

# Service Monitor 2000

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RF Technology Service Monitor is 32 bit software written in C++ for Windows 95/98. It complements the original DOS program TechHelp and is used to facilitate programming and setup of the Eclipse range of base stations.

Service Monitor addresses suggestions and requests from field service personnel and is also used extensively in house. The information displays are similar to TechHelp and it's operation is designed with ease of use in mind. Your PC screen resolution should be set at 800 x 600 or higher.

Features include:

- ability to read settings from a known working module e.g. receiver or transmitter to duplicate another
- save to file those settings for future use
- create a new file and save channel data
- ability to read current TechHelp files and convert to Eclipse data file format ( i.e. \*.edf)
- automatically checks that the channel data matches the device model before programming
- reports frequency 'out of model range' warning and writes zeros if the warning is not heeded

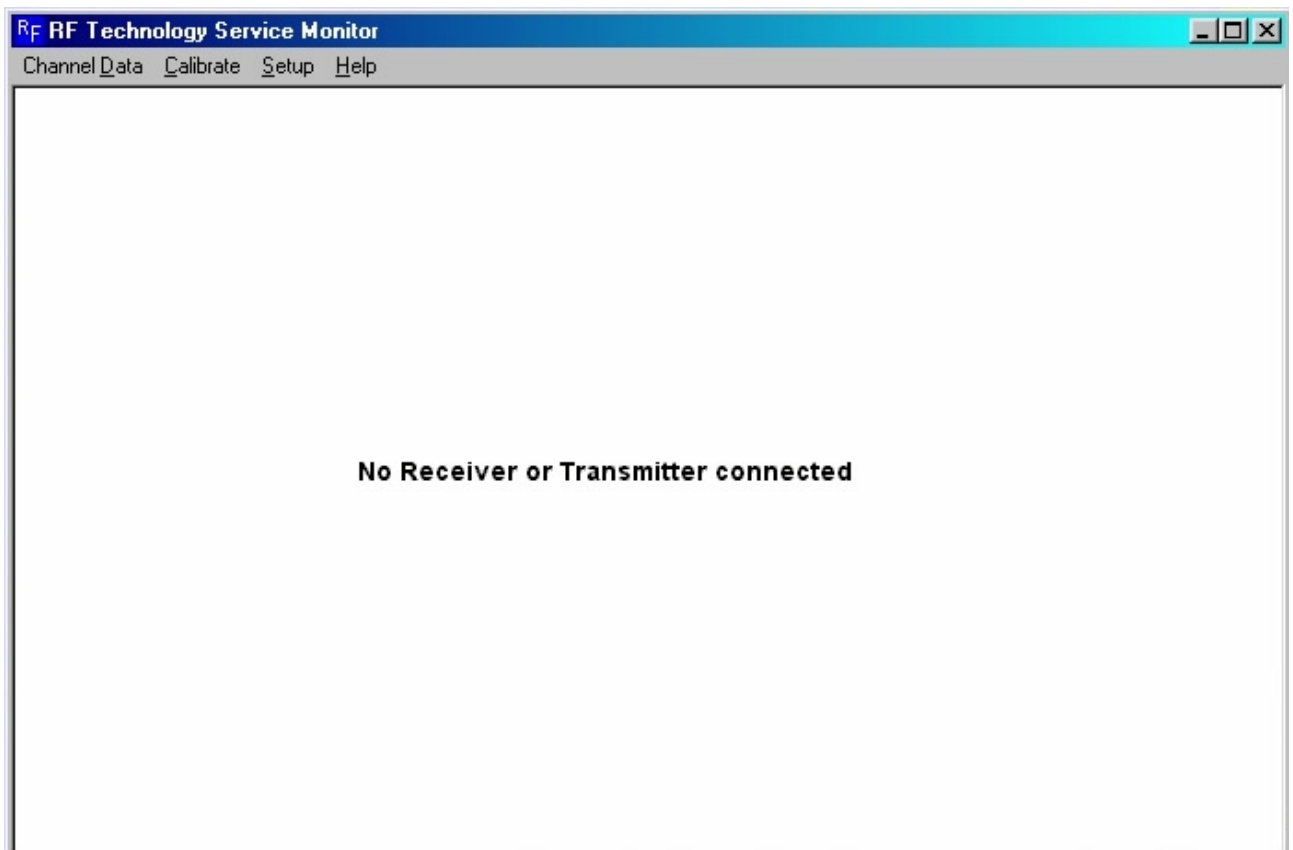
## Installation

Copy all Service Monitor files to a directory of your choice or into \eclipse directory with TechHelp files. To reuse a TechHelp customer file you must first rename the file to include a .prg extension so that Service Monitor can recognise it. TechHelp customer files are 4K in size.

