MULTIPORT™
Multi-Format Audio Interface Panel

DESCRIPTION

The MultiPort panel is a utility interconnect device that facilitates interface between a studio or professional audio system and external audio devices. MultiPort provides convenient access to system audio inputs and outputs, and allows connection to digital and analog equipment at both professional and consumer signal levels. Digital I/O can be via either the AES/EBU or S/PDIF standard. Balanced audio outputs are provided at +4dBu and -50dBu and also unbalanced at -10 dBv. MultiPort can accept analog inputs at +4dBu (balanced) or -10 dBv (unbalanced). XLR, ¼" TRS, 3.5mm Mini TRS, and RCA jacks are provided for interface. MultiPort is powered by an external AC power transformer, included.

INSTALLATION

MultiPort can be mounted in a rectangular cutout in studio cabinetry. The cutout should be 11" W x 2 1/2" H. (A rack-mount kit is optionally available, for mounting MultiPort in a 2RU rack opening.) Audio and power connections to MultiPort are via three "euroblock" connectors on the PC board, labeled "To Studio", "From Studio" and "AES,PWR". Wire the mating plugs according to the information below. Note that the pins are numbered left-to-right, with the screws facing up.

TO STUDIO: This connector sends analog audio from MultiPort <u>to</u> the studio, e.g., to a balanced Line input on a console. All analog wiring to/from MultiPort should be balanced, lo-z, at professional +4 dBu levels.

PIN 1   LEFT +
PIN 2   LEFT –
PIN 3   GROUND
PIN 4   RIGHT +
PIN 5   RIGHT –
PIN 6   GROUND

1 2 3 4 5 6

Pins are numbered left-to-right, with screws facing UP.

FROM STUDIO: This connector sends analog audio <u>from</u> the studio (e.g., a DA output) to the MultiPort output connectors. Pin assignments are identical to those shown above.

AES, PWR: This connector is for the AES digital input and output, and also the power input to MultiPort:

PIN 1   AES + OUTPUT   AES digital audio output of MULTIPORT <u>to</u> studio, e.g., the AES input of a digital console
PIN 2   AES – OUTPUT
PIN 3   AES+ INPUT   Studio AES output (e.g., output of digital D.A.) to MULTIPORT digital output connectors
PIN 4   AES – INPUT
PIN 5   POWER INPUT   12V AC input to MULTIPORT (This is also the ground of MULTIPORT internal circuitry.)
PIN 6   POWER INPUT   12V AC input to MULTIPORT

GROUNDING: Grounds of analog I/O connectors can be connected at both ends. Four "jumper pins" (JP1-JP4) allow the studio equipment grounds to be connected-thru to the XLR Pin1 ground terminals. JP1 (L) and JP2 (R) connect MultiPort input connector grounds to the grounds of studio input equipment. JP3 (L) and JP4 (R) connect the studio output grounds to the ground pins of MultiPort output connectors. The AES input and output connections are transformer isolated; no ground connection is required. (MultiPort metal panel is connected to Pin 6 of the "From Studio" connector.)

OPERATION:

For balanced Line analog inputs/outputs, use the "combo" jacks for inputs (TRS or XLR) and the male XLR output jacks. For unbalanced "consumer" Line analog inputs/outputs, use the "RCA" phono jacks or 3.5mm TRS jacks. All line-level I/O is stereo.

For balanced Mic-level outputs, use the Mic Output jacks. Note that both the Mic outputs are <u>monaural</u>, and are summed from the left and right studio outputs. The Mic Ground switch can be used to disconnect Pin 1 of the Mic output XLRs from the studio ground.

To feed a digital audio signal into MultiPort, use either the AES input (XLR) or the S/PDIF input (RCA). Do not use both input jacks at the same time. MultiPort's digital outputs are available on either the AES output (XLR) or S/PDIF output (RCA). The Digital Output Select switch selects which output is active. Do not use both outputs at the same time.

