



TECHNICAL NOTE TN-1134

TB7100 DCS Operation

17th January 2006

Applicability

Applies to anyone that intends to pass a DCS (Digital Coded Squelch) signal through a TB7100 fitted with either a 220-02077-04 or 220-02077-05 SIF (Systems Interface pcb).

1. Introduction

The talk-through audio that is passed between the receiver and the transmitter modules (via the SIF configured in repeater mode) and 'tapped in' audio via the SIF 25 way (at the rear of the TB7100) are both inverted before reaching the TB7100 transmitter module on revisions -04 and -05 of the SIF.

Under normal speech audio conditions this does not have any adverse effect on normal operation. This inversion does however have an effect on the operation of a DCS signal rendering it undetectable by the terminals operating through the TB7100.

This inversion is occurring through a section of U508, which was designed to operate as a summing amplifier for speech audio and a CWID signal generated on the SIF. The generation of the CWID signal is now done within the transmitter module of the TB7100 therefore this section of the circuit will be removed in the -06 revision SIF.

2. Details

First Serial Number

All TB7100 basestations built from the 7th November 2005 fitted with either a -04 or -05 SIF will have this modification done during manufacturing at TEL.

The serial number of the first TB7100 to have this modification done at TEL was 18014659.

Modifying the SIF to enable DCS operation

To modify the SIF, U508 pins 2 and 3 need to be electrically isolated and pin 1 needs to be physically isolated. This is done by doing the following (See figure 1 for component location):

1. Remove R541 (47k) and C530 (100pF) and replace both with a 0 ohm resistor (Tait IPN: 038-10000-00).
2. Lift pin 1 of U508 away from the PCB

No other modifications/programmable changes are required.

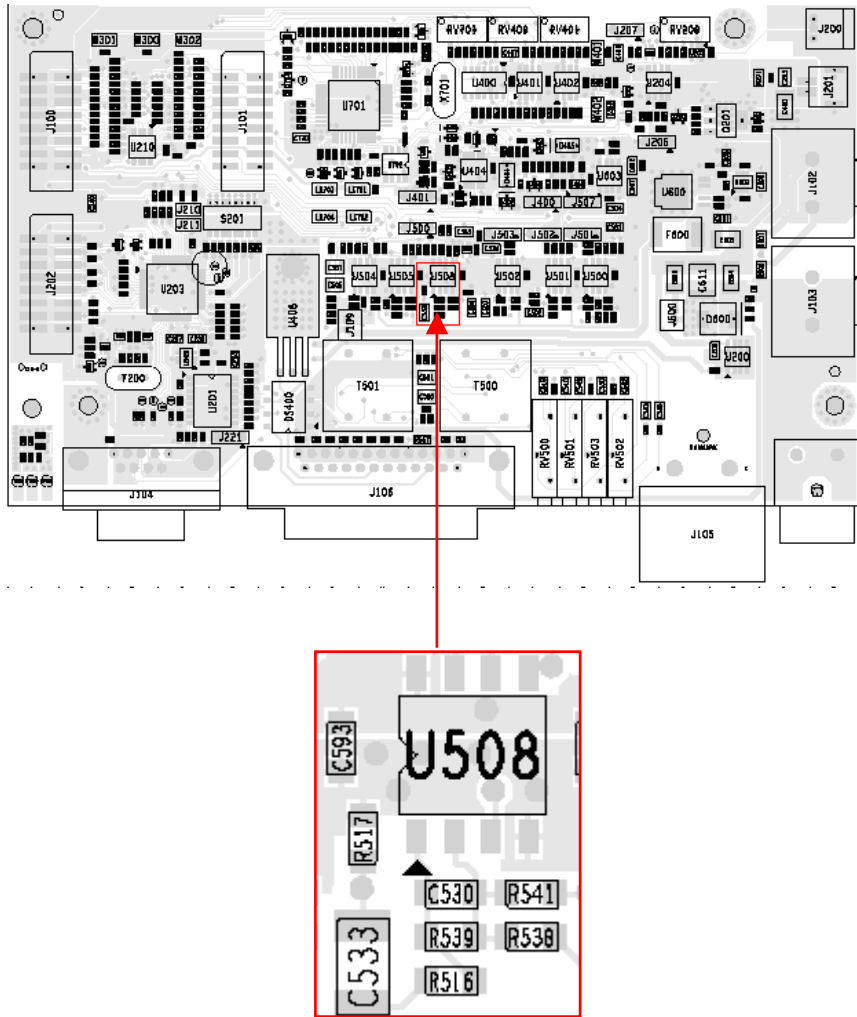


Figure 1

Compliance Issues None

CSO Instruction Please distribute to Customers and dealers that have purchased a TB7100 with the intention of operating it within a system using DCS

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 17th January 2006 MJB