

TECHNICAL NOTE TN-1103

Definition of MDC-1200 Signalling in the TM8100

17 October 2005

Applicability

This Technical Note is a definition of the MDC-1200 Signalling in the TM8100 Mobile radio with Firmware v2.09 (or later).

1. MDC-1200

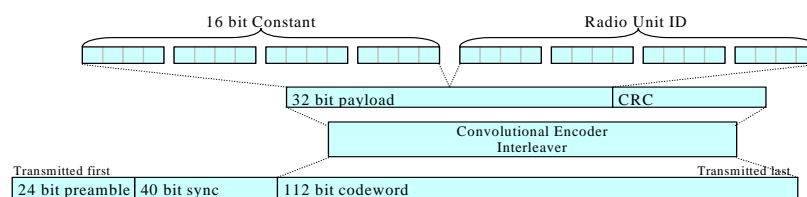
MDC-1200 is a signalling scheme developed by Motorola. It has facilities for: PTT ID, Emergency Alarm, Call Alert, Selective Calling, (Quiet) Radio Checking, Data Operated Squelch, Status messaging, Horn/Lights Alert, ID Decode Display.

The TM8100 implementation supports just the transmission of the PTT ID (ANI) and the Emergency Alarm services. No receiving services are used.

MDC-1200 Sequences carry a payload of 32 bits consisting of a 16-bit constant and a 16-bit individual Radio unit ID, programmed by the user using 4-digit Hexadecimal sequence (0000 to FFFF).

The 16-bit constants are either the ANI Sequence or Emergency Sequences.

See TM8100 PC App: **MDC-1200 Options > Parameters / Presets**.



ANI sequences are transmitted immediately after the PTT is pressed or immediately after it is released.

When an ANI is transmitted at PTT press (Leading ANI) it is preceded with an optional Lead-In time that allows time for the receiving device to open its mute (CTCSS decode time for example).

Enabling MDC-1200

MDC-1200 functionality in the TM8100 requires v2.09 (or later) Firmware and the SFE Key enabled in each radio.

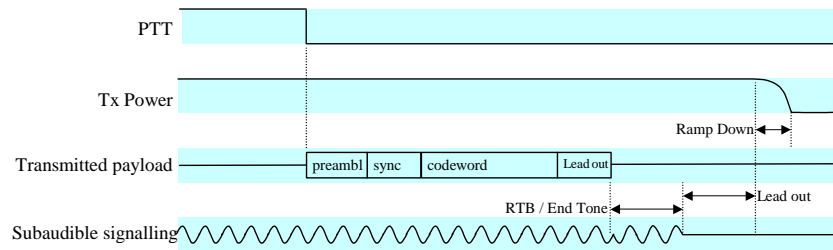
For TM8000 firmware upgrade procedures see **TN-969**.

See **TN-999** on how to obtain and program a SFE key.

The MDC-1200 Signalling SFE Key order code is **TMAS012**.

2. Configuration

Subaudible signalling diagram as it applies to MDC-1200 transmissions.



When sending an MDC-1200 sequence the TM8100:

- Waits the programmed time Lead-In Delay at the start of a transmission.
- Transmits the MDC-1200 sequence including the:
 - 24 bit preamble
 - 48 bit sync
 - 112 bit codeword
- A Lead-Out delay at the end of the codeword is then transmitted. Note: This occurs irrespective of whether the transmission is about to stop or not and passes no in-band audio so be wary of setting this too long where it may impact on subsequent user speech.

TM8100 MDC-1200 Options

Parameters	Values	Units	Defaults
Lead-In Delay	0 to 5000 (in steps of 10)	m/sec	500
Lead-Out Delay	0 to 2500 (in steps of 10)	m/sec	0
Radio ID	0000 to FFFF	Hex	0001
ANI Sequence	0000 to FFFF	Hex	8001
Emergency Sequence	0000 to FFFF	Hex	0001

NOTE: It is not recommended the ANI or Emergency Sequences are changed from the defaults.

Compliance Issues None.

CSO Instruction Inform all sales and service staff and dealers of the released information.

3. Issuing Authority

Name and Position of Issuing Officer Graham Brenchley
Technical Support Engineer

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