

Review of ASMAX-1 AM Stereo Transmitter manufactured by ASPiSYS

Reviewed by John Pavlica, Jr. - December 9, 2007

I've had the pleasure for the past 3 months to be operating an ASMAX-1 C-QUAM AM Stereo transmitter from ASPiSYS, Ltd, headquartered in Greece. I have used the unit regularly for over 90 days without any problems. The transmitter had sufficient packing material to survive the journey from ASPiSYS without any damage, and I was ready to "begin broadcasting" in a matter of minutes. I am reviewing the unit with its output at approximately 100mW for "Part 15" use on the AM MW band in the United States.

APPEARANCE: My first impression was with how lightweight and small the unit is. The transmitter is housed in a small black plastic case with rubber feet. The rear of the case has a jack for the antenna, two RCA phono jacks for stereo audio input, a green "power" LED and one coaxial jack for the power connection. There are also three small trimmer potentiometers on the rear of the unit – two for adjustment to the audio levels, and one near the antenna connector to reduce the power output. The front of the unit features a two-line LCD readout just below the ASPiSYS logo, and four membrane pushbuttons (for menu, up/down and enter). After opening the case, I was impressed with the high-quality construction and printed circuit board layout.

HOME OPERATION: I connected stereo audio cables to the audio inputs, connected a wire to the antenna and supplied 13.8VDC from my power supply to the unit; it immediately started-up on a default frequency of 1400KHz and beautiful (C-QUAM) AM Stereo music came thru on my nearby stereo AM radio. It was nice to know that the unit was so easily started-up without making a single selection on the transmitter yet. Audio was crisp and clear with no audible distortion; stereo separation was quite good too. Audio frequency response appears to be limited only by the bandwidth of your AM stereo tuner / receiver. I was able to cover my whole house with its quality C-QUAM stereo AM signal. The stereo AM audio thru the ASMAX-1 to a Sony AM Stereo Receiver was as good as or better than local FM stations when set to 'minimum' output power on 1400KHz. I ran the unit for 3 hours straight at 13.8VDC, and the case was barely warm, plus, there was no detectable frequency drift – it was rock-solid on frequency. Current drawn from the power supply was under 138ma @ 13.8VDC. I tried the ASMAX-1 unit on a C-Quam car radio, a home tuner, and two portable AM stereo radios, all with excellent quality.

MOBILE OPERATION: If you have an old classic car (Ford Mustang, Pontiac GTO, Chevy Corvette, Dodge Charger, VW Beetle, etc) with only an AM radio, this would be the unit for you to add an MP3-type player or satellite radio audio to your existing factory AM radio! I connected my audio cables to a portable player, added a cigarette lighter plug adapter for power, and used an old telescoping radio antenna on the ASMAX-1 unit. I sat the unit in the front dashboard of the car near the car antenna and the stereo audio was broadcast to my factory car radio with no problem – and it was in stereo AM, of course.

MENU and ADJUSTMENTS: I decided to try out the various menu features on the ASMAX-1 transmitter, and I found out that the (consumer) unit would adjust from 530KHz to 1710KHz – and in just 1KHz steps, making this useful not only here in North America, but also in countries with 9KHz channel spacing on the AM / MW band. Note: the "ham" amateur radio version allows for AM mode transmissions up to 2000KHz to include the 160m amateur band, as well as power output adjustable up to 400mw. The

only time that I made an adjustment to my unit is after I tuned the transmit frequency way down to 600KHz, I had some audio distortion; however, after making a tweak to the pot next to the antenna connector to lower the output power, it reduced the audio distortion on my wideband tuner – note: I have been informed that their newer units have been changed so that this no longer occurs. You'll need to leave power on to the unit in order to keep the clock active, but, there is a great built-in feature to allow you to turn-off the RF signal from the unit automatically or manually! You can schedule an on-off time for the C-QUAM transmitter's RF output – one time setting during the week and one time setting for the weekend. I found that to be a pretty unique feature on a small, moderately-priced transmitter such as this, to have a two-line LCD display and an adjustable on-off time. If you wanted to switch from stereo to mono, you can do that too, but I don't see why you wouldn't want to leave the stereo AM on all the time. The transmitter sends out the 25Hz pilot tone to automatically turn-on the AM stereo feature on C-Quam equipped radios (and a few of the new HD radios too).

CLOSING COMMENTS: The manual for this unit includes C-Quam AM Stereo theory, plus a nice schematic of the unit. I was also very pleased at the very quick and friendly response I received from the ASPiSYS factory when I had a question about the unit.

It will be interesting to see how far you could operate a QRP CQUAM low-power QSO on the 160m ham band with this unit and I will be doing so soon with the amateur radio version. ASPiSYS also offers an AM Stereo C-QUAM decoder board that you can add to your wide-bandwidth AM mono tuner, and I don't see why you couldn't add this to your shortwave/amateur receiver that has a 455 or 450KHz I.F. section to decode stereo on any AM-mode radio. I think that you could add a stereo microphone preamp with a push-to-talk circuit to enable/disable the RF output of this transmitter so you could have a 160m QSO with this transmitter and your SW receiver. This unit has many potential uses: in addition to transmitting stereo music in your home, you can do the same in your automobile (as I have), or use the unit to send audio from two different amateur radio receivers to your AM stereo radio elsewhere in the shack to monitor two radios remotely on just one stereo radio!

The real secret to good operation of these units is to experiment with your antenna until you find a system that works for your location. There are FCC limitations on Part 15 antennae, but there are many Part 15 micro-broadcasting websites with suggestions; however, I've found that just a 3-meter piece of wire will 'do the trick' rather well to get you on the air in a jiffy. Amateur radio operators can use their transmitters on the 160m band with their antenna tuners with much less stringent antenna requirements.

I recommend the ASPiSYS ASMAX AM Stereo transmitter to bring new life to your C-Quam AM stereo radios, (mono AM radios as well), with nice clean AM stereo audio in a convenient small size with its adjustable menu and two-line display. It is a well-built unit that offers excellent customer service for any questions.

73's

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