E.g. Rename 'customer' file to 'customer.prg' (program file)

Note: TechHelp program files contain both receiver and transmitter channel information.  
Service Monitor eclipse data files (\*.edf) contain either receiver OR transmitter channel information only.

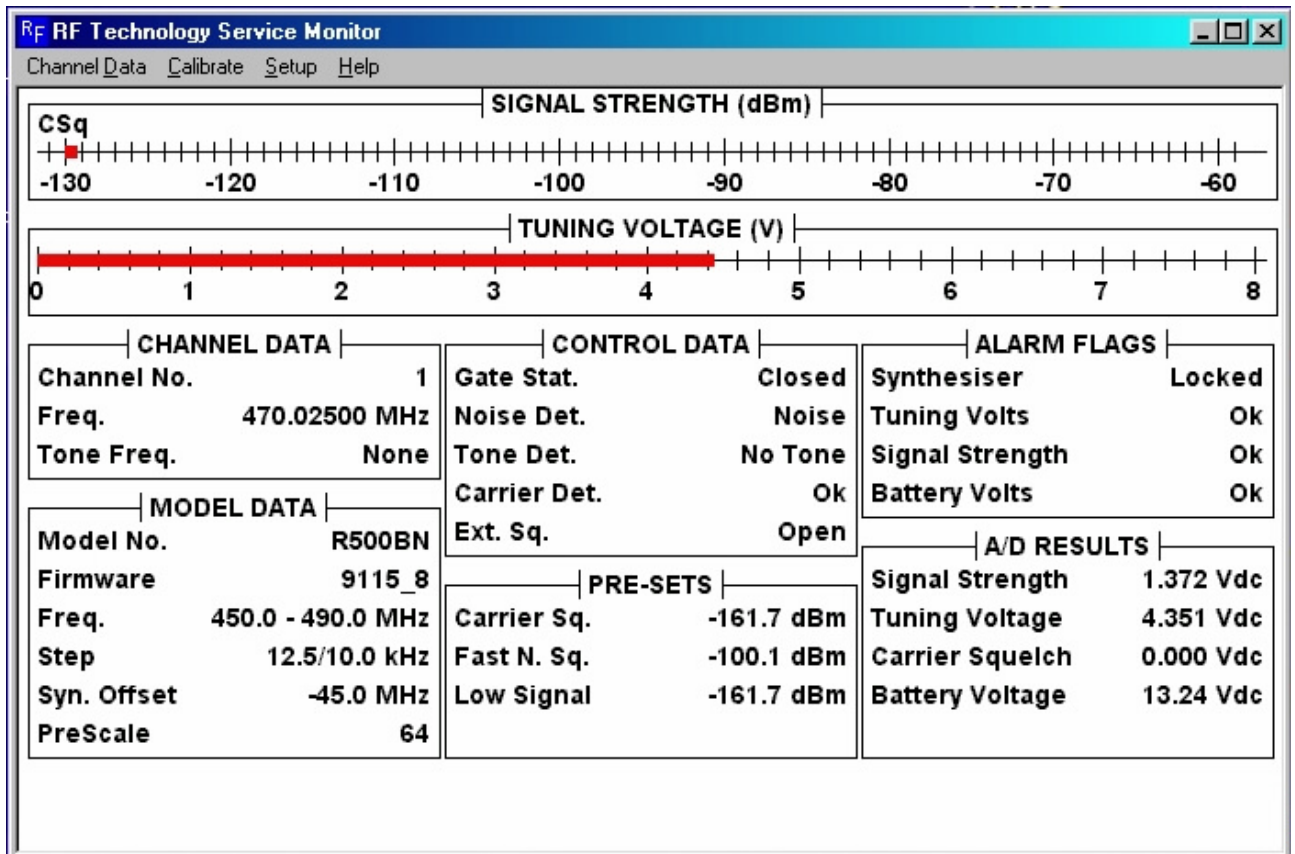
e.g. Startup Screen



# Operation

When a module is powered up and connected via the serial port, a successful connection is confirmed by information displayed in the service monitor screen.

e.g. Typical Receiver information screen.

