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Selectone
PRODUCT GROUP

New Product Bulletin

ST-804A Multi-Format Encoder

DTMF ANI/ENI • Two Tone Sequential • Burst Tone

DESCRIPTION



The new ST-804A is a highly versatile encoder module compatible with three popular land mobile radio signalling formats: DTMF ANI/ENI, Two-Tone Sequential, and Burst (Single) Tone. This single miniature module, measuring only 1.15"L x 0.84"W x 0.15"H, replaces the following Selectone encoder models: ST-110, ST-202, and ST-803.

Applications include Automatic Number Identification (ANI) and Emergency Number Identification (ENI) to provide positive identification of the transmitting radio in fleet dispatch systems; a paging encoder for signalling two-tone sequential decoders; and a burst tone encoder for remote control, status reporting, and other basic telemetry applications.

The ST-804A is field programmable to any of the three signalling formats using a PC and Selectone Product Manger™ Software, available in both DOS and Windows formats. Complete programming and installation instructions are provided with each unit.

DTMF ANI/ENI ENCODER

When programmed as an ANI encoder, the ST-804A is activated by the operation of the PTT (Push To Talk) switch of the host radio. The ST-804A responds by sending a pre-programmed sequence of up to 15 DTMF digits at a data rate of up to 20 digits per second. Depending on the programming, the ANI sequence may be generated at the beginning and/or at the end of the PTT action. When received and decoded by the companion ST-888 ANI Decoder/Display, the ANI sequence provides positive identification of the transmitting station or mobile unit.

When the ENI (Emergency Number Identification) input is activated, a second code sequence is generated which is recognized as an alarm or emergency condition by the companion ST-888 decoder/display unit. The ENI sequence will be repeated for a programmed number of cycles, or until reset by the operator.

ST-804 ANI/ENI FEATURES

- **Time-out Timer (TOT)** – disables transmitter after a pre-set period. Limits time that a channel can be captured by a stuck microphone or system abuser.
- **Stuck Microphone Alarm** – Alerts operator that TOT limit has been exceeded.
- **Prefix or Suffix ANI Code** – allows ANI at beginning and/or at the end of a transmission. Can be same or different codes.
- **Variable Xmit Delay** – to adjust silent "front porch" delay for operation through repeaters or trunking systems.
- **Microphone Muting** – to mute voice audio during transmission of ANI or ENI sequence.
- **Programmable Tone On/Off Time** – to adjust signalling speed from 1 to 20 digits per second to match the requirements of the companion decoder/display unit.
- **ANI Hold-off Period** – to inhibit ANI for a pre-set period or number of PTT activations. Used when ANI is not desired with every PTT.
- **ENI Talk Window** – Maintains open microphone after ENI code activation to allow dispatcher to listen to sounds at the site of the emergency.
- **ENI Re-transmit Time** – to repeat ENI code sequence at pre-set intervals.

TWO TONE SEQUENTIAL ENCODER

When programmed as a two-tone sequential encoder, the ST-804A will generate a two tone page of tone 1 followed by tone 2 for the programmed times and frequencies whenever the primary input lead is grounded. If a secondary input lead is grounded, the ST-804A will generate tone 2 followed by tone 1. If both input leads are grounded at the same time, an "all call" of tone 1 is generated for the programmed all call duration. The tones can be programmed to any frequency between 300 and 3000 Hz, while the duration of each tone is programmable from 50 ms to 3 seconds.

When used as a two-tone sequential encoder, the ST-804A is compatible with the Selectone ST-200A/B or similar two-tone decoder.

BURST TONE ENCODER

When programmed as a burst tone encoder, the ST-804A will generate a single tone at a pre-programmed frequency, either continuously or as a momentary "burst" of tone. The tone frequency is programmable from 300 to 3000 Hz, while the tone duration may be programmed from 300ms to 1 second, or continuous.

When used as a burst tone encoder, the ST-804A is compatible with the Selectone ST-120 or similar decoder.

PRODUCT MANAGER™ SOFTWARE

Like most Selectone products, the ST-804A is PC programmable using the Selectone Product Manager software. The ST-804PM Product Manager is available in both Windows and DOS versions and may be ordered from the factory or downloaded from the Selectone Website by clicking here. *Note: DOS version required to program two-tone sequential and burst tone formats.*

PC PROGRAMMING KIT

The ST-954 Programming Kit is required for programming the operating parameters of the ST-804A. The ST-954 kit consists of three items: a ST-954B Programming Adapter which interfaces between a PC and the ST-804A encoder; a 6' RS-232C serial cable assembly; and a DB9 to DB25 adapter plug. The ST-954 kit may be used to program most Selectone products.

For customers who already have a serial cable, the ST-954B Programming Adapter may be purchased separately or constructed from a circuit schematic available from the Selectone website by clicking here.

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APPLICATION NOTES

Application Notes with detailed installation instructions for a wide variety of mobile radios are available free of charge by clicking here. For further applications assistance, contact the Selectone Technical Support Department at (714) 998-3021, or by e-mail at sales@com-spec.com.

ST-804A OPERATING SPECIFICATIONS	
SPECIFICATION	**DETAIL**
Operating Voltage	5.2 Vdc to 16.3 Vdc
Operating Current	<6mAdc
Active Open Collector	≥40mAdc Vce≤ .4Vdc
Limit Timer Alert Tone	CMOS logic, 10K series resistor
Tone Output Level	Adjust 0 to >3 V p-p composite DTMF signal with <1 dB twist
Frequency Range	Burst Tone and Two-Tone from 300-3000Hz
Temperature Range	-30°C to +60°C
Tone Output Impedance	
Non Signaling	>500k
Signalling	<30 Ohms
Input Logic Levels (All)	Logic HI: ≥3.4 Vdc Logic LO: ≤.9Vdc
Interface	18" flying leads terminated in a 13 pin low profile connector
Size	0.84"W x 1.15"L x 0.15"H (21.3mm x 29.3mm x 3.8mm)
Specifications and descriptions subject to change without notice	

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