

4-Wire Buffer Amplifier User Manual



RTSTM

Proprietary Notice

The RTS product information and design disclosed herein were originated by and are the property of Telex Communications, Inc. Telex reserves all patent, proprietary design, manufacturing, reproduction, use and sales rights thereto, and to any article disclosed therein, except to the extent rights are expressly granted to others.

Copyright Notice

Copyright 2003 by Telex Communications, Inc.. All rights reserved. Reproduction in whole or in part without prior written permission from Telex is prohibited.

UNPACKING AND INSPECTION

Immediately upon receipt of the equipment, inspect the shipping container and the contents carefully for any discrepancies or damage. Should there be any, notify the freight company and the dealer at once.

WARRANTY INFORMATION

RTS products are warranted by Telex Communications, Inc. to be free from defects in materials and workmanship for a period of three years from the date of sale. The sole obligation of Telex during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to Telex. This warranty does not cover any defect, malfunction or failure caused beyond the control of Telex, including unreasonable or negligent operation, abuse, accident, failure to follow instructions in the Service Manual or the User Manual, defective or improper associated equipment, attempts at modification and repair not authorized by Telex, and shipping damage. Products with their serial numbers removed or effaced are not covered by this warranty. To obtain warranty service, follow the procedures entitled "Procedure For Returns" and "Shipping to Manufacturer for Repair or Adjustment". This warranty is the sole and exclusive express warranty given with respect to RTS products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose. ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY. NEITHER TELEX NOR THE DEALER WHO SELLS RTS PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

CUSTOMER SUPPORT

Technical questions should be directed to:

Customer Service Department
RTS/Telex
12000 Portland Avenue South
Burnsville, MN 55337 U.S.A.
Telephone: (800) 392-3497
Fax: (800) 323-0498

RETURN SHIPPING INSTRUCTIONS PROCEDURE FOR RETURNS

If a repair is necessary, contact the dealer where this unit was purchased.

If repair through the dealer is not possible, obtain a RETURN AUTHORIZATION from:

Customer Service Department
Telex Communications, Inc.
Telephone: (877) 392-3497
Fax: (800) 323-0498

DO NOT RETURN ANY EQUIPMENT DIRECTLY TO THE FACTORY WITHOUT FIRST OBTAINING A RETURN AUTHORIZATION. Be prepared to provide the company name, address, phone number, a person to contact regarding the repair, the type and quantity of equipment, a description of the problem and the serial number(s).

SHIPPING TO MANUFACTURER FOR REPAIR OR ADJUSTMENT

All shipments of RTS products should be made via United Parcel Service or the best available shipper, prepaid. The equipment should be shipped in the original packing carton; if that is not available, use any suitable container that is rigid and of adequate size. If a substitute container is used, the equipment should be wrapped in paper and surrounded with at least four inches of excelsior or similar shock-absorbing material. All shipments must be sent to the following address.

Telex Communications Inc.
8601 East Cornhusker Hwy
Lincoln, NE 68507
Attn Service Dept.

Upon completion of any repair the equipment will be returned via United Parcel Service or specified shipper collect.

End-User License Agreement for Telex® Software

IMPORTANT! - Please read this document carefully before using this product.

THIS DOCUMENT STATES THE TERMS AND CONDITIONS UPON WHICH TELEX COMMUNICATIONS, INC. ("the COMPANY") OFFERS TO LICENSE THE INSTALLED SOFTWARE OR PROGRAM ("the SOFTWARE") WITH THE PRODUCT IN WHICH IT WAS INSTALLED. YOU ARE AGREEING TO BECOME BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, DO NOT USE THIS PRODUCT. PROMPTLY RETURN THE PRODUCT TO THE PLACE WHERE YOU OBTAINED IT FOR A FULL REFUND.

The installed software as supplied by the Company is licensed, not sold, to you for use only under the terms of this license, and the Company reserves all rights not expressly granted to you. You own the product or other media on or in which the Software is originally or subsequently recorded or fixed, but the Company retains ownership of all copies of the Software itself.

