

Expertech MDT301 Interface to Tait TM8100 Issue No.: AN21-00 DRAFT Author: TEA Engineering



General

Following details general instructions for interfacing an Expertech MDT301 to a Tait TM8100 mobile

Note

We have not actually done this interfacing ourselves. This is draft general information only, based on feedback from others who have successfully interfaced the TM8100 and the Expertech MDT301 and is offered as guidance for those wishing to do the interface. Any feedback or suggestions most welcome

Parts

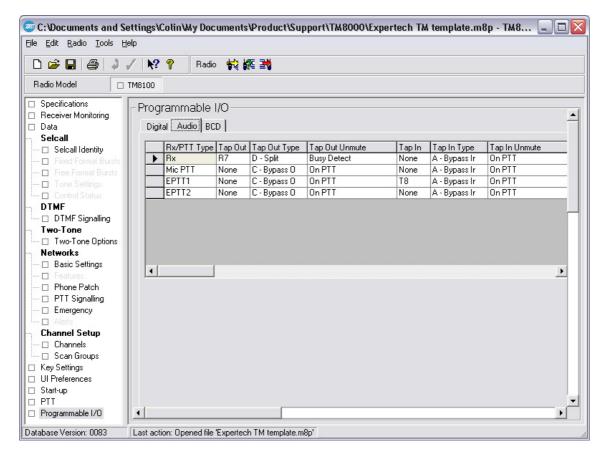
The parts required are as follows:

Part Number	Description	Supplier	Qty.
TM81xx-xxxxx	TM8105, TM8110 or TM8115 as required in required frequency band	Tait	1
	BS170 N-channel EM FET		1
	Wiring loom as required D25M to MDT301 D15M to TM8100 auxiliary connector		1

Procedure

- 1. The radio must be fitted with Raywood firmware "2417A120.S2"
- 2. The template file MDT301.m8c this provides the IO programming parameters for the radio to provide the interface. Modify this template for appropriate channel information etc using the TM8100 programming software. The I/O template is shown following:

e Edit Radio Tools Hel	lp								
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Radio Model 🛛 🗆 T	M8100								
] Specifications	- Prog	rammable	1/0						
Receiver Monitoring	-								
Data	Digit	al Audio B	CD						
Selcall		Pin	Direction	Label	Action	Active	Dehoumool	Signal State	Mirrored To
🗆 Selcall Identity			Input	PTTIN	External PTT 1	Low	0	None	None
D Fixed Format Bursts	-	AUX GPI2	Input	2BSETUP	Enter Emergency Mode	Low	100	None	None
D Free Format Bursts		_	Input		Power Sense (Ignition)	High	10	None	None
		AUX GPIO4		None	No Action	None	None	None	None
DTMF		AUX_GPI05		None	Busy Status	High	None	None	None
- DTMF Signalling		AUX GPIO6		RXMUTE	Mute Audio Output Path	Low	100	None	None
Two-Tone		AUX_GPI07	Outpul	BUSY	No Action	Low	None	None	None
Two-Tone Options		IOP_GPI01		None	No Action	None	None	None	None
Networks		IOP_GPIO2	None	None	No Action	None	None	None	None
- Basic Settings		IOP_GPIO3	None	None	No Action	None	None	None	None
		IOP_GPIO4	None	None	No Action	None	None	None	None
Phone Patch		IOP_GPI05	None	None	No Action	None	None	None	None
🗆 PTT Signalling		IOP_GPIO6	None	None	No Action	None	None	None	None
Emergency		IOP_GPI07	None	None	No Action	None	None	None	None
🗆 Alerts		CH_GPI01	None	None	No Action	None	None	None	None
Channel Setup									•
- Channels	- Acl	tion Parameter:	s						
🗆 Scan Groups		En		1ode Stealth			Output Co.	eaker Audio P	- 11-
Key Settings		En	iergency M	10de Stealtr	u 🗾 🖳 🗸	nmute Audic	output Spe	eaker Audio P	ath 🔽
UI Preferences		M	ute Audio I	nput Audio	Tap In 💌		Н	ome Channel	1 -
Start-up									
PTT									
Programmable I/O									



3. Program the radio with the modified file.

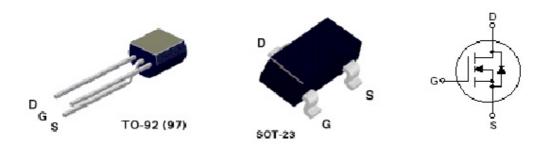
MDT301	Function	Tait TM81xx		
(D25M)		(D15M)		
1 & 14	+13.8V *	8		
2,3 & 4	Ground	15		
7	Radio Rx Data	3		
15	Rx Speaker Mute	Source of the FET**		
	Drain of the FET**	9		
	Gate of the FET**	2		
17	Tx Key	12		
19	Carrier Detect	1		
20	Rx Audio	13		
21	Tx Audio	7		

4. Make up a wiring loom of the necessary length as follows:

Notes:

* 13.8V can be either switched or unswitched. It will be switched by default, to change to an unswitched supply Links LK5, LK6, LK7 & LK8 need to be fitted in the radio. (refer to radio 3DK manual Section 8 for further details.)

** the FET is fitted into the shell of the 15W D range connector fitted to the TM81xx. The FET is required to provide a delay on powerup as the TM8000 I/O is edge triggered and if the MDT is presenting a radio speaker mute on powerup then the radio will not see the edge triggering leading to the radio being potentially unmuted.



5. Test radio and MDT on the system to confirm correct operation