



TECHNICAL NOTE TN-1140b

TM8000 Horn Alert Operation

20th February 2006

Applicability

Applies to anyone that intends to use GPIO4 on the AUX port to drive an external alert device on the TM8000.

1. Introduction

The AUX_GPIO4 line of the auxiliary connector can be fitted with a power MOSFET (Q707) in order to directly connect external alert devices (e.g. flashing light, buzzer, horn relay) to the radio. (Refer to section 8 of the 3dk manual MMA-00011-00 Issue 2 for fitting instructions).

The required part is either a:

- MTP3055VL Npwr Mfet. **Tait IPN:000-00305-52**
- Or
- Xstr NTD3055 N PRWFET DPAK-3 **Tait IPN: 000-03055-00**

NOTE: IPN: 000-00305-52 will no longer be available once the current stock level at TEL is used up. Once this has occurred it will then be replaced with **IPN: 000-03055-00**.

Q707 is operated via the external alert line within the radio (configured for an active low). The output of Q707 is then used to switch a path to ground for the external alert device.

It has been found that if the radio's power supply is removed but 13.8 Volts is still being supplied to GPIO4 (via the external device) then a 'back feed' can occur causing the radio to partially power up. This can cause the Horn, or other external alert device on the output, to activate.

2. Details

Modification required

To prevent this from occurring another relay powered from the 13.8V switched line of the radio (Pin 8 on the AUX connector) will need to be used to switch the external device to ground upon an external alert activation.

This will then provide an isolated switched output that is not affected when the supply voltage of the radio is disconnected. It also provides an additional means of protection to the radio should the voltage at GPIO4 exceed it's safe DC input level of Supply Voltage + 0.5 Volts, such in a 24 Volt installation.

Figure 1 shows the configuration for a TM8000 horn alert setup using the additional relay.

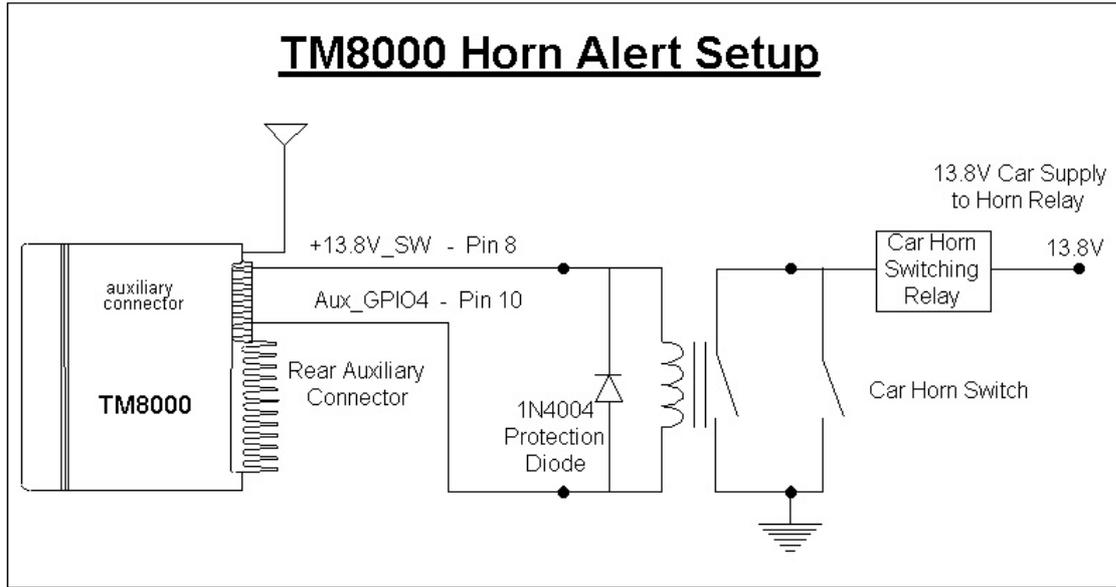


Figure 1

Compliance Issues

None

CSO Instruction

Please distribute to Customers and dealers that have purchased a TM8000 with the intention of operating it with an external alert device.

Associated documentation

None

3. Issuing Authority

Name and Position of Issuing Officer

Malcolm Brown
Senior Technical Support Engineer

Confidentiality

Confidential – This message or document contains proprietary information intended only for the person(s) or organisation(s) to whom it is addressed. All Recipients are legally obliged to not disclose Tait technological or business information to any persons or organisations without the written permission of Tait.

Distribution Level

Associate

Document History

Original Release Technical Note	15 th November 2005	BD
TN-NSC104 - TM8000 Horn Alert Setup written by National Service centre		
Reformatted TN-NSC104 for Technical Support	17 th January 2006	MJB
Updated with Q707 IPN numbers	20 th February 2006	MJB