

CHIRP - New Model # 6787

Status:	Closed	Priority:	Normal
Author:	David Schmidt	Category:	
Created:	05/13/2019	Assignee:	
Updated:	06/02/2020	Due date:	
Chirp Version:	daily		
Equipment Loan Offered:	Yes		
Subject:	Midland DBR2500		
Description			
<p>New radio request - Midland DBR2500 mobile dual band. https://midlandusa.com/product/dbr2500-amateur-dual-band-two-way-radio/</p> <p>VHF: 136-174mhz UHF: 400-480mhz 5, 15, 25W</p> <p>It's a clone of the Anytone AT-778UV, Retevis RT-95, CRT Micron radio. Midland's website offers programming software but there is no importing or exporting of frequencies, moving channels around, etc. Even the tab order isn't done right so using the factory software is painful.</p> <p>Midland runs specials so this radio can be purchased with the programming cable and taxes for ~\$107 delivered.</p> <p>I'm attempting to go through the Chirp development information to try and create support for this radio myself in Chirp but my programming skills are very basic and rusty. Would like to collaborate with someone or have a mentor for this if possible. So far I've loaded the USB port scanner and obtained a dump of the radio when queried with the factory software but that's it.</p> <p>TIA, Dave</p>			
Related issues:			
related to New Model # 4901: Anytone At-778UV		Closed	06/12/2017
related to New Model # 6425: Retevis RT95		Closed	02/04/2019
related to New Model # 7887: CRT Micron UV		Closed	05/17/2020

Associated revisions

Revision 3362:3d136fb1c7cf - 05/27/2020 08:12 am - Joe Milbourn

[AnyTone778] Adding support for the Retevis RT95, the CRT Micron UV, and the Midland DBR2500.

Closes #6787 - Midland DBR2500, #6425 - Retevis RT95, and #7887 - CRT Micron UV.

Creates the AnyTone778UVBase class, and sub-classes it for each new radio.

Radio frequency ranges are hard-coded to 144-148MHz and 430-450MHz at the moment, though we know the radio can support more if configured correctly.

Radio supports 12.5kHz, 20kHz, and 25kHz channel widths, mapped to NFM, FM, and FM respectively in chirp on import, and written back as 12.5kHz and 25kHz.

History

#1 - 09/20/2019 09:03 am - Heather Parker

I too bought this radio and downloaded the software from the Midland website. The free Midland software is lacking in so many features that I use in Chirp and other paid programming software. Since I bought the radio for a mini go kit, would like the ability to use Chirp for this radio. I need to have standardized frequency channels across all my radios. Thanks!

#2 - 05/17/2020 02:27 pm - Bernhard Hailer

- Status changed from New to Feedback

- Target version set to chirp-daily

If you wish to contribute to Chirp, please review the Wiki: [\[\[Developers\]\]](#). Thanks!

#3 - 05/22/2020 02:47 pm - Joe Milbourn

I think the new AnyTone 778UV driver will support his radio, but the current version won't automatically detect it. However, I don't have this model to hand to try it out.

To help get this radio supported it would be great if someone could give it a go and give a little feedback. If that's you, here's how:

1. Update your Chirp installation to the latest.
2. With your radio connected, choose 'Download from radio' from the 'Radio' menu, and specify your serial port. Choose 'AnyTone' as the manufacturer, and '778UV' as the model, then hit OK.
3. Chirp will warn you that this is an experimental driver, say yes if you want to continue.
4. This won't work, and you'll see an error, hopefully something like 'radio version not in allowed list' - please attach a screenshot here.

Thank you!

#4 - 05/22/2020 08:11 pm - David Schmidt

Joe Milbourn wrote:

I think the new AnyTone 778UV driver will support his radio, but the current version won't automatically detect it. However, I don't have this model to hand to try it out.

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- 1. Update your Chirp installation to the latest.*
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- 3. Chirp will warn you that this is an experimental driver, say yes if you want to continue.*
- 4. This won't work, and you'll see an error, hopefully something like 'radio version not in allowed list' - please attach a screenshot here.*

Thank you!

I loaded the latest chirp on a PC that didn't have it originally (Win10). Plugged in my Midland programming cable, it was seen in device manager as COM5. Started up CHIRP, went to download from the radio, selecting Anytone 778UV and when it tried to download data from the radio, the radio said "PC MODE", and shortly afterwards CHIRP said "Radio did not respond" and I found the radio was locked up. I power cycled the radio, did it again and now this time and EVERY attempt afterwards, the radio shows PC Mode, CHIRP says CLONING for 3 seconds, then the pop up goes away, chirp has a gray screen like nothing happened and second later the radio reboots BUT NO ERROR. No error from chirp or the radio.