The two digital Utility connectors can be used for pass-thru connections of USB and RJ45 cables. Note that the USB connectors are reversible, and can be installed with either type of USB connector facing outwards. Either of these connectors can be field replaced with Neutrik USB, RJ45 or IEEE-1394 ("Firewire") connectors.

H E N R Y
E
ENGINEERING

E1
E2
L IN J1
R5 4.99K
C1 30pF
R3 12.4K
-12V
C13
-12V
C14
0.1uF
R1 24.9K
-12V
+12V U1A
NE5532
R9 47 1/4W
R2 24.9K
C2
30pF
R4
12.4K
GND
+12V
R6 4.99K
C14
0.1uF
R7 4.99K
-12V
E9
6
R8 47 1/4W
+12V U1B
NE5532
ON OFF
JP1
1 2 3
TO STUDIO

P2
FROM STUDIO
1
2
4
5
3
6
ON OFF
JP3
1 2 3
E17
C21
0.1uF
ON OFF
JP4
1 2 3

J3
2 L OUT
1
3
J4
1 R OUT
2
3

RP1A20K RP2B33.2
1   2   3   4
RP2A
33.2
RP1B20K RP2C33.2
3   4   5   6

RP1C20K RP3B33.2
5   6   3   4
RP3A
33.2
RP1D20K RP3C33.2
7   8   5   6

J7
2 M1 OUT
3
1
E14

E3
E4
R14 4.99K
C4 30pF
R16 12.4K
-12V
C15
0.1uF
R18 24.9K
R IN J2
R17 24.9K
C3
30pF
-12V
+12V U2A
NE5532
R11 47 1/4W
+12V
C16
0.1uF
R15
12.4K
R13 4.99K
GND
R12 4.99K
-12V
R10 47 1/4W
+12V U2B
NE5532
ON OFF
JP2
1 2 3

P1
2 L-
3 GND
1 L+
5 R-
6 GND
4 R+

RP4A20K RP5B33.2
1   2   3   4
RP5A
33.2
RP4B20K RP5C33.2
3   4   5   6

RP4C20K RP6B33.2
5   6   3   4
RP6A
33.2
RP4D20K RP6C33.2
7   8   5   6

J8
2 M2 OUT
3
1
E15

T2
TC-615
J5
3 AES IN
2
1

R68 2.4K
R64 1.2K
-12V
C17
0.1uF
R70
110 1/4W
-12V
4
+12V
6
2
R66
110 1/4W
R67
E10
R69
150
SPDIF IN
E11
U4
LM6181
C19
0.1uF

R22 R21
24.9K 24.9K
R19 4.99K
-12V
C18
0.1uF
-12V
+12V U3A
NE5532
R2347 1/4W
E5
L OUT
E6
R20
4.99K
C20
0.1uF

R57 R56
24.9K 24.9K
R544.99K
-12V
+12V U3B
NE5532
R5847 1/4W
E7
R OUT
E8
R55
4.99K

T1
TC-612
P3
1 AES OUT
2
3 AES IN
4
5 GND
6 AES I/O, PWR IN
C7
0.1uF

J6
2 AES OUT
3
1

T3
TC-615
E12
SPDIF OUT
E13
R75
120
R73 R74130
82
E21
S/A SW
E20
R72
56

D1 1N4004
D2 1N4004
C5
1000uF 25V C6
1000uF 25V
IN OUT
GND
Q1
LM78L12
+12V
R76 10K
IN OUT
GND
Q2
LM79L12
-12V
E18
PWR LED
E19

TP1 TP2 TP3
+12V
-12V

NOTE: UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE 1/8W, 1%.

HENRY ENGINEERING
503 Key Vista Drive
Sierra Madre, CA 91024 USA

telephone - (626) 355-3656
FAX (626) 355-0077

Title
SCHEMATIC: MULTIPORT INTERFACE PANEL

Size B
Document Number 6300
Rev A
Date: Tuesday, February 09, 2010   Sheet 1 of 1