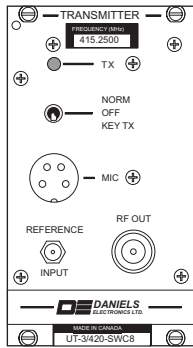


MT-3 Radio Systems**TN362 UT-3/400-S UHF Synthesized Transmitter**

The UT-3/400-S transmitter is a low power, synthesized FM transmitter capable of operating in 12.5 KHz (narrowband) or 25 kHz (wideband) channels. The UT-3/400-S transmitter operates in one of two frequency bands: 406 to 430 MHz or 450 to 470 MHz. A modular design allows each of the transmitter's modules, MT-3 Transmitter Main Board, MT-3 Audio Processor, UT-3/400 Amplifier, and OS-3/400 Synthesizer, to be individually assembled and tested. This facilitates construction, tuning and maintenance as well as troubleshooting procedures. The synthesizer module can be programmed to have up to 16 channels exclusive to one frequency band.

Specifications

Frequency Bands	406 - 430 MHz / 450 - 470 MHz
Channel Spacing	12.5 KHz or 25 KHz
Transmitter Switching Range	± 2 MHz
RF Output Power	0.5 to 2.0 or 2.0 to 8.0 Watts adjustable
Duty Cycle	100% (-40 °C to +60 °C)
Undesired Emissions (Conducted Spurious)	< -80 dBc
Undesired Emissions (Conducted Harmonics)	< -90 dBc
FM Hum & Noise Ratio (300 Hz - 3.4 KHz)	> 40 dB (narrowband) / > 45 dB (wideband)
Carrier Frequency Stability	± 1.0 ppm (-30 °C to +60 °C) (-40 °C to +60 °C optional)
Modulation Type	11K0F3E (FM) or 16K0F3E (FM)
VSWR Protection	< 20:1 (All Phase Angles)
Audio Distortion	< 2.0% @ 25 °C (< 2.5% @ -40 °C to +60 °C)
Output Impedance	50 Ω (Type N Connector)
Operating Temperature	-30 °C to +60 °C (-40 °C to +60 °C optional)
Standby Current	< 20 mA
Transmit Current (2.0 W)	< 1.20 A
Transmit Current (8.0 W)	< 2.50 A

Models Available

UT-3/420-SWCx00	Enhanced Synthesized, 25 KHz Bandwidth, 2.0 or 8.0 W, 406 - 430 MHz
UT-3/420-SNCx00	Enhanced Synthesized, 12.5 KHz Bandwidth, 2.0 or 8.0 W, 406 - 430 MHz
UT-3/460-SWCx00	Enhanced Synthesized, 25 KHz Bandwidth, 2.0 or 8.0 W, 450 - 470 MHz
UT-3/460-SNCx00	Enhanced Synthesized, 12.5 KHz Bandwidth, 2.0 or 8.0 W, 450 - 470 MHz

Transmitter Operating Frequency

The transmitter is initially aligned at the factory for the frequency stamped on the 'Factory Set Operating Frequency' label on the front panel. For a small frequency change, no re-alignment of the transmitter may be required. If the frequency change is greater than **±2 MHz** from the frequency at which the last complete transmitter alignment was performed the **audio processor** will need to be realigned. To align and / or adjust the transmitter the outer cover needs to be removed, the transmitter needs to be plugged into the subrack via a cable and / or extender card and power must be applied to the system. A 50 Ω dummy load should be connected to the RF output when transmitting.

43 Erie Street
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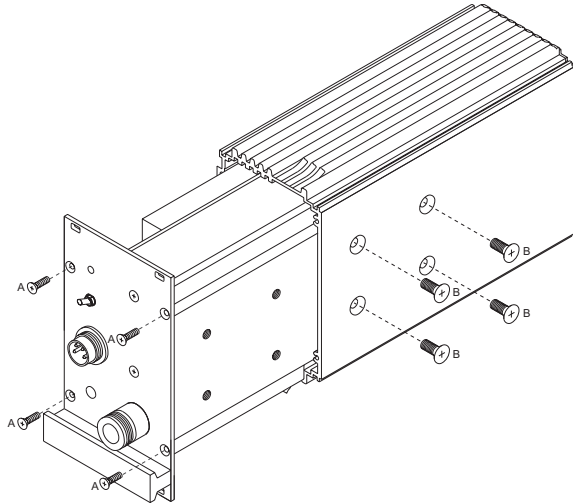
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Transmitter Alignment Procedures



Remove the four front panel screws (A) and four side panel screws (B) to slide the transmitter outer cover off and expose the Main Board, Local Oscillator, Audio Processor Board and Amplifier.

Audio Processor Alignment:

For circuit board version 43-911916 through 43-911923 refer to Technical Note TN130 Audio Processor Tuning Procedure. For other circuit board versions, refer to the appropriate manual.

Synthesizer Alignment:

No synthesizer alignment is required.

Amplifier Output Power Adjustment:

No adjustment is necessary for the output power level when a change in frequency is made. To change the power output level, adjust RV1, the output power adjustment, until the desired output power is measured.

* Older amplifier modules may require R7, the output power adjustment, to be set back to the desired transmitter output power when a change in frequency is made, however the newer models will remain with a constant output power level.

Note: For complete alignment procedures, refer to the instruction manual. These notes are for reference only.

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