Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Headset/
Patient Applied Part

TA PWR +24 V
TEC PWR +5 V
LD PWR +12 V
TEC PWR +5 V
HEADSET PWR +5 V
MLIB PWR +24 V
TDA4 PWR +24 V
DISPLAY PWR +12 V
Switch/ Monitor GPIO
Serial/ Contr I2C
INTERNAL PWR +12 V +5 V
+24
Input PSU Cosel GHU

TA LD10CHA V,I TA TA DRIVE IMON GPIO
TEC WTC3243 V,I TEC
LD MPL500 V,I LD SET IMON GPIO
TEC WTC3243 V,I TEC
TA TEC
LD TEC
Full
diffuse pick-off
15 dB Atten
3 dB Split
0.50
0.50
Laser Source Module

"LEFT" Headset
"RIGHT" Headset

"LEFT"
Camera 1 FPD Link III +3V3
Camera 2 FPD Link III +3V3
Camera 3 FPD Link III +3V3
"RIGHT"
Camera 4 FPD Link III +3V3
Camera 5 FPD Link III +3V3
Camera 6 FPD Link III +3V3
+5 V Aggregator Regs

Laser Control GPIO I2C ERROR
Laser Output LD SET TA DRIVE I2C TTRIG/ FS
TEMP MON I2C
Laser Safety IMON IMON IMON TIA OPT MON ERROR I2C ESTOP
ESTOP
MLIB

I2C/GPIO INTERFACE GPIO I2C I2C FS I2C I2C GPIO I2C FS
System Power
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

TA TRIG
CAMERA FRAME SYNC
V3 LINK SERIAL COMM
V3-Link Interface
TDES960 X 4
Connected According to Readout Order
12 (6 Coax)
Monitor/ Display +12 V

Legend
- Sys Timing/Control
- DC Power
- High Speed Data
- Laser/Optical I
- LS Serial Control
- Laser Safety Control
- Mains Power
- Signal Flow Direction

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

TA PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
LD PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
HEADSET PWR
Switch/ Monitor
MLIB PWR
Switch/ Monitor
Serial/ Contr
TDA4 PWR
Switch/ Monitor
DISPLAY PWR
Switch/ Monitor
INTERNAL PWR

TA LD10CHA
GPIO
TEC WTC3243
LD MPL500
GPIO
TEC WTC3243
TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split
Laser Source Module

Laser Control
Laser Output
TEMP MON
Laser Safety
TIA OPT MON
ESTOP
MLIB

ESTOP

I2C/GPIO INTERFACE
System Power
V3-Link Interface
TDES960 X 4
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Legend
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

TA PWR +24 V → Switch/ Monitor
TEC PWR +5 V → Switch/ Monitor
LD PWR +12 V → Switch/ Monitor
TEC PWR +5 V → Switch/ Monitor
HEADSET PWR +5 V → Switch/ Monitor
MLIB PWR +24 V → Switch/ Monitor
Serial/ Contr
TDA4 PWR +24 V → Switch/ Monitor
DISPLAY PWR +12 V → Switch/ Monitor
INTERNAL PWR +12 V +5 V
+24

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

TA LD10CHA V,I TA
GPIO
TEC WTC3243 V,I TEC
LD MPL500 V,I LD
GPIO
TEC WTC3243 V,I TEC

TA TEC
LD TEC

10 dB Spilt
15 dB Atten
3 dB Split

Laser Source Module

Laser Control
Laser Output
TEMP MON
Laser Safety
TIA OPT MON
ESTOP

MLIB

ESTOP

I2C/GPIO INTERFACE
System Power
V3-Link Interface
TDES960 X 4
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out

RVP-TDA4Vx 16 Ch

Monitor/ Display +12 V

Desktop Controller

Headset/
Patient Applied Part

"LEFT"
Camera 1 +3V3
Camera 2 +3V3
Camera 3 +3V3

"RIGHT"
Camera 4 +3V3
Camera 5 +3V3
Camera 6 +3V3

+5 V
Aggregator Regs

Legend
DC Power
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3

"RIGHT"
Camera 4
Camera 5
Camera 6

Aggregator Regs

TA PWR
TEC PWR
LD PWR
TEC PWR
HEADSET PWR
MLIB PWR
Serial/ Contr I2C
TDA4 PWR
GPIO Switch/ Monitor
DISPLAY PWR
Switch/ Monitor GPIO
INTERNAL PWR

