

700/800 Systems Frequency Selection Rules

1. **Frequency Spacing**.....Keep all BTR/TR receive and transmit frequencies at least 300kHz away from each other, >400kHz preferred. Both the transmitters and receivers should be at least 400kHz away from other RF equipment.
2. **IM Products**..... 2 transmitter 3rd orders by at least 100kHz (200kHz preferred)
3 transmitter 3rd orders by at least 50kHz (100kHz preferred)
2 transmitter 5th orders by at least 50kHz (100kHz preferred)
3. **Transmitter Sidebands**..... Avoid base and belt-pack carrier sidebands: +/-200kHz, +/-400 and +/-600. Keep at least 50kHz away from these frequencies.
4. **Bandwidths**..... Transmitter bandwidth = 150kHz
Receiver bandpass = 230kHz
5. **Base RX 4MHz Image Harmonics**. C6 frequencies to avoid are 704.4, 708.4, 712.4, 716.4, 720.4. A2 frequencies to avoid are 632.4, 636.4, 640.4, 644.4, 648.4. Avoid the frequencies, by at least 50kHz
6. **Base LO₁ Xtal harmonics**..... Avoid C6 Xtal harmonics; 524.667, 655.833, 787.000 by at least 50kHz .
Avoid A2 Xtal harmonics; 476.667, 595.833, 715.000 by at least 50kHz.

FYI

TR-700/800 Oscillators/IFs – Dual Conversion Superheterodyne, Synthesized, FM

LO₁..... Synthesized (If set on correct frequency then, $LO_1 = RF_{IN} - 65.7$)
 LO₂..... 55MHz, Xtal, Fixed
 Master Oscillator..... 4MHz, Xtal, trimmer adjust

IF₁.....65.7MHz
 IF₂..... 10.7MHz

Transmitter.....Synthesized, FM

BTR-700/800 Oscillators/IFs - Dual Conversion Superheterodyne, Synthesized, FM

LO₁..... X MHz, x6 Xtal Osc., Fixed

1 Band.....	X = 697MHZ
2 Band.....	X = 715MHZ
3 Band.....	X = 733MHZ
4 Band.....	X = 751MHZ
5 Band.....	X = 769MHZ
6 Band.....	X = 787MHZ
7 Band.....	X = 805MHZ

Examples: A C6 system's LO₁ is set to the Band 6 (787MHz) frequency. An A2 system's LO₁ is set to the Band 2 (715MHz) frequency.

LO₂..... Synthesized, 75.8 to 93.6MHz. (If set on correct frequency then, $LO_2 = LO_1 - RF_{IN} + 10.7$)
 Master Oscillator..... 4MHz, Xtal, trimmer adjust

IF₁.....65 – 83MHz
 IF₂..... 10.7MHz

Transmitter(s)..... Synthesized, FM