1. License: This license allows you to use the Software for internal purposes only on a single product in which it was installed.
2. Restrictions: (a) You may not market, distribute or transfer copies of the Software to others or electronically transfer or duplicate the Software. YOU MAY NOT REVERSE ENGINEER, DECOMPILE, DISASSEMBLE, MODIFY, ADAPT, TRANSLATE, RENT, LEASE OR LOAN THE SOFTWARE OR CREATE DERIVATIVE WORKS BASED ON THE SOFTWARE OR ANY ACCOMPANYING WRITTEN MATERIALS. (b) The Software and the accompanying written materials are copyrighted. Unauthorized copying of the Software, including portions thereof or the written materials, is expressly forbidden. (c) You understand that the Company may update or revise the Software and in so doing incurs no obligation to furnish such updates to you.
3. Limited Warranty: The Company does not warrant that the operation of the Software will meet your requirements or operate free from error. The Company DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS EITHER EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD PARTY RIGHTS.
4. Limited Liability: The liability of the Company for any claims arising out of this License based upon the Software, regardless of the form of action, shall not exceed the greater of the license fee for the Software or \$50.

Table of Contents

General Description	6
Features	6
Front Panel Controls	6
Front Panel	7
Rear Panel	7
Connector Specifications	8
Specifications	9

General Description

The 4-wire Buffer Amplifier(4WBA) is a six channel, high performance audio line driver amplifier with transformer balanced inputs and outputs. It can be used as a six input, six output group of individual amplifiers in a 1 RU mount. Electrical isolation between amplifiers is sufficient to eliminate any chance of crosstalk.

Features

Transformer Balanced Input:

Each input uses two cross-coupled audio transformers to help minimize hum and provide galvanic isolation.

Impedence:

Input impedance selection to either 600 Ohms or 10.0 K Ohms via 3-pin jumpers.

Gain:

-40 to +20 dBu, five step selectable and ± 10 dB gain volume for RX channel operating level. -10 to +10 dBu adjustable for TX channel operating level. RX channel is available for input mute position. Nominal setup level is selectable 0dBu or -10dBu, via jumpers.

Limiter:

Threshold level is adjustable -30 to -10dBu, via panel trimmer. Each RX channel of VOX tally output DB15F connector for the UIO256 GPI function.

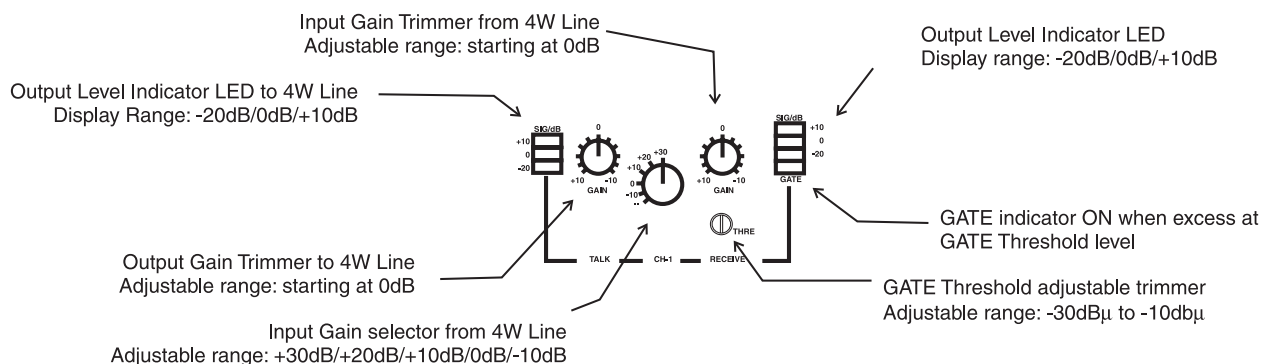
Transformer Balanced Outputs:

Four Wire side of In/Outputs capable of driving 600 Ohm loads. Matrix site In/Outputs stages transformer option.