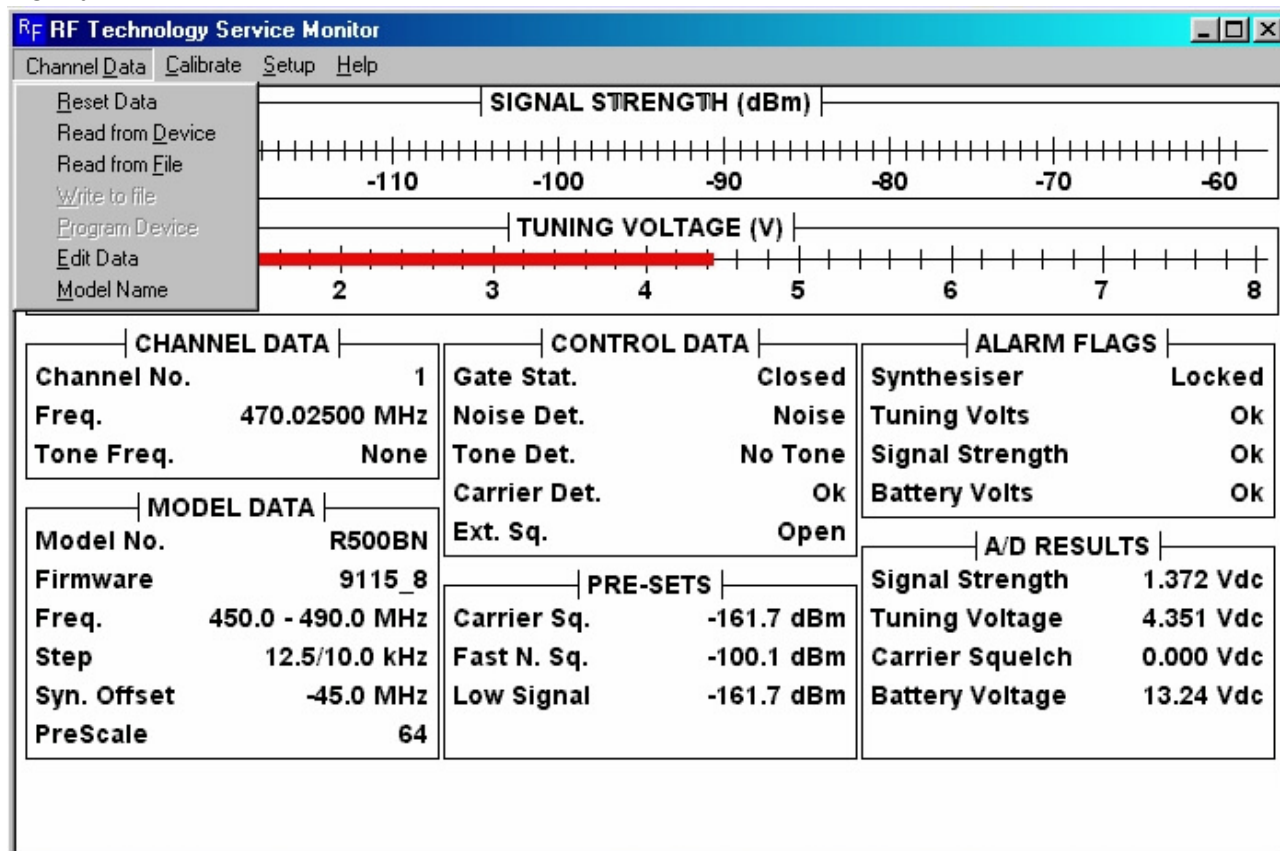


All functions are covered under three menus:

**Channel Data,  
Calibrate and  
Setup.**

## Channel Data menu

e.g. Typical Receiver information screen.



**Reset Data** – clears the information in memory and sets zeros in all channel data

**Read from device** – reads channel information from the connected device. The information is temporarily stored in memory. Use **Edit Data** to view or modify the channel data or **Write to file** to save the information in which case you will be prompted to enter a file name.

Note: The \*.edf files are in text format and can be viewed or printed using Windows Notepad.

**Read from file** – reads Eclipse Data Files (default \*.edf files) or select TechHelp Program Files (\*.prg files). The information is temporarily stored in memory. Use **Edit Data** to view or modify the data

Note: A TechHelp program file must be read twice to retrieve both receiver and transmitter channel information.

Before reading the file, select and enter the **Model Name** type. The first letter must be an 'R' or 'T'. e.g. R500A, T150B. This selects the appropriate channel information to retrieve. After reading the file, you may edit and save the data with 'write to file' and an appropriate file name. The Model Name will be saved within the file information

**Write to file** – saves to a file the channel information seen in **Edit Data**. The file is saved in \*.edf (Eclipse Data File) format and the file name should in some way highlight if it's for a receiver or transmitter

**Program Device** – provides a progress bar while programming the channel data

**Model Name** –

To create a file start here. Enter 'R' or 'T' for Receiver or Transmitter followed by model type e.g. 150A, 500B etc

