

## SYSTEM DESCRIPTION

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The design goal for **EA815/1** was to produce a telephone hybrid with the best results and the easiest operation. There is only **ONE** operator control; the **ON** switch to connect the PTT-line to the hybrid instead of a telephone. The function can be remote controlled.

To avoid hum to enter into the hybrid transformers, the mains transformer is put in an external (plastic) box and the transformer used is a VDE approved type with at least 3750 V AC isolation.

The hybrid itself is composed around two transformers with a **PRESET BALANCE NETWORK**. This preset network needs to be trimmed only at installation for best balance on an average line. Practice has shown, that the connection to the first exchange is determining for the setting and in most cases this is always the same line.

The best results can be obtained when a **DIRECT** telephone line is used, not routed via a house telephone system.

To achieve the best damping of the send signal in the receive signal, this hybrid employs **VOICE CONTROL** in combination with the preset balance.

The following processing is done:

The **SEND** signal is bandfiltered and limited, so not to spoil the damping by too much level and out of band signals.

The **RECEIVE** signal has:

- \* **VOICE CONTROL** of the gain by the **SEND** signal. As soon as the studio starts talking, the gain of the receive chain is reduced to lower the crosstalk over the hybrid. By this action, the direct signal of the microphone is not spoiled by the crosstalk from the hybrid and so gives a cleaner result.
- \* Also some filtering is employed to reduce out of band signals like hum, dailing pulses etc.

**GAINS** for **SEND** and **RECEIVE** are adjustable through the frontpanel.

## EELA AUDIO EA815/1 TELEPHONE HYBRID; USERS GUIDE

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### CONNECTIONS

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The **SEND** and **RECEIVE** signals are on **XLR** connectors. The **PTT**-connection and the **TELEPHONE**-connection are on universal telephone connectors. The **REMOTE** connections are on a **D-9** connector. On this **D-9** connector are also the **SEND** and **RECEIVE** signals and an optocoupler-**RING** output available. The pinning of these connectors are drawn elsewhere in this manual.

### INITIAL SETUP

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- \* Connect the unit to the mains, a mixing console, a telephone and a PTT connection.
- \* Leave the **HYBRID ON** switch (green button) off and make a connection with a remote caller. It is the best to use a distant connection; a local or house-line can give other results. If possible, have the caller on the other end his mouth piece covered or simply keep him/her quiet.
- \* Then press the **HYBRID ON** switch. After a short delay of 0.7 seconds the **EA815** is switched on.
- \* Send programm, preferably speech at nominal level, to the line and use the console PFL system to listen to the hybrid output. Adjust the **SEND** level on the **EA815/1** in such a way that the limiter LED on the front of the **EA815/1** only lights up at peaks in your send signal.
- \* Then adjust both balance controls (**R- and C-balance**), behind the frontpanel, for minimum bleed through from the send signal to the output. Use first the center position of both controls and adjust them several times until a clear minimum is reached. Try eventually several connections to get the best compromise. Only in case the PTT has done changes on the exchange or line a new line-up is needed.
- \* Adjust the **RECEIVE** gain until the required level is reached.

### USING PROCEDURE:

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- \* When an outgoing call is made, the **EA815/1** is still switched off. The connection has to be made with the connected telephone. Once the connection is made the **EA815/1** can be switched on. The phone is now disconnected.
- \* In case of an incoming call the phone will ring normally, and the call LED on the **EA815/1** lights up. You can either pick up the phone or switch the **EA815/1** on. When the unit is switched on, the phone is disconnected again.