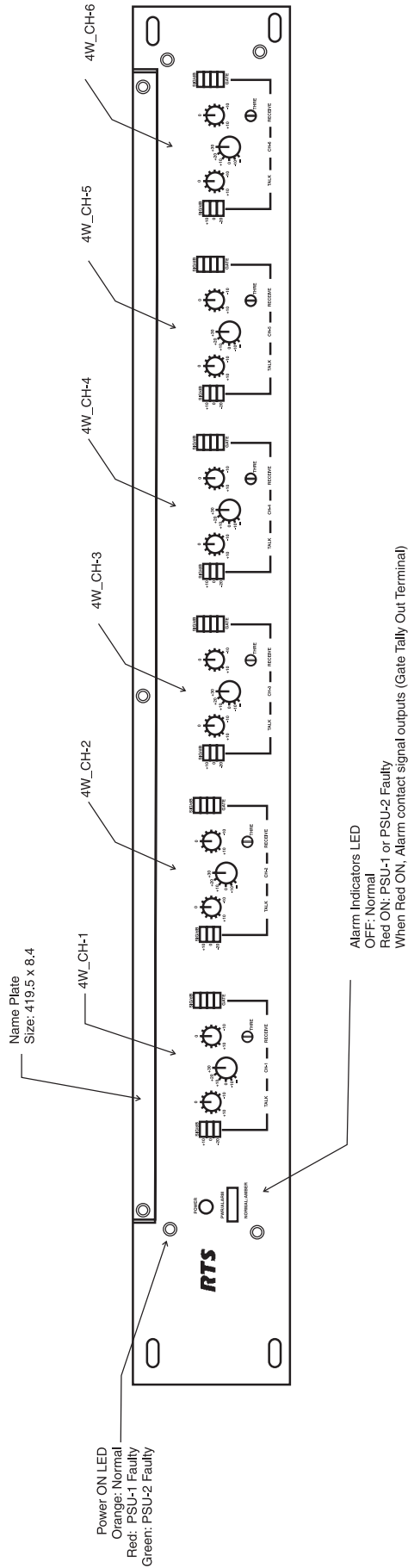
Redundant Power Supply:

Dual power supply provides redundant operation. Bi-color LEDs and Fault LEDs with tally output to DB15F connector.