## Edit Data –

**Channel:** Use UP/DOWN to change CHANNEL numbers sequentially or just type in a number from 0 to 99 for quick entry

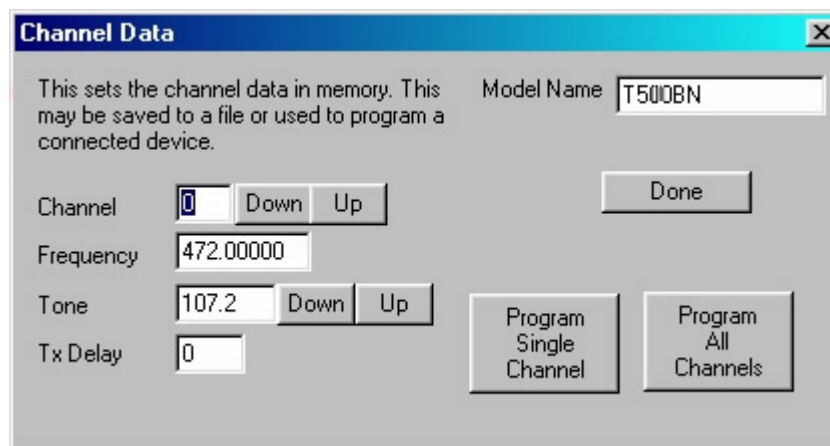
**Frequency:** The number entered is checked for validity prior to programming channel data

**Tone:** 0 (none) or 67 to 254.1 Standard international tone frequencies are provided. Enter nearest whole number and the program will add the decimal number e.g. 107 entered, press UP & DOWN produces 107.2 or simply use UP/DOWN to go to next preset number

**Tx Delay:** a number between 0 and 15 seconds

**Program Single Channel** button – programs displayed channel

**Program All Channels** button – takes approx 30 seconds to complete all channels



**Channel Data**

This sets the channel data in memory. This may be saved to a file or used to program a connected device.

Model Name: T500BN

Channel: 0 [Down] [Up]

Frequency: 472.00000

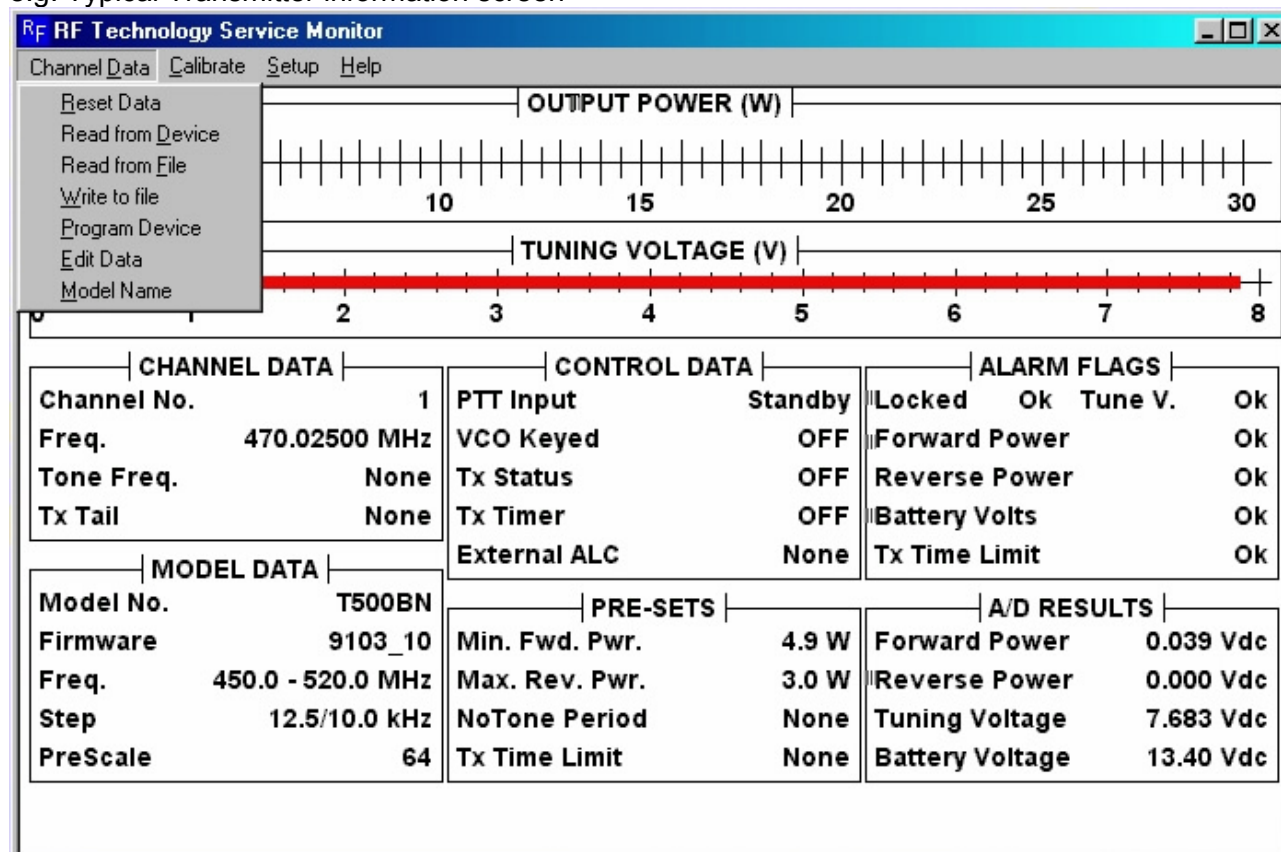
Tone: 107.2 [Down] [Up]

