

# Asymod<sup>®</sup> C1 Console



Asymmetrical Hi-Fi AM / eSSB Modulator and Station Monitor Console

Asymod products are available at [www.asymod.am](http://www.asymod.am)

Customer support: [asymod@asymod.am](mailto:asymod@asymod.am)

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Introducing the new Asymod C1 Console. The Asymod C1 Asymmetrical Hi-Fi AM & eSSB Modulator and Station Monitor is a standalone unit that extends the functionality of any HF transceiver. On the TX side, the Asymod has all the standard Asymod controls, such as gain, modulation, carrier and asymmetry. Up to 10 kHz of audio bandwidth which can be rolled off narrower within the audio process. It also has a station ID that when activated it comes on every time the radio is keyed.

On the RX side, the Demod and station monitor offers the fader / mix control which allow for mixing the RX and TX audio. It much acts as a fader, where at the center position, both, RX and TX audio are at equal level. The TX Monitor switch allows selection of listening to the line in TX audio or the TX Demod audio. The AM demodulator samples the TX RF with no obstructions, thus leaving the AF (audio frequencies) as they are transmitted. This AF is an exact sample of the TX audio. The demodulator tone control allows to set the filter of the Demod TX RF audio that is heard out of the headphone jack only, it does not affect the TX audio being transmitted.

The monitor volume (MONITOR) sets the audio level at the headphone jack. The Asymod C1 includes a MOX switch (manual operated transmission) which allow to key the transceiver without a PTT. It also has the VFO Whine effect, simply turn on the WHINE switch and while on AM, the transceiver will begin transmission off frequency and slowly drift into the fundamental in a few seconds, thus creating the heterodyne effect when clashing with other on-air signals. The Speaker disable switch allows for the radio's internal or external speakers to be disabled while monitoring yourself using the headphones.

The Station ID can be up to 10 seconds at 3.5 kHz bandwidth and it is reprogrammable, once the station ID is enabled, every time the transceiver is keyed, the ID will play. The On-Air playback recorder is a 4 kHz bandwidth, 10 second recorder. It can be set on board to up to 30 seconds by changing the bandwidth.

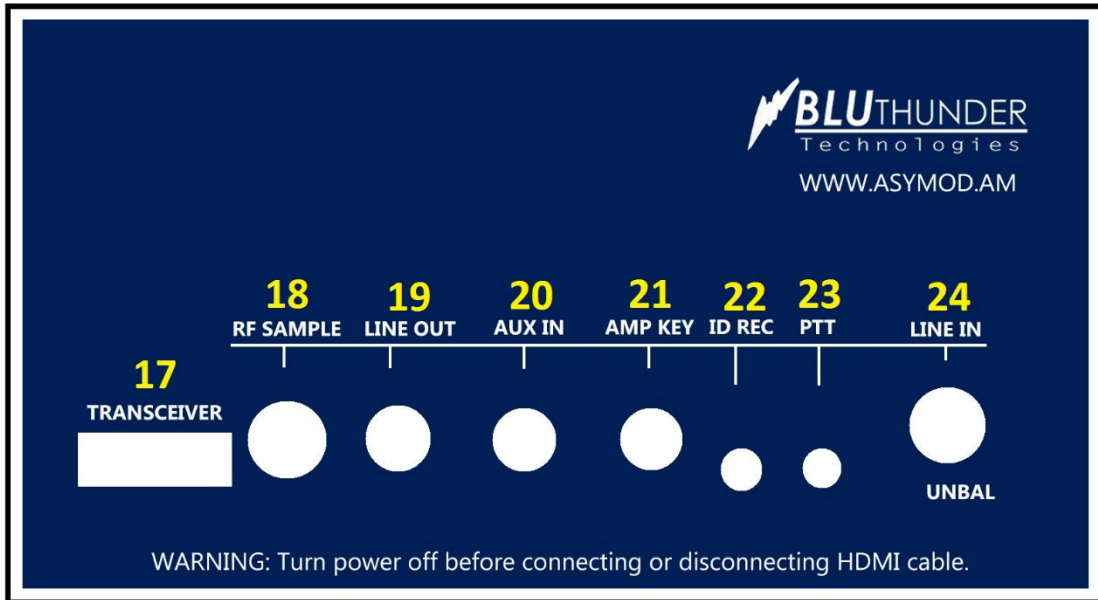
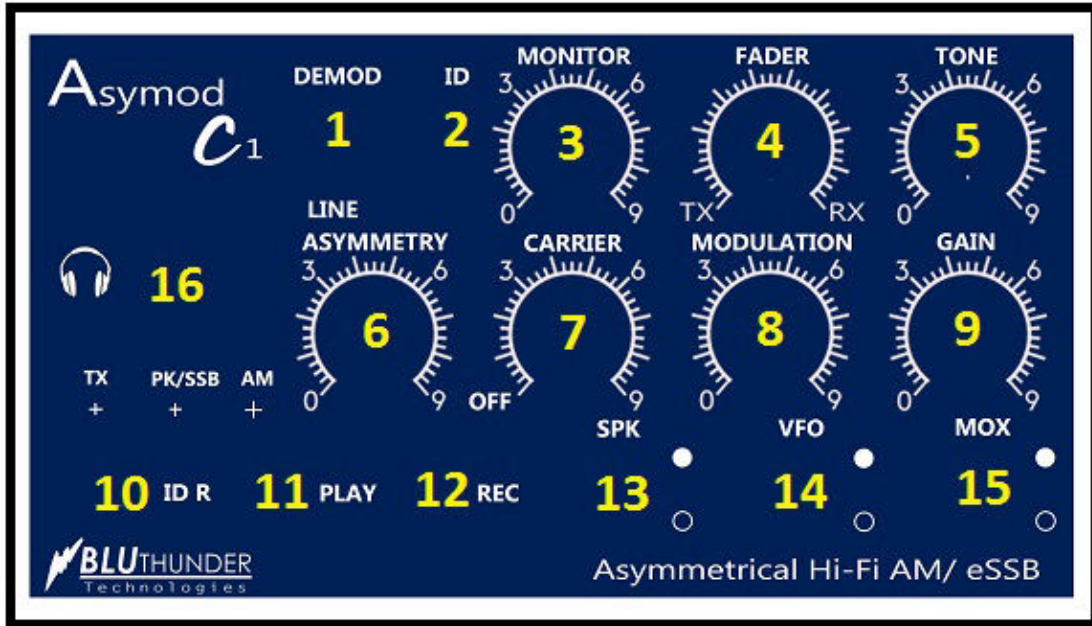
The RF Amplifier keyer can handle amplifiers with relays coil ratings up to 5A, 240V AC/DC and is available at the rear panel RCA jack.