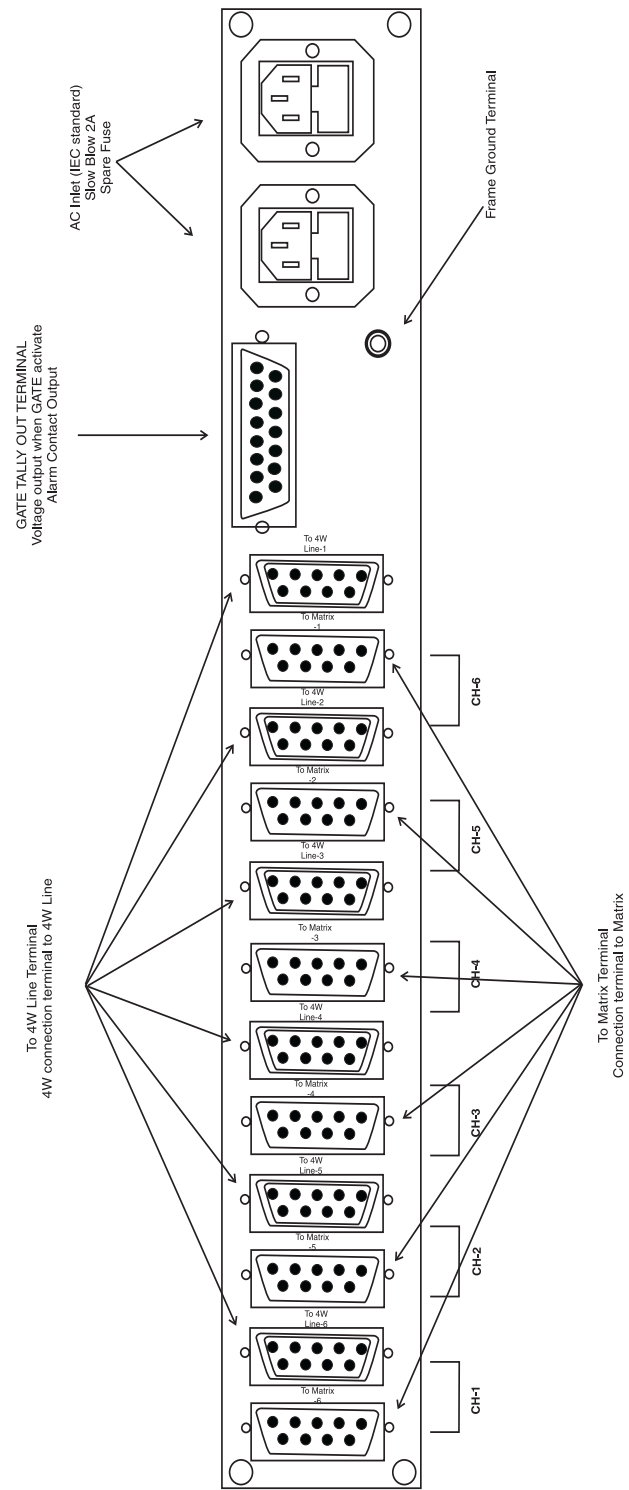
Front Panel Controls



Front Panel



Rear Panel



Connector Specifications

DB-9M (4W SIDE)		DB-9F (Matrix Side)		DB-15F (Gate Tally out)	
Pin No.		Pin No.		Pin No.	
1	Link	1	Link	1	CH-1 out
2	Link	2	Link	2	CH-2 out
3	Talk Ch Gnd	3	Talk Ch Gnd	3	CH-3 out
4	Receive Ch (Hi)	4	Receive Ch (Hi)	4	CH-4 out
5	Receive Ch (Lo)	5	Receive Ch (Lo)	5	CH-5 out
6	Link-	6	Link	6	Ch-6 out
7	Talk Ch (Lo)	7	Talk Ch (Lo)	7	NC
8	Talk Ch (Hi)	8	Talk Ch (Hi)	8	ALM-MC
9	Receive ch gnd	9	Receive ch gnd	9	(+) 12V
				10	(+) 12V
				11	(+) 12V
				12	(+) 12V
				13	(+) 12V
				14	(+) 12V
				15	ALM-COM

Specifications

4-wire side

Connector type: DB-9 M (pin connection)

Receive Channel:

Input Gain Selector

+30/+20/+10/0/+10 dB 6 position

Input Gain Trimmer

±10dB selectable (except -)

Maximum Input Level:

+30dBu (Input protection circuit is activated in case of excess input)

Input Circuit / Impedance

Transformer balanced input 600 (20k selectable)

Gate Circuit (Bypass is selectable with setting inside)

Threshold Level

-30dBu - 10dBu (selectable in front panel by adjustable VR)

Audio Gate Attack Time

30 msec

Holding Time

3 sec (0.2.2 sec is adjustable with VR inside)

Release Time

3 sec

Operation indication

Mute - Red LED turn OFF

VOX - Red LED turn ON

Filter Circuit

80Hz H.P.F. and 10KHz L.P.F.

Limiter Circuit

Threshold Level

+10dBu (adjustable -6dB + 12dB via front panel trimmer VR)

Gate Tally Circuit

Connector Type

DB-15F (Pin Connection)

Output signal

Open collector output

DC 12V 50mA load operate is possible

Mute = High (DC12V)

VOX = Low (0V)

Talk CH

Operating Output Level

0dBu (-10dBu is selectable by jumper inside)

Maximum Output Level

+10dBu (in case of adjustment 0dBu for operating level, 600 load, 1KHz)

0 dBu (in case of adjustment -10dBu for operating level, 600 load, 1KHz)

Output Gain Trimmer

±10dB adjustable

Output Circuit/ Impedance

Transformer balance output (600 transformer connected)

Ground Setting

Floating (unfloating is selectable by jumper inside)

Signal Level Indicators

+10dBu (Red)

0dBu (Yellow)

-20dBu (Green)

Matrix Side

Connector Type

DB-9F

Receive CH

Operating Output Level

0dBu

Maximum Output Level

+10dBu (in case of adjustment 0dBu for operating level, 600 load, 1KHz)