Sorry I didn't get the screenshot the first time - I wanted to make sure I could repeat the problem and couldn't (other than the 'nothing happened' part).

Hope this helps.

Dave

#5 - 05/23/2020 06:45 am - Joe Milbourn

I loaded the latest chirp on a PC that didn't have it originally (Win10). Plugged in my Midland programming cable, it was seen in device manager as COM5. Started up CHIRP, went to download from the radio, selecting Anytone 778UV and when it tried to download data from the radio, the radio said "PC MODE", and shortly afterwards CHIRP said "Radio did not respond" and I found the radio was locked up. I power cycled the radio, did it again and now this time and EVERY attempt afterwards, the radio shows PC Mode, CHIRP says CLONING for 3 seconds, then the pop up goes away, chirp has a gray screen like nothing happened and second later the radio reboots BUT NO ERROR. No error from chirp or the radio.

Thanks Dave! That's an error, but not the error I was expecting. Please could you repeat that once more and then attach the chirp debug log? Instructions how to find it at [\[\[How_To_Report_Issues\]\]](#).

#6 - 05/23/2020 11:01 am - Joe Milbourn

Dave, if you still have, or can re-create the USB capture you mention above please would you share it? Also, a saved file from the Midland software, doesn't matter what's in it, would be interesting to understand how similar this radio is to AT778.

Thanks
Joe

#7 - 05/23/2020 05:31 pm - David Schmidt

- File debug.log added

Joe Milbourn wrote:

I loaded the latest chirp on a PC that didn't have it originally (Win10). Plugged in my Midland programming cable, it was seen in device manager as COM5. Started up CHIRP, went to download from the radio, selecting Anytone 778UV and when it tried to download data from the radio, the radio said "PC MODE", and shortly afterwards CHIRP said "Radio did not respond" and I found the radio was locked up. I power cycled the radio, did it again and now this time and EVERY attempt afterwards, the radio shows PC Mode, CHIRP says CLONING for 3 seconds, then the pop up goes away, chirp has a gray screen like nothing happened and second later the radio reboots BUT NO ERROR. No error from chirp or the radio.

Thanks Dave! That's an error, but not the error I was expecting. Please could you repeat that once more and then attach the chirp debug log? Instructions how to find it at [\[\[How_To_Report_Issues\]\]](#).

Here's the debug log. I'll reply to your other email with a file from the factory software however I need to install the software on this new PC first.

#8 - 05/23/2020 05:42 pm - David Schmidt

- File DBR2500Backup_052320.dat added

Joe Milbourn wrote:

Dave, if you still have, or can re-create the USB capture you mention above please would you share it? Also, a saved file from the Midland software, doesn't matter what's in it, would be interesting to understand how similar this radio is to AT778.

Thanks

Joe

Here's what Midland's software saved when I read from the radio and saved the results.

I can try this with Anytone's software too if you'd like.

#9 - 05/23/2020 05:56 pm - David Schmidt

Edit:

- I downloaded the Retevis RT-95 software but when I ran it it complained about the radio model not matching and the only choice was to overwrite it to continue - so I unplugged the programming cable and let it error out.
- Finally found the Anytone programming software, it did the same thing as the Retevis software. I too chickened out of letting it do whatever overwrite it was going to do.

The programming software for all 3 looked the same GUI wise. They must be checking the model number when proceeding.

Dave

#10 - 05/24/2020 12:03 am - Joe Milbourn

- File 20200524_anytone778UV.py added

Thanks Dave, that tells me what I need to know.

I've attached a new driver, which should support your radio. To load it into your chirp:

1. Download 20200524_anytone778uv.py and put it somewhere convenient, doesn't matter where.
2. Start Chirp and select 'Enable Developer Functions' from the 'Help' menu
3. From the 'File' menu select 'Load Module' and browse to wherever you saved 20200524_anytone778uv.py and select it.
4. The chirp window will go red - that's OK.
5. With your radio connected, choose 'Download from radio' from the 'Radio' menu, and specify your serial port. Choose 'Midland' as the manufacturer, and 'DBR2500' as the model, then hit OK.
6. Chirp will warn you that this is an experimental driver, say yes if you want to continue.
7. Hopefully, you'll see the 'Cloning from radio...' progress bar, and after a while you'll see all your memories in chirp. If you see an error, please attach a screenshot here.

Either way, please post your results here.

Thank you!

#11 - 05/24/2020 12:27 pm - David Schmidt

- File debug.log added

- File Capture.JPG added

Joe Milbourn wrote:

Thanks Dave, that tells me what I need to know.

I've attached a new driver, which should support your radio. To load it into your chirp:

Hi Joe,

When trying to load the new driver, I got this error.

"Unable to load module: invalid syntax"

Screenshot and debug log attached.