At the rear panel, the station ID message can be transferred into the Asymod C1 by feeding the audio into the audio in 1/8" jack while pressing the ID REC button on the front panel to program the station ID. The Line-In connector accepts line level audio up to 2V PEP. The PTT connector allows for connection of a PTT mouse, foot pedal or switch.

The Asymod C1 easily connects to the transceiver of choice via a HDMI connector which provides connectivity for all control and line signals.

The RF sampler is a great tool to have, it provides an RF sample of the TX RF for connection to an oscilloscope to monitor the TX signal, AM envelope, etc. No need to have RF couplers in the RF line with extra wires and connections. The Asymod C1 is built tough in a high-quality aluminum enclosure to provide years of reliable operation.

# Connection and Controls



- 1- Demod / line: Provides switching between TX Line-In or Demod audio.
- 2- ID enable/disable: When in the ON position, the station ID is played every time transmission begins. Playback level is adjustable inside the unit.
- 3- Monitor: Controls the audio level of the headphones
- 4- Fader: Fades between TX and RX audio
- 5- Tone: Controls the tone of the Demod audio only.
- 6- Asymmetry: Controls the asymmetry, the positive modulation on AM.
- 7- Carrier: Controls the carrier level on AM.
- 8- Modulation: controls the modulation level on AM.
- 9- Gain: Controls the line in gain.
- 10-ID Record: when pressed, the ID REC input in the rear panel is activated to transfer the station ID into the ID recorder.
- 11-Play: Plays back the on-air recordings, default setting is - press once and the whole recording is played (P-FULL). To press while playing, change internal jumper to P-PUSH.
- 12-Record: Records on air program.
- 13-Speaker: Enables or disables the radio's internal and external speakers. Disables speakers in the down position.
- 14-VFO: VFH whine effect, on in the down position. Only for some builds.
- 15-MOX: Manual operated transmission, transmits on the down position.
- 16-Headphones: 1/4" stereo jack headphone connection.
- 17-Transceiver: HDMI connection for the transceiver.
- 18-RF Sample: TX RF sample for oscilloscope monitoring.
- 19-Line Out: Audio out for external monitoring or recording.
- 20-Aux In: Accepts audio in. Audio fed into the Aux In can be heard on the headphones. e.g. cue programming.
- 21-Amp Key: Connect to amplifiers to activate on TX.
- 22-ID Rec: 1/8" jack, accepts audio for the ID recorder.
- 23-PTT: 1/8" jack, accepts any switch, foot pedal, mouse for PTT.
- 24- Line In: Accepts balanced or unbalanced line level audio.

# Instructions

## TS-990

### Asymod

Disconnect power cord and turn mains switch in the rear of the transceiver to the OFF position.

Connect HDMI connector to Asymod C1 and transceiver.