Output Circuit/Impedance

Transformer balanced output 20

(Option: 600 balanced output by transformer coupling)

Signal Level Indicators

+10dBu (Red)

0dBu (Yellow)

-20dBu (Red)

Talk CH

Operating Output Level

0dBu

Maximum Output Level

+20dBu

Input Circuit / Impedance

Activate balanced input 20K

(option 600 balanced input by transformer coupling)

Ground Setting

Floating (Unfloating is selectable by jumper inside)

General

Frequency Response

Talk CH 50Hz 10kHz (-3dB)

Receive CH 80Hz 10kHz (-3dB)

Noise Level

-60dB (30.30kHz)

Distortion

0.5% (under limiter activate point)

Frequency range 100Hz 10kHz (0dBu Output)

Crosstalk

-60dB (30Hz-10kHz)
-80dB (1kHz)

CMRR

-70dB (30Hz-1kHz)
-50dB (15kHz)

Activate Warranty Temperature

0.50

Power Supply

Power Requirements

+12V 2.5A 30W
DC/DC CON ± 12 V 0.45A (on board)
2PS unit for Redundant

Power Supply Indicators

Bi-color LED display. When NORMAL,
Amber color turn ON. When in Fault,
PSU-1 shows a Red LED ON, PSU-2
shows a Green LED ON.

Fault Alarm Signal Output

Contact signal (make) output to GATE
TALLY OUT
Front panel Red LED will appear.

