



UE-1 & EE-1 Multi-Format Dialer with ANI

Manual Revision: 04-08-26

Covers Software Revisions:

UE-1: 4.0

EE-1: 1.4

SPECIFICATIONS

Operating Voltage	+5.5-15 VDC
Operating Current	2.6 mA
Operating Temperature	-30 - +60 C
PTT Output Current	200 mA
Audio Output Level	1V RMS
Audio Output Impedance	10K Ω /22 K Ω
Dimensions	1.27" x .83" x .17"

ABOUT THE UE-1

The UE-1 Series offers ANI encoding and dialing of tone formats such as DTMF, 5-tone, 2-tone, Pulse Tone, and Burst Tone. The UE-1 Series can be used with Midian's CAD-100/200 or DDU-100/200 for monitoring fleets or it can be used for equipment or alarm activations.

PRODUCT PROGRAMMING

For programming via a keypad, please reference the UE/UED Series Keypad Programming Manual.

Midian's UE-1 & EE-1 Products are programmed using the KL-3 programmer. Please reference the KL-3 manual for setup instructions of the KL-3 software and hardware. From the product selection screen on the KL-3 UP software, select the appropriate product name from the list and click OK.

Set the parameters of the UE-1 or EE-1 to fit the application. If any clarifications on a feature are required, move the mouse cursor over the feature name until the question mark appears and right click, a definition of the feature will be shown.

After entering the parameters, save the file by going to File - Save As. Enter the file name in the File Name block and click Save. Saving the file will allow for quick and easy reprogramming of units.

Connect the Orange/White wire to the Green KL-3 lead and the Black wire to a common ground with the KL-3's Black lead. The Yellow clip lead is not used with these products, as the UE-1 & EE-1 are non-readable.

Ground the PTT Input (Gray Wire); turn on power, and within 5 seconds click "Program Unit" in the menu bar to send the file to the UE-1 or EE-1.

HARDWARE INSTALLATION

Be certain to follow standard anti-static procedures when handling any of Midian's products.

Black – Ground – Connect to the nearest ground point.

Red - +5.5 – 15 VDC – Connect to switched B+ in the radio.

Brown – COR/COS – Connect to point in the squelch or CTCSS circuit that changes logic level when carrier is received. If the point in the radio only make a minute change, it may be necessary to adjust R2 & R3 to cause Q1 to change states.

Green – TX Tone Out – Connect to the modulator circuit. Use high impedance point in the radio. In Low-Z mic circuits, it may be necessary to short R31 and increase C10. If generating CTCSS, use the CTCSS point in the modulator.

Green/White – Mic Mute – If desired, connect to mic element bias point or to some other point in the audio amp to crowbar mic audio to ground during ANI to prevent voice interference.

Blue – Alert Tone/Speaker Audio – Connect to high side of the speaker. This provides Time-Out Timer, Penalty, and Go Ahead tones. When using 20-40 Ohm speakers, the onboard resistor in series with Q3 should be sufficient. When attaching this lead to a 4-8 Ohm speaker, add a 100-Ohm resistor in series with the lead to limit current.

Gray – PTT In – Requires a logic low from the radio's PTT switch. If TOT is not needed, the PTT In & Out wires can be tied together and connected directly across the radio's PTT switch. For non-common PTT, open the PTT path and connect the gray wire to the switch.

White – PTT Out – Connect to the other side of the open PTT path as referred to in the above step. The UE-1 now has control of the PTT for Time Out Timer (TOT) and penalty timer. The PTT transistor, Q5, is rated at 200 mA continuous.

Orange/White – Program In – For Program In, this lead is connected to the Green lead from the KL-3 programmer.

Violet – Auxiliary/Emergency Input – When taken to Ground, this input can send Emergency or encode in a secondary dialing format. This depends on the Auxiliary Input setting in the KL-3 under the Control tab.

HARDWARE ALIGNMENT

For the TX Audio Output in a wide band system, set the modulation pot R30 to 3.3 KHz (66% of 5 KHz) of deviation per EIA specifications. For the TX Audio Output in a narrow band system, set the modulation pot R30 to 1.65 KHz (66% of 2.5 KHz) of deviation per EIA specifications. Set CTCSS deviation to 750 Hz – 1 kHz.

