

## Tram D 201 The Complete Base Station

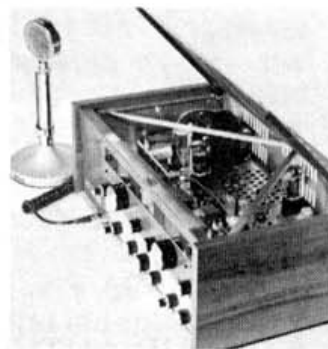
The D201 is the newest product to reach CBers from a veteran manufacturer of high quality citizens band equipment . . . Tram/Diamond Corporation. This new SSB/AM CB base station was developed and is being manufactured now in the company's research and manufacturing facility at Winnisquam, New Hampshire.

Whether your favorite mode of operation is SSB or AM, the Tram D201 will provide excellent performance in **either** mode.

The D201 receiver may almost be thought of as two receivers — one AM and one SSB. AM signals are processed by a Tram designed 455-kHz four-pole ceramic filter, providing a full 6kHz receive bandwidth, while rejecting adjacent channel bleedover by more than 75 dB. SSB signals are processed in a separate 6-MHz IF strip by a super sharp six-pole crystal filter, providing 2.1 kHz of receive bandwidth, while rejecting unwanted signals outside a 4.65-kHz bandwidth more than 60 db (adjacent channel more than 70 dB), making SSB reception extremely sharp with a shape factor of 2.2. A separate, low distortion product detector, coupled with a crystal controlled BFO, provides stable SSB or DSB reception. No retuning is required when switching from either sideband.

The D201 transmitter may also be thought of as two transmitters — one AM and one SSB. AM is known to be at its best when modulation is done as it is in the D201 — high-level plate/screen modulation of a Class C final amplifier tube. High-level modulation combined with variable transmitter tone and automatic compression control guarantees heavy modulation without splatter. SSB transmissions, using the same previously mentioned six-pole crystal filter, combined with envelope detected ALC (automatic level control), diode-balanced modulator circuitry and class AB1 final linear amplifier, provides a full 12 watts of PEP output while maintaining excellent transmitter linearity.

"The louvered, hinged top cover allows top-of-the-set inspection and accessibility . . . safety switch automatically removes AC power from the set when top cover is lifted . . ."



Hybrid circuitry, a combination of vacuum tubes and solid state components, is used to accomplish the D201 design. Most of the solid state circuitry is contained on two easily removed epoxy-glass printed circuit boards. Tubes are used where best suited, such as in the RF final amplifier stage. It will be comforting to know that, if service should ever be necessary, (1) circuit boards are easily replaceable, and (2) tubes, such as the 6BA6, 6L6GC, 12AX7, 6GH8A and others, are all common types and readily available.

The more advanced SSB CBER may wish to operate his transceiver using VOX (voice operated transmit); this is a built-in feature of the D201. Most SSB ham transceivers incorporate VOX. VOX, with VOX sensitivity and VOX delay, or PTT (push to talk) operation can be selected by controls on the D201 front panel.

CBERs in the past may have found some difficulty in operating SSB, especially with regard to tuning in an SSB station. The D201 is nearly as easy to tune in the SSB mode as in the AM mode, whether tuning is manual or crystal controlled. When in crystal transceive, the D201 is within 100 Hz of the assigned frequency on any channel with the clarifier control at 12 o'clock. Clarifier range is  $\pm 800$  Hz. This means, if you make a schedule to be on Channel 7 LSB, for example, simply dial Channel 7 and LSB and you are there. Changing from LSB to USB, or vice versa, requires no further tuning. When receiving in manual, the two-speed reverse vernier ball reduction drive makes tuning a snap, allowing you to tune from one end of the band to the other in six revolutions of the tuning knob, while creeping in to a desired signal at the rate of

20 kHz per rotation. The easy-to-read manual receive tuning dial is accurately calibrated both in channels and frequency (10-kHz increments up to as high as 27.550 kHz).

Receive audio output from the speaker is held nearly constant in AM or SSB by separate automatic gain control systems (less than 16 dB audio output change for 100 dB of signal input change). This means it is not necessary to continually fiddle with RF and AF gain controls when listening alternately to local and distant stations.

There is no need to buy a separate power and SWR meter because the D201 has this feature built in. The front panel meter reads power output in watts in the transmit mode and automatically reads incoming signal strength in the receive mode. Antenna match can be easily checked by a flip of the meter switch by reading SWR. A red colored area marked on the SWR scale shows you when the antenna needs some attention.

When CBERs buy high-performance equipment, they also usually want well-styled, solidly-built equipment that they are proud to have in their homes to show to their friends. The D201 is clean-cut and functional. The louvered, hinged top cover allows top-of-the-set inspection and easy tube, crystal, lamp and PC board accessibility, while providing excellent ventilation. The top cover is also provided with a safety switch that automatically removes AC power from the set when the top cover is lifted.

For further information, write Tram/Diamond Corporation, P.O. Box 187, Winisquam, NH 03289.

## TRAM D201 SPECIFICATIONS

### TRANSMITTER

Power AM	4 watts output
SSB	25 watts PEP input 12 watts PEP output
SSB Generation	Diode ring balanced modulator, six pole crystal filter
AM Modulation	High level plate/screen, 0-100% adjustable
ALC and Compression	70dB range
Antenna Matching	50 ohms nominal (will match 25 to 100 ohms)
Carrier Frequency	$\pm 100$ Hz of channel frequency
Clarifier Range	$\pm 800$ Hz (transmit and receive)
Keying	VOX (with adjustable sensitivity and delay controls) or PTT
Metering	Selectable POWER/SWR

### RECEIVER

Sensitivity SSB	0.1uv for 10 dB (S+N)/N
AM	0.35uv for 10 dB (S+N)/N with 30% modulation
Audio Output	4 watts Max. @ 10% THD into 4 ohms 1 watt @ less than 2% THD into 4 ohms
Audio Response	Adjustable tone control
Tuning	Crystal with clarifier or manual with two-speed vernier ball drive
Receive Manual Range	26.955 to 27.550 MHz, calibrated

### GENERAL

AC Power	117V AC nominal 50/60 Hz
Overall Size	21-1/2" x 7-1/4" x 13"
Shipping Weight	36 pounds
Microphone	Astatic GD104 Hi-Z (crystal) supplied with D201
Tube and Solid State Components	15 tubes, 80 diodes, and 19 transistors