Tx Delay: 0

[Done]

[Program Single Channel] [Program All Channels]

e.g. Typical Transmitter information screen



**RF Technology Service Monitor**

Channel Data | Calibrate | Setup | Help

Reset Data  
Read from Device  
Read from File  
Write to file  
Program Device  
Edit Data  
Model Name

**OUTPUT POWER (W)**

10 15 20 25 30

**TUNING VOLTAGE (V)**

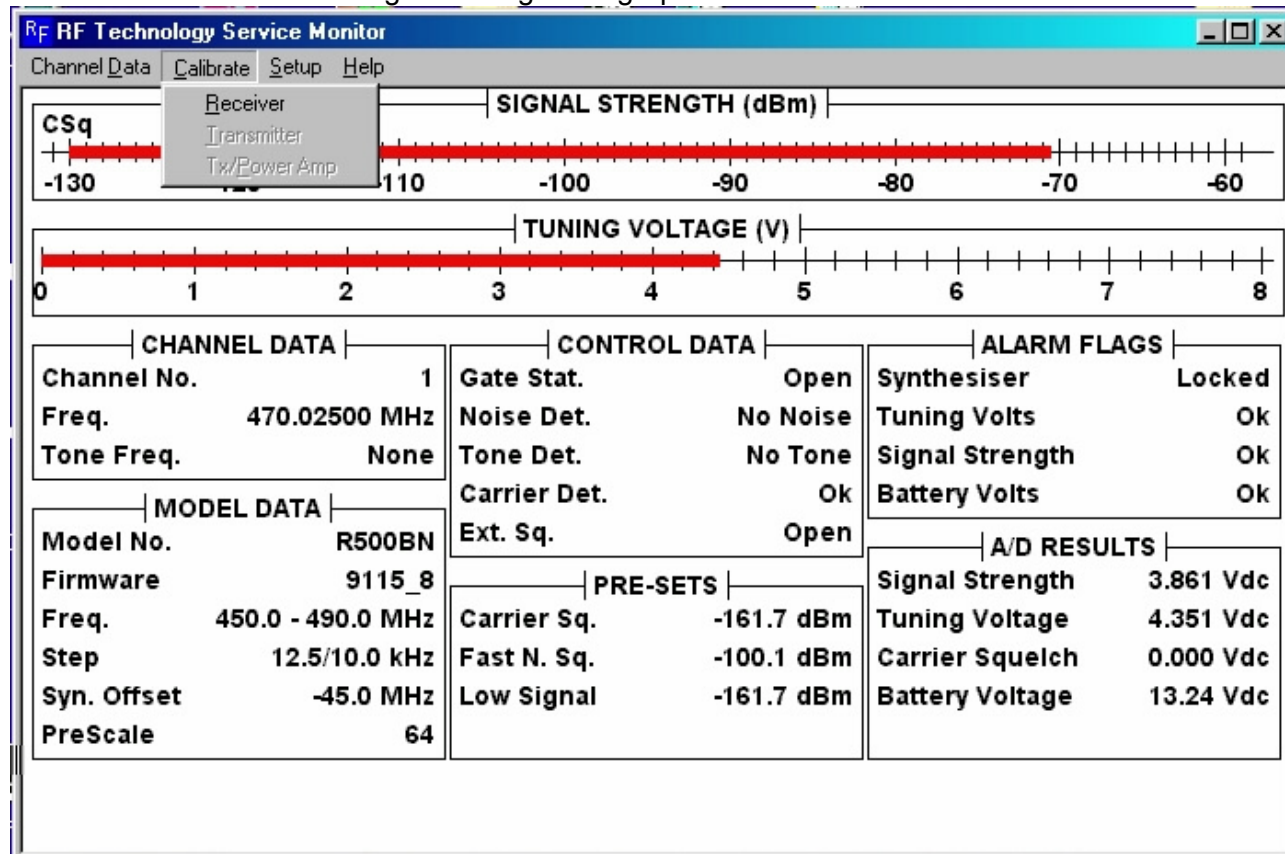
2 3 4 5 6 7 8

CHANNEL DATA		CONTROL DATA		ALARM FLAGS	
Channel No.	1	PTT Input	Standby	Locked	Ok