Connect line in connector.

Connect BNC connection from RF sample out to oscilloscope.

Connect PTT switch.

Connect all RF cables and PEP meter. Make sure to connect to dummy load or a 1:5 VSWR or lower antenna.

Connect power cord. Turn on the mains switch in the rear of the transceiver.

Set the Power and Carrier controls on the transceiver to MAX, fully clockwise.

Set the Asymod enable/disable switch in the rear of the transceiver to the ENABLE position (toward the HDMI connector).

Set all Asymod controls counterclockwise to the OFF or minimum position; GAIN, MODULATION, CARRIER and Asymmetry.

Power up the transceiver and set to AM mode.

Set the mic gain on the transceiver to 12 o'clock.

Set PEP RF power meter to the 100W scale or closest.

Turn on the Asymod C1 by turning the Carrier control clockwise until a click is heard.

Transmit, either press the send button on the transceiver, activate the MOX switch on the Asymod C1 or press the front mic PTT.

Decide dead key or carrier level needed:

e.g. Say we need a 5 watt carrier.

Key up and advance the carrier control on the Asymod C1 to where you see 5 watts on the meter. Unkey.

Run Pro Tools or other signal generator connected to the line in, set for a 800Hz tone.

Key up and activate the tone, advance the Modulation control until you see 20 watts on the RF PEP power meter.

If the signal generator or audio processing equipment output level is low, use the GAIN control to bring it up.

At this point you may begin modulating.

If you need more loudness, advance the asymmetry control clockwise until the desired positive modulation is reached.

### **ID Recorder**

Connect one end of a 1/8" audio jumper to the ID REC jack at the rear panel of the Asymod C1, connect the other end to an audio source with the station ID recording.

Press and hold the ID R button and play the pre-recorded station ID from the source simultaneously. To operate switch the ID button to the top position. Every time radio is keyed, the station ID is played on the air. Please refer to the internal adjustments locations for the Station ID recorder record and playback levels. These need to be adjusted according to the source and TX audio levels.

### **On Air Recorder / Playback**

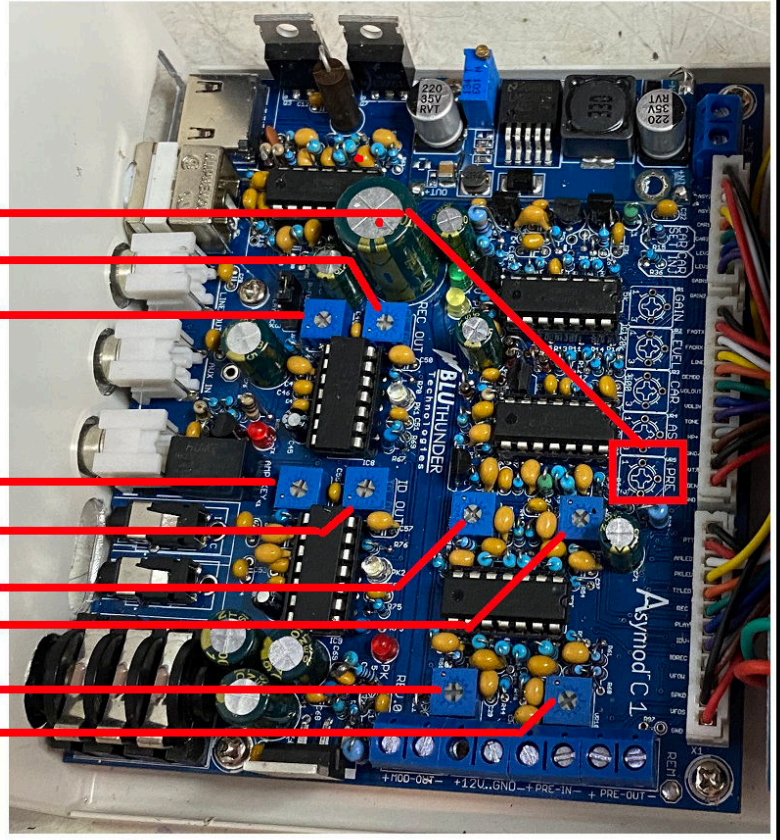
Press the REC button for up to 10 seconds to record on air programming, then TX and press the PLAY button to play back the recorded program. Please refer to the internal adjustments locations for audio level adjustments.

### **Demod/Line In**

With headphones connected, the line in or demodulated AM audio can be selected and monitored.

### Asymod C1 internal adjustment locations

- SSB Audio level
- On air recorder output level
- On air recorder output level
- ID recorder input level
- ID recorder output level
- Demod input level
- Line in monitor level
- RX AF input level
- Auxiliary input level



## Available Colors



FAQ's: <https://asymod.am/p/faq>

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