Switch/ Monitor GPIO (x6)

TA LD10CHA GPIO
TEC WTC3243
LD MPL500 GPIO
TEC WTC3243
TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split
Laser Source Module

GPIO Laser Control
GPIO I2C
Laser Output I2C
TEMP MON I2C
Laser Safety I2C
TIA OPT MON
ESTOP
MLIB

I2C/GPIO INTERFACE
GPIO I2C I2C I2C I2C I2C
System Power
TDA4 MID J7ES SoC
TDA4Vx Baseboard
V3 LINK SERIAL COMM
V3-Link Interface
TDES960 X 4
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

ESTOP

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Legend
LS Serial Control
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3

"RIGHT"
Camera 4
Camera 5
Camera 6

Aggregator Regs

TA PWR
TEC PWR
LD PWR
TEC PWR
HEADSET PWR
MLIB PWR
Serial/ Contr
TDA4 PWR
DISPLAY PWR
INTERNAL PWR
Switch/ Monitor

TA LD10CHA
GPIO
TA DRIVE
TEC WTC3243
LD MPL500
GPIO
SET
TEC WTC3243
TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split
Laser Source Module

Laser Control
LD SET
TA DRIVE
Laser Output
TTRIG/ FS
TEMP MON
Laser Safety
TIA OPT MON
ESTOP
MLIB

ESTOP

FS
I2C/GPIO INTERFACE
FS
System Power
TA TRIG
CAMERA FRAME SYNC
V3-Link Interface
TDES960 X 4
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Legend
Sys Timing/Control
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Headset/
Patient Applied Part

"LEFT"

Camera 1
FPD Link III

Camera 2
FPD Link III

Camera 3
FPD Link III

"RIGHT"

Camera 4
FPD Link III

Camera 5
FPD Link III

Camera 6
FPD Link III

Aggregator
Regs

TA PWR

TEC PWR

LD PWR

TEC PWR

HEADSET
PWR

MLIB
PWR

TDA4
PWR

DISPLAY
PWR

INTERNAL
PWR

Switch/ Monitor

Switch/ Monitor

Switch/ Monitor

Switch/ Monitor

Switch/ Monitor

Serial/
Contr

Switch/ Monitor

Switch/ Monitor

TA LD10CHA
GPIO

TEC WTC3243

LD MPL500
GPIO

TEC WTC3243

TA
TEC

LD
TEC

10 dB
Spilt

15 dB
Atten

3 dB
Split

Laser Source
Module

Laser
Control

Laser
Output

TEMP MON

Laser
Safety

TIA OPT MON

ESTOP

MLIB

ESTOP

I2C/GPIO INTERFACE

System Power

TDA4 MID
J7ES SoC

TDA4Vx
Baseboard

RVP-TDA4Vx 16 Ch

USB
Touch

HDMI Out

V3-Link
Interface

TDES960 X 4

Connected
According to
Readout Order

12 (6 Coax)

Monitor/
Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Legend

High Speed Data

Mains Power

Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Headset/
Patient Applied Part

TA PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
LD PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
HEADSET PWR
Switch/ Monitor
MLIB PWR
Switch/ Monitor
Serial/ Contr
TDA4 PWR
Switch/ Monitor
DISPLAY PWR
Switch/ Monitor
INTERNAL PWR

TA LD10CHA
GPIO
TEC WTC3243
LD MPL500
GPIO
TEC WTC3243

TA TEC
LD TEC

Full
10 dB Spilt
15 dB Atten
3 dB Split
0.50
0.50

Laser Source Module

"LEFT" Headset
"RIGHT" Headset

"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Laser Control
Laser Output
TEMP MON
Laser Safety
TIA OPT MON
ESTOP
MLIB

ESTOP

I2C/GPIO INTERFACE
System Power
V3-Link Interface
TDES960 X 4
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Legend
Laser/Optical I
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

Desktop Controller

TA PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
LD PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
HEADSET PWR
Switch/ Monitor
MLIB PWR
Switch/ Monitor
Serial/ Contr
TDA4 PWR
Switch/ Monitor
DISPLAY PWR
Switch/ Monitor
INTERNAL PWR

TA LD10CHA
GPIO
IMON
TEC WTC3243
LD MPL500
GPIO
IMON
TEC WTC3243
TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split
Laser Source Module

Laser Control
ERROR
Laser Output
TEMP MON
IMON
IMON
IMON
Laser Safety
TIA OPT MON
ERROR
ESTOP
ESTOP
MLIB