Freq.	470.02500 MHz	VCO Keyed	OFF	Forward Power	Ok
Tone Freq.	None	Tx Status	OFF	Reverse Power	Ok
Tx Tail	None	Tx Timer	OFF	Battery Volts	Ok
		External ALC	None	Tx Time Limit	Ok

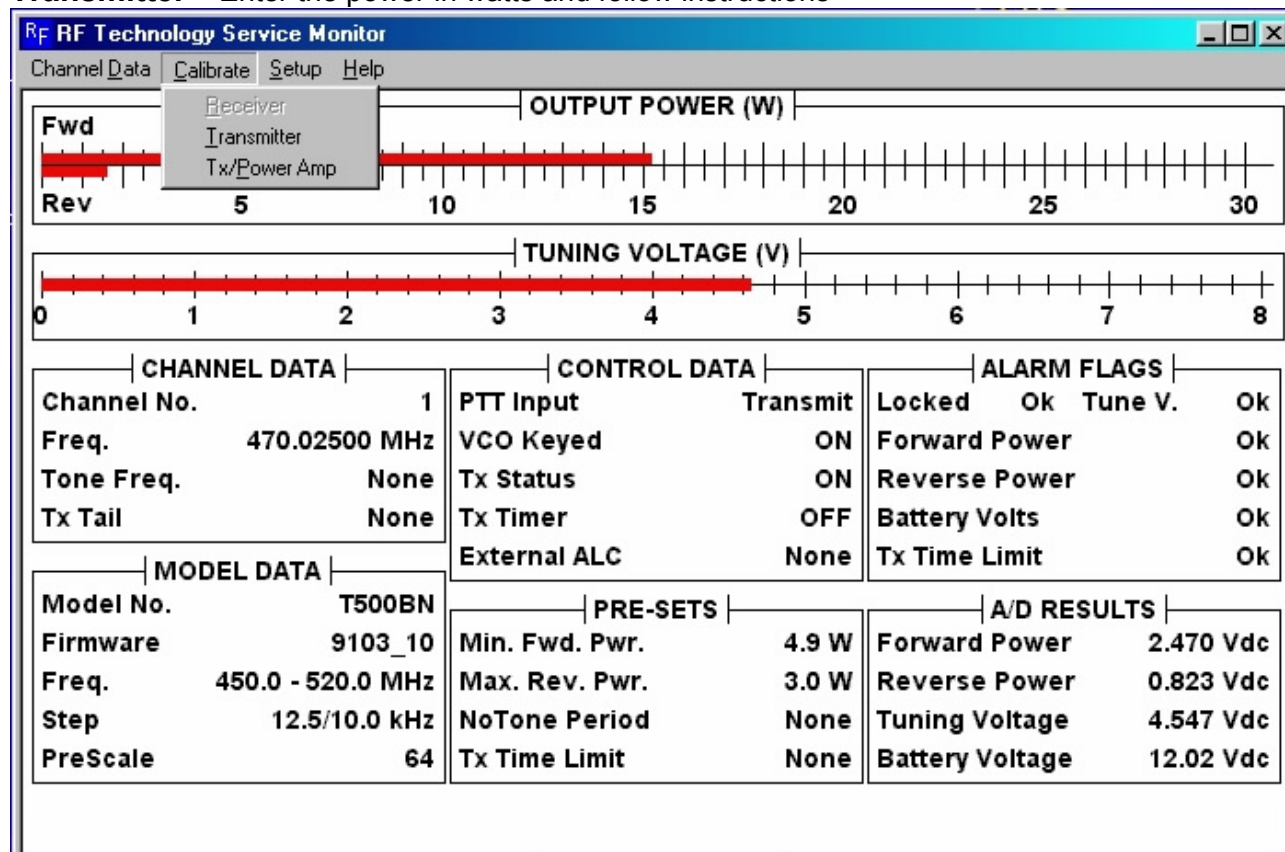
MODEL DATA		PRE-SETS		A/D RESULTS	
Model No.	T500BN	Min. Fwd. Pwr.	4.9 W	Forward Power	0.039 Vdc
Firmware	9103_10	Max. Rev. Pwr.	3.0 W	Reverse Power	0.000 Vdc
Freq.	450.0 - 520.0 MHz	NoTone Period	None	Tuning Voltage	7.683 Vdc
Step	12.5/10.0 kHz	Tx Time Limit	None	Battery Voltage	13.40 Vdc
PreScale	64				

