ZEPHYRUS
ELECTRONICS, LTD

300 SERIES
Satellite Radio &
Data Products

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ZEPHYRUS

Thank you for using our equipment. We will do our best to earn your continuing confidence in Zephyrus and our products. Any time you need information or help, give us a call at 918-437-3333 (US).

It's a good idea to look the equipment over for any shipping damage as soon as it is received. If damage is discovered, contact and file a claim with the freight company. They are responsible to you.

We hope it doesn't happen, but if you ever have a problem that requires you to send equipment back to us for repair or replacement, **_Please pack a note in with the device. Give us as much information as possible;--_** what the problem is and anything you can tell us that might help solve it. Customer feedback is the last line and a very vital part of our overall quality control.

It will also help both of us if you will get an RMA number from the service technician you are talking with. We will certainly accept products for service without a number, but any notes that the tech makes in his phone calls with you might not get tied to your unit when it gets here.

Our Limited Warranty is as follows:

We will fix or replace any product that is defective within One year (Australia) after you receive it. We won't cover damage from accident or misuse. Warranty is FOB the factory or our servicing distributor. Our responsibility is limited to repair or replacement only and no other expenses or consequential damages. No other warranties apply.

Whether your warranty has expired or not, customer support and assistance is the backbone of our business. Our managment has a background in broadcasting, so we understand the seriousness of "equipment down." We'll do all we can. --Your referral to a friend might even be our next sale!

304 Mainframe

Refer to Figures 1 & 4

Physical: The 304 Mainframe occupies one 1 3/4" space in a standard 19" equipment rack. Total depth is 15 1/2". Additional depth needs to be provided to allow for cable bends. Weight is 10 pounds. A removable smoked transparent front panel permits access to the front of circuit cards.

Electrical: The 304 requires 117 V, 60 Hz AC power. It contains an unregulated positive and negative power supply for operation of up to four standard width 300 series circuit boards. A Crowbar power shuts down voltage to the LNB in the event of a short circuit in the coax line. _To restore power the load must be fully disconnected temporarily or the 304 power must be turned off for a few seconds._ **Replace the fuse with a 1/2 amp slow blow only.**

Circuit Boards: The 304 has spaces for four standard width boards. However, each 304 mainframe can hold only one 391 or 392 satellite baseband receiver. Other cards can be of any mix. The 383 tone decoder is a double-wide board and occupies two spaces.

Back Panels of the 304 vary with the circuit board requirements. Factory installed cards are labeled on the rear panel. Stickers are furnished for labeling of boards added in the field.

Interconnect Power Cables :   Three different interconnect jumpers are used within the 304. They are as follows:

Application	Color	Voltage
Board	Red	+18 unreg
power	Brown	Gnd
interconnect. Violet	- 18 unreg	
LNB Power	Red	+18 unreg
Tuner Power	Orange	+12 regulated
Tuning Voltage White	variable positive	

   (_Wires to Tuner._ Red is from power supply board. Orange and White run from the satellite receiver card)
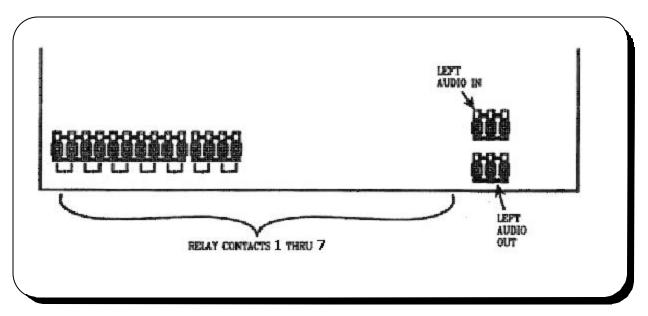
Power to 391 or	Red	+18 unreg
392 Satellite Yellow	+28 tuning voltage supply	
Receiver card.	Brown	Gnd

383 "Sub-Audible" Single Channel
TONE DECODER

General: The 383-7 tone decoder is a "double-wide" board which occupies two spaces of a Zephyrus 304 mainframe. The frame requires a special back panel to accomodate a 383. The 383 is mounted to the left end of the frame (*see figure 1*).

Nunber of Functions: Two versions of the 383 are manufactured; a three-function unit (the 383-3) and seven function (383-7) The device you need depends on your network service. **Note-** *The 7 function board is not the same as the 3 function with more relays. The encoding schemes are different.*

FIGURE 6.

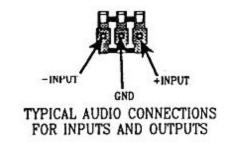**Rear Panel Connections of a 383-7 Tone Docoder**

Control Function Outputs: (See Figure 6,above for rear panel connections)

- Each output is driven by a pair of Normally-Open relay contacts.

- All output contacts are independent.- There is no "common" wired within the circuit board. You may create a "common" connection externally, if you wish.

- The relays are miniature types and are to be used for control level signals **only**.

- Relay closure is factory adjusted for about one-second. You may vary this with the Relay-closure-time control. Contact us if you need range that exceeds the control.

Operation: Audio outputs from the 322 audio demod board <u>must be adjusted for Zero dbm peak program level loaded into 600 Ohms.</u> Audio is connected between the 322 audio out and the 383 audio input on the back panel (see Figure 6). Program Audio Output to your system is picked up at the Audio Out of the 383. Output level adjustment from the 300 system is done with the controls on the 383 board.

Any tweaking of the program levels on the 322 board will upset operation of the tone decoder circuits. Audio filtering in the audio amplifier section of the 383 effectively removes the 25 and 35 Hz tones from the output audio.

When a tone or combination of tones are decoded, the Numerical Readout at the front panel indicates the function number of the tones. The appropriate relay closes. The readout will continue to display the last function sensed.

-INPUT   +INPUT

GND

TYPICAL AUDIO CONNECTIONS
FOR INPUTS AND OUTPUTS

383-7 TONE DECODER
READ-OUT DISPLAY

LEFT CHANNEL	RELAY
25	**1**
48.6	**2**
25/48.6	**3**
35	**4**
25/35	**5**
35/48.6	**6**
25, 35/48.6	**7**