#12 - 05/24/2020 01:07 pm - Joe Milbourn

David Schmidt wrote:

When trying to load the new driver, I got this error.

"Unable to load module: invalid syntax"

thank you for trying! could you just confirm that you've got the Python file and not the HTML version? you need to click the link and then select download from the next page.

#13 - 05/24/2020 04:26 pm - David Schmidt

- File Capture.JPG added

- File debug.log added

Joe Milbourn wrote:

David Schmidt wrote:

When trying to load the new driver, I got this error.

"Unable to load module: invalid syntax"

thank you for trying! could you just confirm that you've got the Python file and not the HTML version? you need to click the link and then select download from the next page.

Ah, that was it! I now have a new error however. See attached.

#14 - 05/25/2020 12:36 am - Joe Milbourn

David Schmidt wrote:

Ah, that was it! I now have a new error however. See attached.

Thanks Dave - you need to choose 'Midland' as the radio vendor and 'DBR2500' as the model at the download from radio prompt.

#15 - 05/26/2020 08:00 am - David Schmidt

Joe Milbourn wrote:

David Schmidt wrote:

Ah, that was it! I now have a new error however. See attached.

Thanks Dave - you need to choose 'Midland' as the radio vendor and 'DBR2500' as the model at the download from radio prompt.

Ah, thank you. I'll give it a go tonight and let you know the results. I appreciate you working on this!

Dave

#16 - 05/26/2020 08:37 pm - David Schmidt

- File Midland_DBR2500_20200526.img added

- File CHIRPvsFactorySW.JPG added

- File 2-CHIRPvsFactorySW.JPG added

Joe Milbourn wrote:

Thanks Dave - you need to choose 'Midland' as the radio vendor and 'DBR2500' as the model at the download from radio prompt.

Hi Joe, it works! Not quite 100% right but it did download the contents and I was able to save the image (attached). A couple of things

- I have a few disabled channels (public service freqs) and they're showing up with weird offset frequencies and the duplex value is not 'none'.

Examples in the '2-CHIRPvsFactorySW.JPG'

- the CTCSS encode and decode values are entered in the factory download but in chirp only the activated mode shows up. (maybe this is normal).

Looks very serviceable as is though! I can always touch it up in the factory software.

Thank you!

#17 - 05/27/2020 01:11 am - Joe Milbourn

David Schmidt wrote:

Hi Joe, it works! Not quite 100% right but it did download the contents and I was able to save the image (attached).

Awesome!

- I have a few disabled channels (public service freqs) and they're showing up with weird offset frequencies and the duplex value is not 'none'.

Examples in the '2-CHIRPvsFactorySW.JPG'

Those offsets are programmed by the vendor s/w, in the example you've got open in 2-CHIRPvsFactorySW.JPG, the vendor s/w has defaulted the tx

frequency to 136MHz, and the offset really is 25.55MHz.

However, the driver I gave you doesn't handle tx off, so the duplex value doesn't get set of off correctly. The driver I'll commit does do that properly.

| - the CTCSS encode and decode values are entered in the factory download but in chirp only the activated mode shows up. (maybe this is normal).

The radio's model of tone encode/decode gets mapped onto chirp's model during import, and they're not quite the same, so they'll look different, but will (should?) work just the same. E.g. for your memory #1 you've got CTCSS encode and decode active, and set to the same frequency which chirp calls TSQL and just lists the tone once. If the tones were different chirp would call that 'Cross' with a cross mode of 'Tone->Tone' and list both tones. See [[DevelopersToneModes]] for a better explanation.

| Looks very serviceable as is though! I can always touch it up in the factory software.

Hopefully you won't need to!

Thanks for trying things out, much appreciated.

J

#18 - 06/02/2020 06:19 pm - Joe Milbourn

- Status changed from Feedback to Closed

- % Done changed from 0 to 100

Applied in changeset commit:3d136fb1c7cf.

Files

debug.log	25.8 kB	05/23/2020	David Schmidt
DBR2500Backup_052320.dat	44.7 kB	05/23/2020	David Schmidt
20200524_anytone778UV.py	31.7 kB	05/24/2020	Joe Milbourn
debug.log	24.9 kB	05/24/2020	David Schmidt
Capture.JPG	20.2 kB	05/24/2020	David Schmidt
Capture.JPG	18.6 kB	05/24/2020	David Schmidt
debug.log	27.1 kB	05/24/2020	David Schmidt
Midland_DBR2500_20200526.img	12.8 kB	05/26/2020	David Schmidt
CHIRPvsFactorySW.JPG	214.9 kB	05/26/2020	David Schmidt
2-CHIRPvsFactorySW.JPG	224.2 kB	05/26/2020	David Schmidt