## Calibrate menu

**Receiver** – calibrates the Signal Strength bar graph between –120dB to –70dB



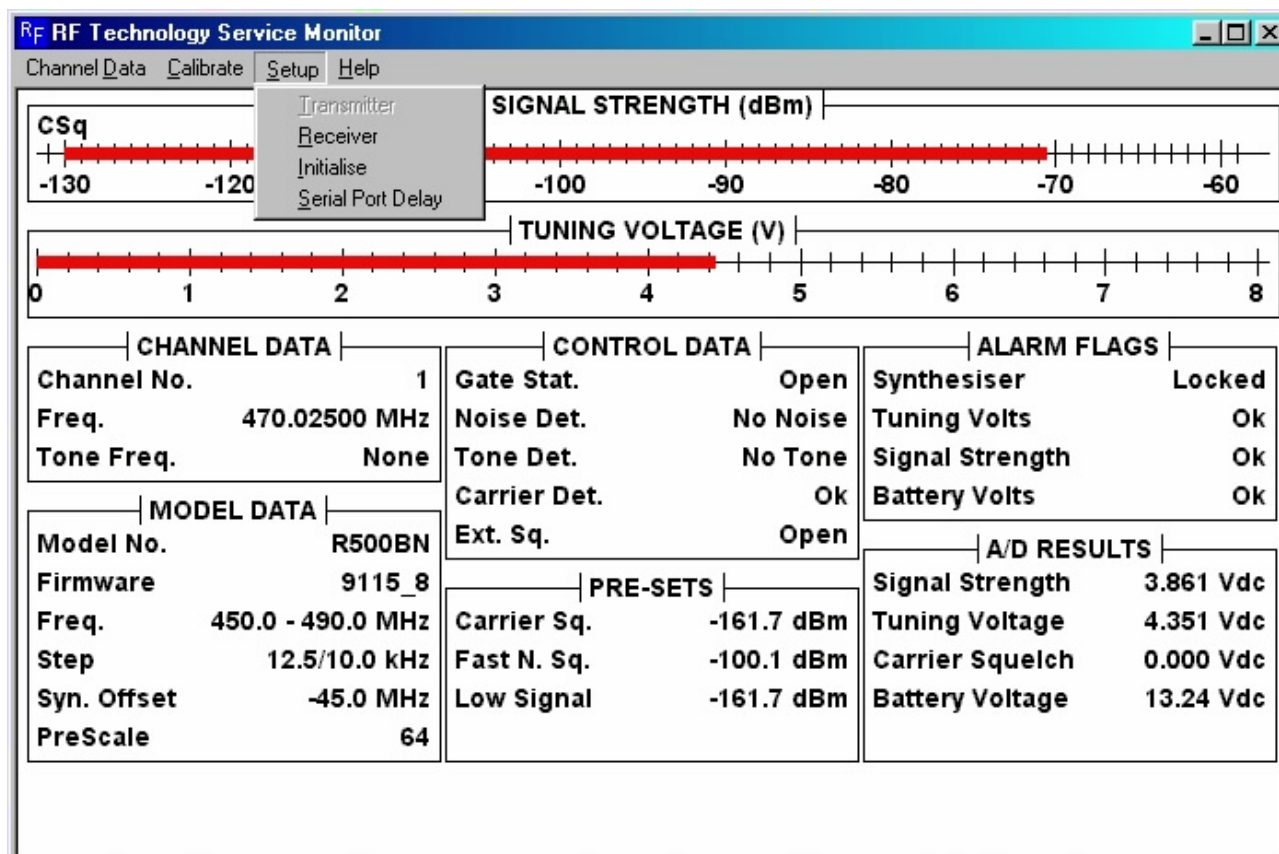
**Transmitter** – Enter the power in watts and follow instructions



**Tx/Power Amp** – Toggle function that sets Low Power Alarm for the Transmitter OR the External Power Amplifier



## Setup menu (Receiver)



**Receiver** – Enter the Fast Noise Squelch threshold (default –100dB) and Low Signal Alarm Level (default 0v or approx –160dB)