GPIO
I2C/GPIO INTERFACE
V3-Link Interface
TDES960 X 4
System Power
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Legend
Laser Safety Control
Mains Power
Signal Flow Direction

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

TA PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
LD PWR
Switch/ Monitor
TEC PWR
Switch/ Monitor
HEADSET PWR
Switch/ Monitor
MLIB PWR
Switch/ Monitor
Serial/ Contr
TDA4 PWR
Switch/ Monitor
DISPLAY PWR
Switch/ Monitor
INTERNAL PWR

TA LD10CHA
GPIO
IMON
TEC WTC3243
LD MPL500
GPIO
IMON
TEC WTC3243

TA TEC
Full
10 dB Spilt
15 dB Atten
3 dB Split
0.50
0.50
LD TEC

Laser Source Module

"LEFT" Headset
"RIGHT" Headset

Laser Control
ERROR
Laser Output
TEMP MON
IMON
IMON
IMON
TIA OPT MON
Laser Safety
ERROR
ESTOP
ESTOP

MLIB

GPIO
I2C/GPIO INTERFACE
V3-Link Interface
TDES960 X 4
System Power
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU
Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Legend
Laser/Optical I
Laser Safety Control
Mains Power
Signal Flow Direction

Notes:
Laser Safety and Optical

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

TA PWR
TEC PWR
LD PWR
TEC PWR
HEADSET PWR
MLIB PWR
TDA4 PWR
DISPLAY PWR
INTERNAL PWR

Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Serial/ Contr I2C
GPIO Switch/ Monitor
Switch/ Monitor GPIO

Laser Source Module
TA LD10CHA GPIO TA DRIVE
TEC WTC3243
LD MPL500 GPIO SET
TEC WTC3243
TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split

MLIB
GPIO GPIO Laser Control I2C
LD SET TA DRIVE Laser Output I2C TTRIG/ FS
TEMP MON I2C
Laser Safety I2C TIA OPT MON ESTOP

ESTOP

I2C/GPIO INTERFACE
I2C GPIO I2C I2C FS I2C I2C I2C FS

System Power
TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out
V3-Link Interface TDES960 X 4
TA TRIG
CAMERA FRAME SYNC
V3 LINK SERIAL COMM

RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU Cosel GHU
AC Mains 95-240 VAC 50-60 Hz

Desktop Controller

Headset/ Patient Applied Part
"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Legend
Sys Timing/Control
LS Serial Control
Mains Power
Signal Flow Direction

Notes:
Control Complete

Gen 2.5 Electrical Architecture TDA4Vx-16 Ch

TA PWR
TEC PWR
LD PWR
TEC PWR
HEADSET PWR
MLIB PWR
TDA4 PWR
DISPLAY PWR
INTERNAL PWR

Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Switch/ Monitor GPIO
Serial/ Contr I2C
GPIO Switch/ Monitor
Switch/ Monitor GPIO

TA LD10CHA
GPIO
TA DRIVE IMON
TEC WTC3243
LD MPL500
GPIO
SET IMON
TEC WTC3243

TA TEC
LD TEC
10 dB Spilt
15 dB Atten
3 dB Split

Laser Source Module

GPIO Laser Control I2C ERROR
LD SET
TA DRIVE
Laser Output
I2C
TTRIG/ FS
TEMP MON
I2C
IMON
IMON
IMON
Laser Safety
ERROR
I2C
TIA OPT MON
ESTOP

ESTOP

MLIB

I2C/GPIO INTERFACE
GPIO I2C I2C FS I2C I2C
GPIO
I2C FS

System Power
TA TRIG
CAMERA FRAME SYNC
V3 LINK SERIAL COMM
V3-Link Interface
TDES960 X 4

TDA4 MID J7ES SoC
TDA4Vx Baseboard
USB Touch
HDMI Out

RVP-TDA4Vx 16 Ch

Monitor/ Display

Input PSU Cosel GHU

AC Mains
95-240 VAC
50-60 Hz

Desktop Controller

Headset/
Patient Applied Part

"LEFT"
Camera 1
Camera 2
Camera 3
"RIGHT"
Camera 4
Camera 5
Camera 6
Aggregator Regs

Legend
Sys Timing/Control
LS Serial Control
Laser Safety Control
Mains Power
Signal Flow Direction

Notes:
Control Complete
Laser Safety