RADIO PROGRAMMING

The UE-1 & EE-1 products are generic modules that wire into most radios. Any radio specific programming, if available, would be found on any Application Notes available for those radios. You may visit our website or call us for application notes.

OPERATION

ANI Encode: When the PTT Input is grounded, the unit will assert the PTT Output and send the programmed ANI tones out the TX Tone Output.

ENI Encode: When the Emergency Input is grounded, the unit will assert the PTT Output and send the programmed Emergency ANI tones out the TX Tone Output.

Keypad Dialing: To send a page or make a selective call via the keypad enter the desired sequence followed by the * key. The * key acts as the send key. If a mistake is made during entry, press the # key to clear the entry. When the * key is pressed the unit will assert the PTT Output and send the sequence out the TX Tone Output.

Memory Dialing: The technical notes section explains how to enter the memory dials into memory.

To send a sequence from memory enter the * key followed by a 0-9 that corresponds to the sequence in memory you wish to send. When the memory dial is entered the unit will assert the PTT Output and send the sequence out the TX Tone Output.

COR Input: This input controls busy lockout. The COR polarity must be programmed for the active carrier polarity of the radio.

1. Busy Lockout: If COR is active and the unit tries to encode with busy lockout enabled, the unit will be prevented from keying up.

TECHNICAL NOTES

Memory Dial: The UE-1 and EE-1 support a 10 number memory dial and last number redial. Last number redial is accomplished by entering **. To enter the programming mode for memory dial enter the following sequence:

000000

The unit will beep 3 times to confirm entry into programming mode.

To enter a memory dial enter the sequence followed by *n, where n equals the memory location (0-9). For example 1234*1 would enter a sequence of 1234 in the first memory dial register. For special characters such as A, B, C and D press the PTT while pushing the "2" key for A, the "5" key for B, the "8" key for C, and the "0" key for D. The European group tone "G" can also be used by holding the PTT and pressing the "*" key. To exit memory dial programming, enter the following sequence:

000000

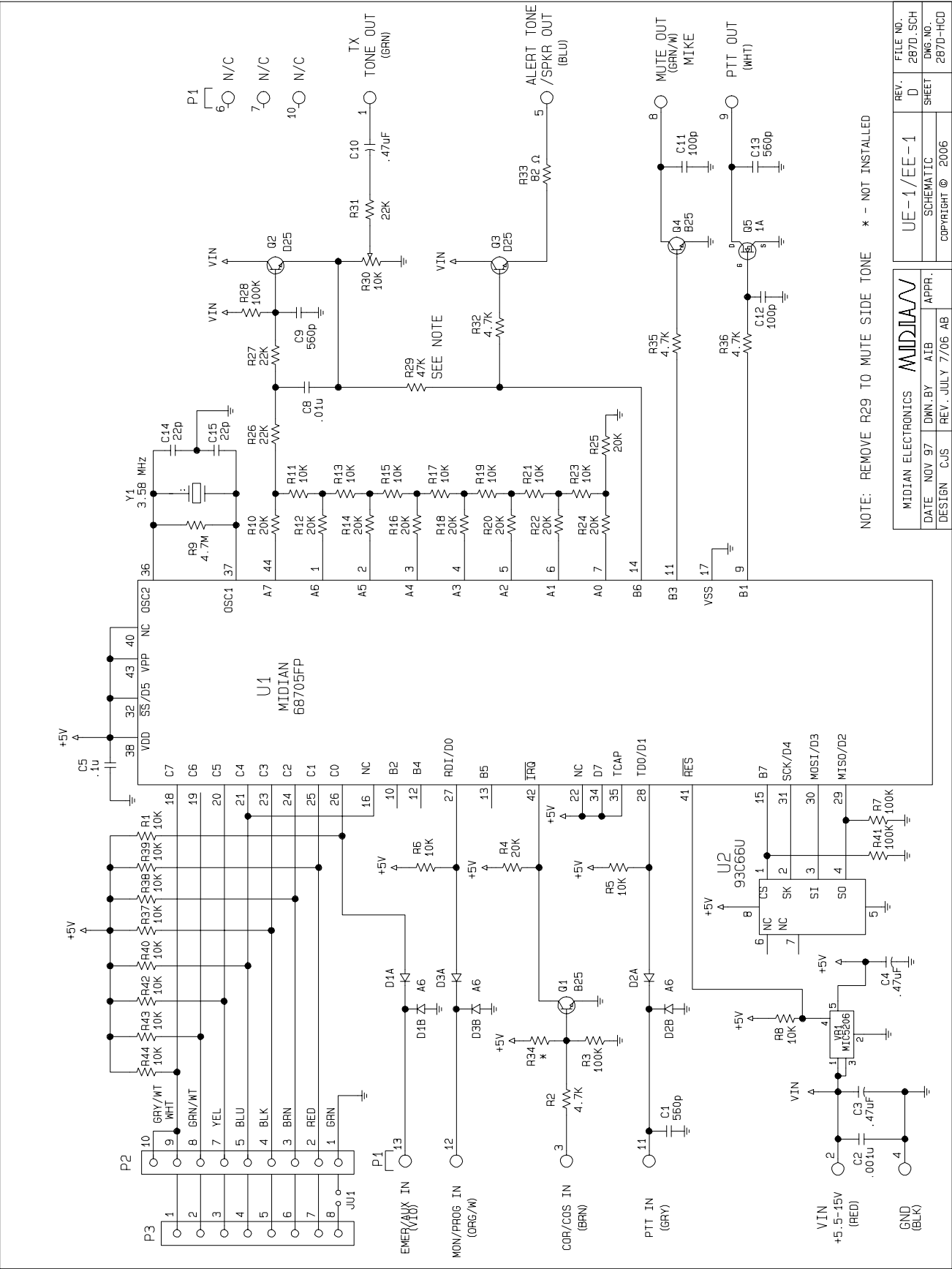
The unit will respond with a long beep and resume normal operation.

