlated noise power gain, and uncorrelated noise power gain for a 3-mixer array (*M*=3) with various types of subcarriers described in Fig. 10: (a) case with the unipolar subcarrier , (b) case with the nonsymmetrical bipolar subcarrier , (c) case with the asymmetric differential bipolar subcarrier , and (d) case with the asymmetric bipolar subcarrier with an arbitrary delay of Tdx.
4. **Page 11, Figure 14** : Signal power gain and uncorrelated noise power gain after a highpass noise filtering for 3-mixer array (*M*=3) with various types of subcarriers described in Fig. 10: (a) case with the unipolar subcarrier , (b) case with the nonsymmetrical bipolar subcarrier , (c) case with the asymmetric differential bipolar subcarrier , and (d) case with the asymmetric bipolar subcarrier with an arbitrary delay of Tdx.
5. **Page 12 figure 16:** 1-variance of =±5% and 1-variance of =±2% of (equivalently ±2.4° of 1 phase-variance).
6. **Page 13, Figure 17** : (c) noise factor with an ideal high-pass noise filtering (only fundamental tone, , is rejected by an ideal HPF).

**Equations:**

1. **Page 3,Equation no. (4**): .
2. **Page 3,Equation no. (8):**

1. **Page 5,Equation (9):** ①: *Unipolar* carrier,
2. **Page 5,Equation (10):** ②: *Nonsymmetrical* bipolar carrier,
3. **Page 5,Equation (12):** ④: *Asymmetric* bipolar carrier with a delay Td,
4. **Page 6,Equation (16):**
5. **Page 6,Equation (17):**
6. **Page 7,Equation (18):**
7. **Page 8,Equation (20):** (m should be italic font.)
8. **Page 12,Equation (21):**

1. **Page 11, Equation (23):** .
2. **Page 11,Equation (24):**

⇒

⇒

1. **Page 13,Equation (25):**

⇒

⇒

**Main text:**

1. **Page 1**: Delete ‘The’, ‘a system’ instead of ‘the system’.
2. **Page 3:** successive time delay of *Tc* [16].
3. **Page 3**: In these cases spectral components of the subcarriers will be (*m=integer*)
4. **Page 4**: The final outputs (Fig. 5 (a) and (b)) will have the same spectral components as those in Fig.2 except for the input leakage tone which is modulated by the DC component of the subcarriers.

Delete ‘The ’ , ‘which will be’

1. **Page 6**: Therefore, it is apparent from the Table I that, except for the case ②, the optimum duty-cycle minimizing the noise factor can be found as the maximizing (15), resulting in (16) as the condition for the optimum duty-cycle.
2. **Page 6**:’notified’ instead of ‘confirmed’,
3. **Page 6**: The differential rectangular pulse of gives a near optimum NF of 3.36 dB with 37.1% of duty-cycle, as shown in Fig. 8 (c) and (d).
4. **Page 6:** The coherent signal currents are added linearly in current domain, increasing their magnitude by a factor or *M*.
5. **Page 6**: But the uncorrelated noises will be added in power domain, effectively increasing their *rms* magnitude by a factor of in Fig. 9 (b).
6. **Page 8:**

is signal power gain when the demodulation is conducted by the *m*-th harmonic tone of the subcarriers. Because of a perfect correlation among the noises, noise power gain in the CNTI-mixer array ( in Table II) can be expressed in terms of the signal power gain, , which can be much smaller than that from the UNTI-mixer array.

1. **Page 8:** For UNTI-mixer arrays, with the same logics applied in (15), the optimum duty-cycle minimizing NF for each of the , and in Fig. 10
2. **Page 8**: To simplify discussion, let’s assume that the bandpass filter (BPF) has a finite bandwidth (BW) extending over centered at . Suppose the demodulation is conducted by an ideal differential rectangular *subcarrier* of in Fig. 10
3. **Page 10**: In Table III, and are the rejected DC powers by the HPFs when the array is driven by the subcarrier and in Fig. 10, respectively.
4. **Page 11:** For instance, in the M-array the IIP3 of the mixer array will be 10*logM* higher than the IIP3 of single mixer.
5. **Page 11**:T*n* (*n*=1 to M-1) represents delay mismatch in each subcarrier from the reference subcarrier of ic(t) shown as ①.
6. **Page 11**: The signal power gain under the mismatches can be found by replacing with in Table II and III.
7. **Page 12**: For the CNTI-mixer arrays in Fig. 9 (b), the *correlated* noise power gain under the mismatches, corresponding to in (19),
8. **Page 13**: The differential subcarrier with 50% duty-cycle is utilized.
9. **Page 13**: As expected, the TI-mixer array with *uncorrelated* noises exhibits a high sensitivity to the mismatches (reference: when and without noise filtering, F(3)=3/0.405=7.4).