### **ACCESSORIES:**

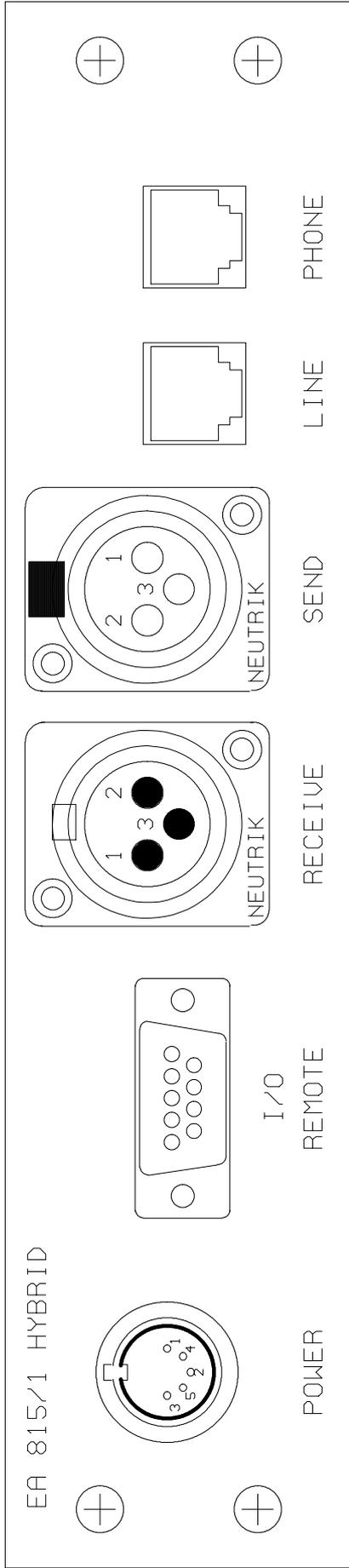
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Also available are a 19" rack mounting kit for one unit (an empty housing and 19" brackets are supplied under code EA800/1) and a rackmounting kit for mounting with another unit from the EA800 series equipment (19" brackets under code EA800/2).

I/O REMOTE	
PIN	SUB-D 9P FEM.
1	SCREEN
2-6	RCV+ / RCV-
3-7	SEND+ / SEND-
4-8	ON+ / ON-
5-9	RING+ / RING-

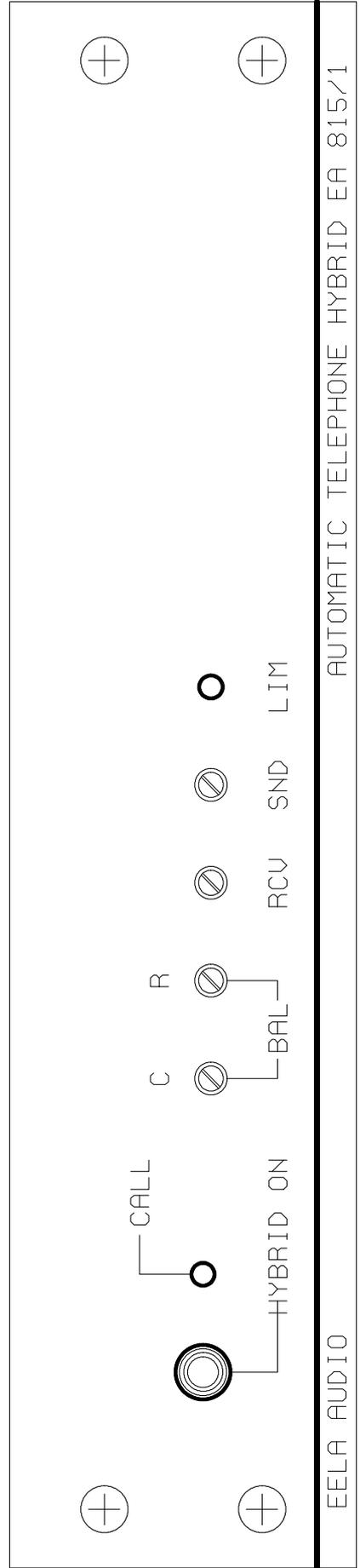
RECEIVE	
XLR3P	
1 = GND	
2 = RCV+	
3 = RCV-	

SEND	
XLR3P	
1 = GND	
2 = SEND+	
3 = SEND-	



REAR

FRONT



EELA AUDIO

AUTOMATIC TELEPHONE HYBRID EA 815/1