

IFR COM-120 Options

Version - 1.0

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This document was created to assist today's owners and potential owners in identifying which options are installed in a specific IFR COM-120.

Options for the COM-120 included a variety of extra features that could be ordered, some of which required additional hardware, some of which required additional hardware and software, plus others that were software only. The main operating firmware already contains the needed code for available software and hardware/ software options, but specific bits in the Timekeeper IC must be written to enable the option.

Options that were included when the monitor was built are normally listed on a label attached to the rear of the unit. Note that some labels have a first character of "O" for options, while others don't, and some have leading zeros on options less than 10, while others don't. Also note that some options might not be available in firmware versions earlier than 4.18.

The options are as follows:

- 01- Internal Battery: This requires a Yuasa NP5-12A (or equivalent) to be installed. No other hardware or software changes needed.
- 02- OCXO High Stability Oscillator: The normal reference oscillator is replaced with a high stability version. No other hardware or software changes needed.
- 03- 30 KHz IF Filter: A 30 KHz bandwidth filter is installed in the optional 2nd filter socket in the receiver tray. Normally the Receiver Tray will have a label indicating this option. A bit in the Timekeeper must also be set. Filter part # is 2303-0000-006 or 2303-0000-008.
- 04- Variable Audio Generator-2: Allows the frequency of the second audio generator to be varied. Requires an additional daughter board be added to the Digital Tray (normally a label indicating this will be attached to the top of the Digital Tray), plus a bit in the Timekeeper must also be set.
- 05- Generate Amplifier: Provides higher level RF output for the Aux RF Output jack to facilitate filter and duplexer alignment. Requires an additional amplifier module. A bit in the Timekeeper must also be set.
- 06- Unassigned.
- 07- Data Generator/Bit Error Rate (BER) Meter: Allows data integrity testing through an end to end path. No additional hardware needed, but a bit must be set in the Timekeeper.
- 08- Single Sideband Receive Demod and 3 KHz IF Filter: Allows listening to SSB transmissions. This requires a 3 KHz filter and a demod daughter card to be installed in the receiver tray. Normally an additional label will be added to the top of the receiver tray indicating this option. Bits must

also be set in the Timekeeper. Filter part # is 2303-0000-007.

- 09- RCC Signaling Formats: Adds functionality for encoding mobile telephone (not cellular) and tone remote signaling sequences. No additional hardware needed, but a bit must be set in the Timekeeper.
- 10- Unassigned.
- 11- Audio/Digital Signaling Formats (CCIR,CCIRH,CCIRH4,EEA,EIA,NATEL,...): Allows encoding and decoding analog and digital signaling, primarily paging. Labeled POCSAG Paging on the Option screen. No additional hardware needed, but a bit must be set in the Timekeeper.
- 12- Spectrum Analyzer Tracking Generator: Provides an internal RF generator which “tracks” the spectrum analyzer receiver to facilitate testing of RF filters and duplexers. No additional hardware needed, but a bit must be set in the Timekeeper.
- 13- GPIB: Provides a GPIB port on the rear panel to facilitate remote control operation. Requires a GPIB connector to be added to the rear panel, but most (if not all) COM-120s seem to include this. A bit must also be set in the Timekeeper.
- 14- Clearchannel LTR Trunking: Allows testing of LTR trunked radio units. No additional hardware needed, but a bit must be set in the Timekeeper.
- 15- AMPS Cellular Testing: Allows testing of the now obsolete AMPS analog cellular telephone equipment. Requires Option 3, plus bits must be set in the Timekeeper.
- 16- EDACS Trunking: Allows testing of EDACS trunked radio units. No additional hardware needed, but a bit must be set in the Timekeeper.
- 17- MPT-1327 Trunking: Allows testing of MPT-1327 trunked radio units. No additional hardware needed, but a bit must be set in the Timekeeper.
- 18- Unassigned.
- 19- Unassigned.
- 20- 7.5 KHz IF Filter: A 7.5 KHz bandwidth filter is installed in the receiver tray to allow testing of narrow band FM communications equipment. Normally the receiver tray will have a label on top indicating this option. Bits in the Timekeeper must also be set. Filter part # is 2303-0000-017.
- 21- Autocell NT: Automated Cellular Base Station Testing for Northern Telecom cell sites. As of this time, nothing else is known of this option.

New Counter: Option displayed on the Options screen indicating that the later revision digital tray is installed, which appears to have started with late COM-120A units: always present in B and C models. A bit must be set in the Timekeeper: 1 for late model units, 0 for early model units that have had late firmware installed.

10Hz Modulator: Option displayed on the Options screen indicating that the enhanced generator board is installed, which appears to have started somewhere in the middle of the COM-120B production timeframe. A bit must be set in the Timekeeper: 1 for late model units, 0 for early model units that have had late firmware installed.