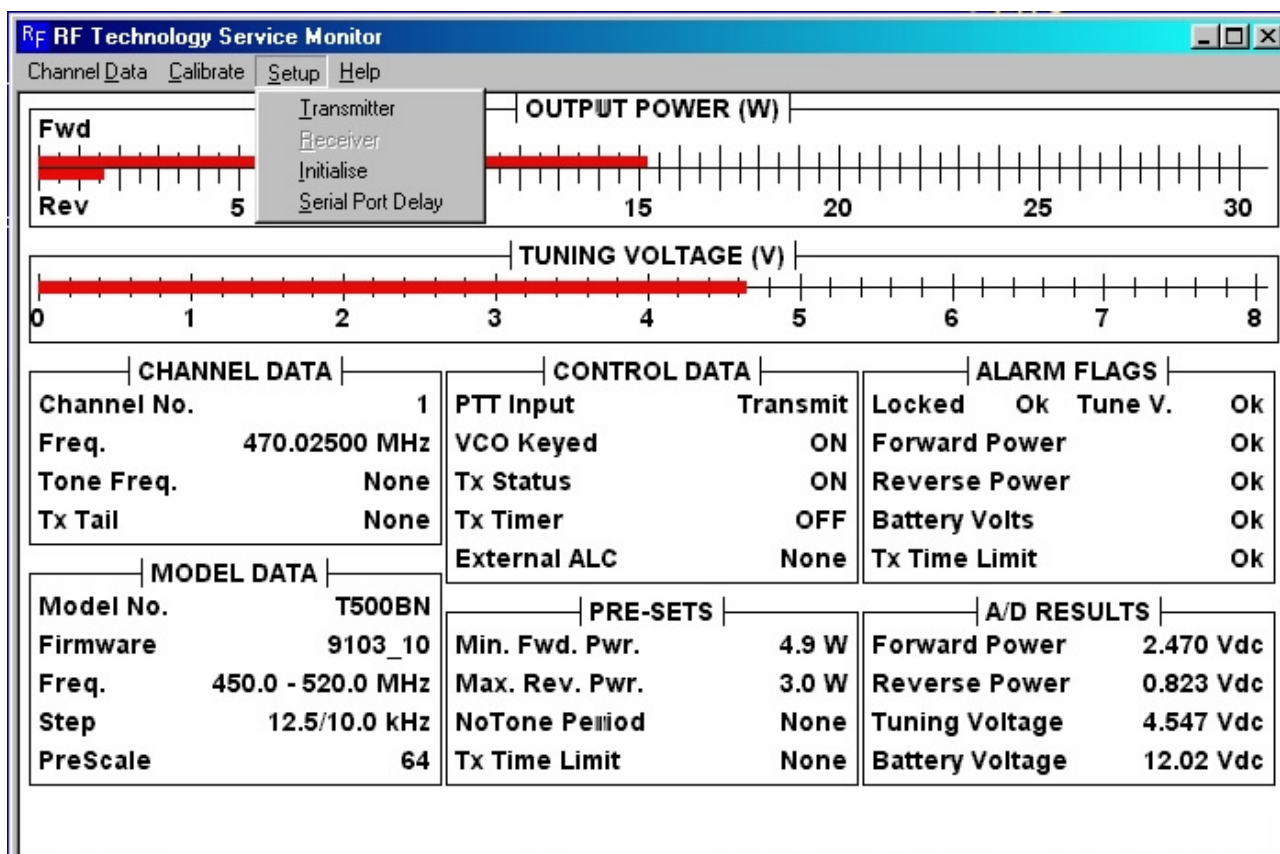
The 'Receiver Setup Parameters' dialog box is shown. It contains two main sections for configuration:

**Fast Noise Squelch Threshold**: A text box showing '-100.1 dB' with 'Down' and 'Up' buttons to adjust the value.

**Low Signal Alarm Level**: A text box showing '-161.7 dB' with 'Down' and 'Up' buttons to adjust the value.

At the bottom right, there are 'OK' and 'Cancel' buttons.

## Setup menu (Transmitter)



**Transmitter** – Enter numbers for Low Power Alarm Threshold (Watt), Reverse Power Alarm Threshold (Watt), No Tone Period (Seconds) and Transmit Time Limit (Minutes).

The 'Transmitter Setup Parameters' dialog box contains four input fields and two buttons. The fields are: 'Transmit Low Power Alarm Threshold (W)' with a value of 5, 'Reverse Power Alarm Threshold (W)' with a value of 3, 'No Tone Period (0.0 - 9.9 sec)' with a value of 0, and 'Transmit Time Limit (0 - 254 minutes)' with a value of 0. The buttons are 'OK' and 'Cancel'.

**Initialise** – sets the device model parameters. This function is not normally required in the field as all receiver and transmitter models are factory programmed.

**Serial Port Delay** – allows timing adjustment for slow serial links. Default is 10 mS but can be extended to 4000 mS to ensure reliable data transfer.