AC Inputs

AC 100V/240V $\pm 10\%$

Power Consumption

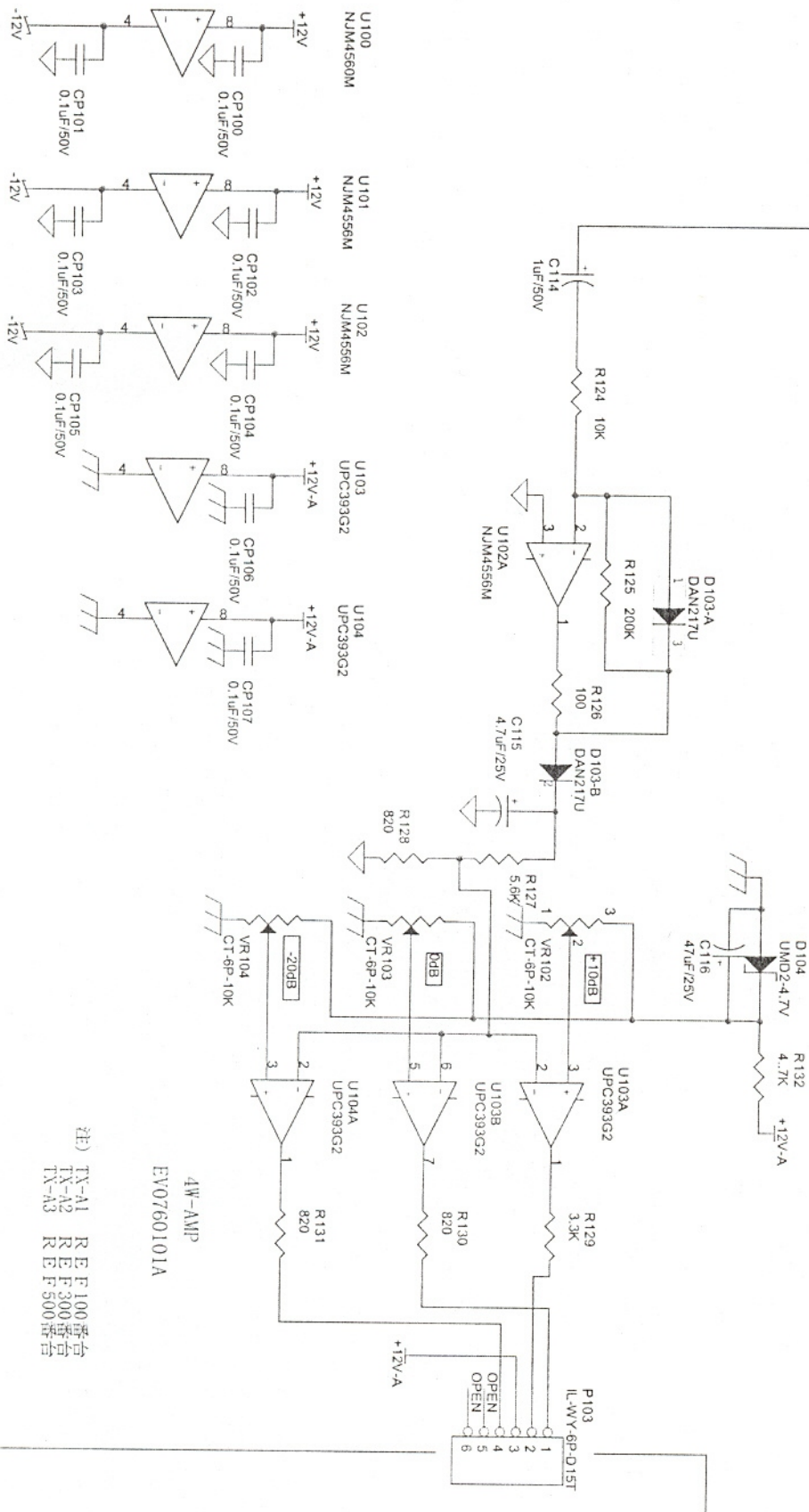
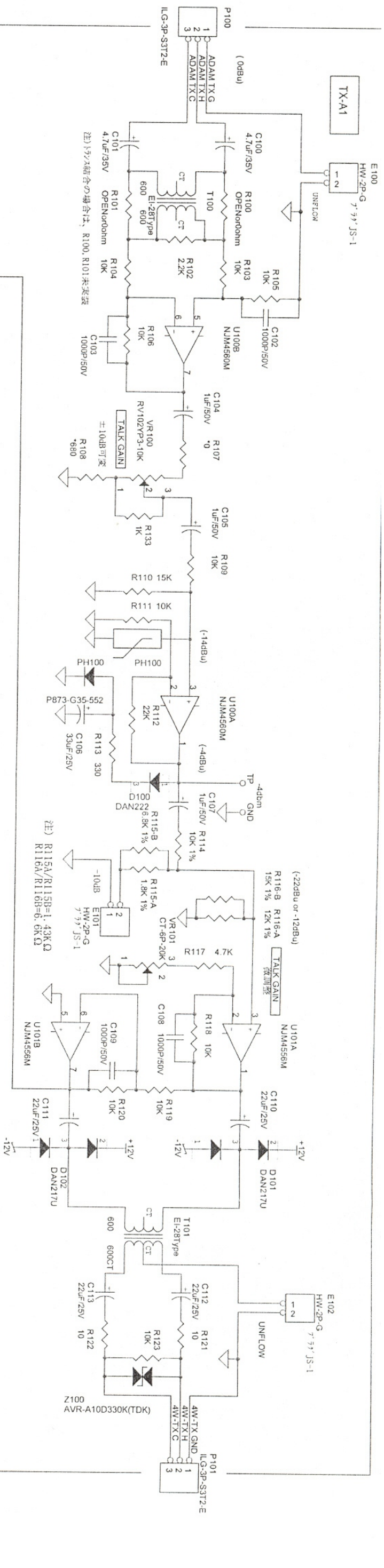
100 W

Fuse

2 A (slow blow)

Dimensions / Weight

483(w) x 400(d) x 44(h) (mm)
excl. maximum protuberance
weight = 5Kg



注) LEDは、出力レベル表示
-20db以上、0db以上、+10db以上時各LED点灯

注) E100は、入力回路のオフセット、オフセットの調整
注) E101は、運用出力レベルを0dbとするか-10dbとするかの切替
注) E102は、出力回路のオフセット、オフセットの調整

注) 出荷時のデフォルト設定
E100 F101 E102
全て開放

注) E101、入力回路はオフセット
E101、運用出力レベル 0db
E102、出力回路はオフセット

Title		TX CANNEL	
Size	A3	Document Number	EVO760101A
Date	2013.1.4	Sheet	1 of 1
Rev			