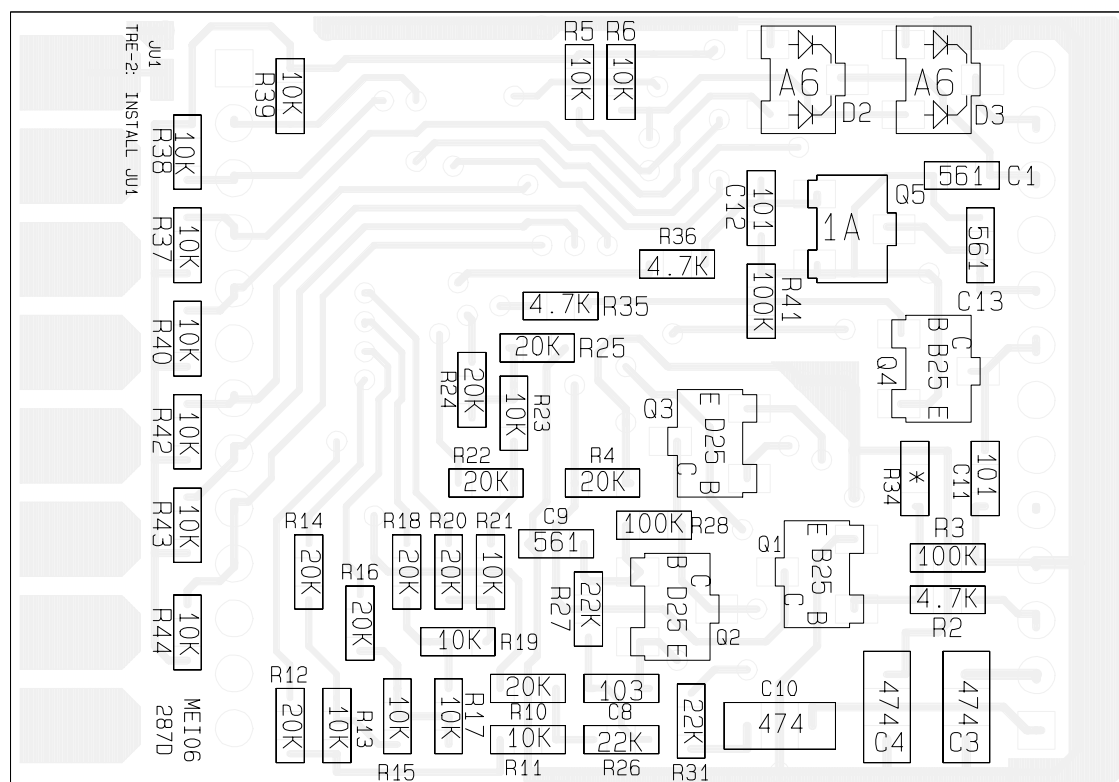
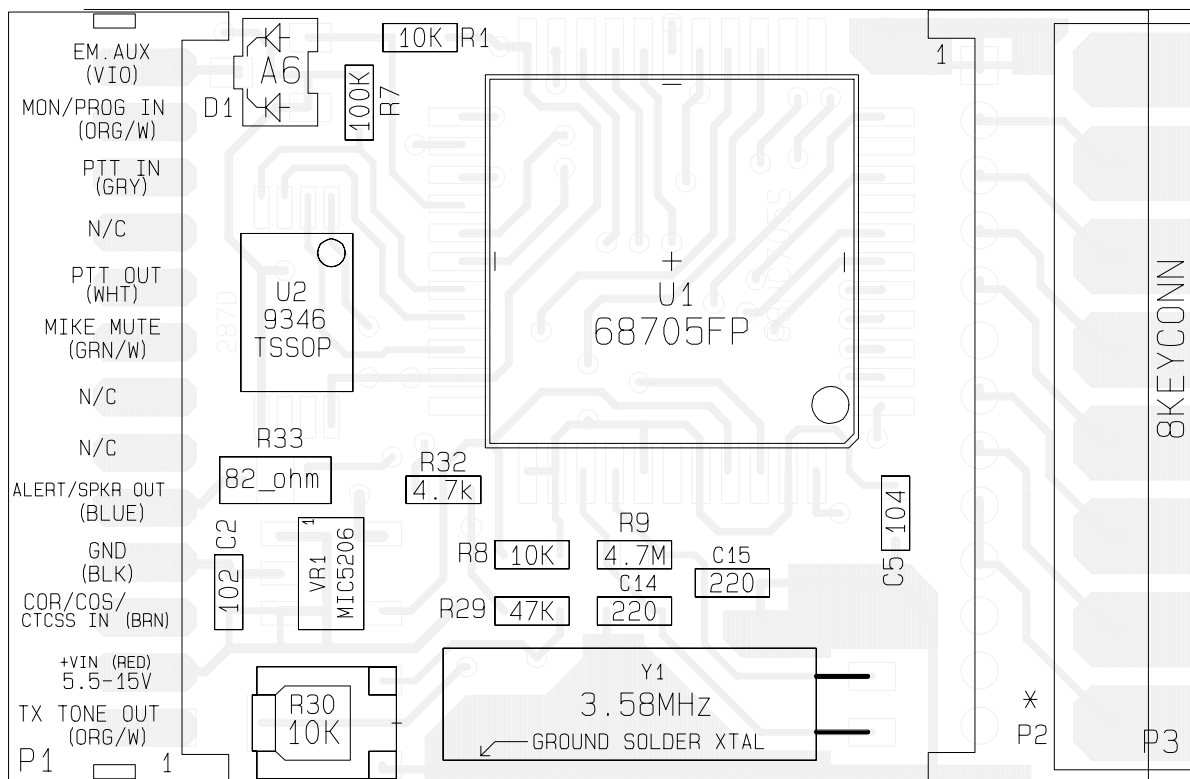
To dial from memory, simply enter *n, where n equals the memory location (0-9).

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* NOT INSTALLED

MIDIAN ELECTRONICS		MIDIAN	
DATE	NOV 97	DWN.BY	AB
DESIGN	CJS	REV.	JULY 7/06 AB

UE-1/EE-1		REV.	FILE NO.
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