


PrivateQ

MULTICHANNEL CUE SYSTEM
MYTEK TECHNOLOGIES  USA

Reference Manual

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For technical support in the US call Mytek at:

212-388 2677

Overseas contact your dealer

<http://www.mytekdigital.com>

HEADPHONES CONSIDERATIONS

The Private Q system with its built-in "Class A" amplifier provides the highest quality amplification. Because of this very clean sound of the amplifier, the differences between various types of headphones become more obvious, similar to differences between studio monitor speakers. We spent a great deal of time experimenting with different types of headphones together with some users of the system.

Here are some tips:

The Private Q provides very high (52Vpp) output voltage swing and can be loaded down to as low as 4 ohms. This is sufficient to drive all types of headphones and also speakers!!

We found that although the choice of headphones is strictly personal the following applies:

1. Choose headphones for the main type of music you recording, for their durability and comfort.

2. If you need extremely loud levels of sound (hard rock drummers) look for headphones with low or medium impedance (50-100 Ohm), high efficiency (dB/mW) and good ear isolation. For this purpose we recommend Fostex T 20 (older version is louder) and Sony headphones, for example MDRV600. Some Sony headphones you might find to fragile for studio use. MDRV600 are the LOUDEST headphones we ever heard.

3. If you are concerned more with sound quality (T20 maybe a little harsh, while Sonys are usually bright- you can compensate this with Private Q EQ) try some AKGs (not 240 -they sound thin and are not loud), maybe Senheiser or look for audiophile headphones but choose carefully keeping in mind 1.)

Don't spend a fortune on headphones, there are good cost effective headphones out there.

4. We still did not hear all the headphones so maybe you'll find the best solution. Please let us know!

From our current experience headphones that work best in a rock and roll studios are T20s.

OPERATION

I. GAIN STRUCTURE

1. Private Q is a +4dBm system. Its inputs are designed to accept levels at "0 VU". If you are sending levels considerable below 0 VU you will not get the volume the system is capable of producing.

a. When you use Aux sends to combine signals to send to PQ channels be aware that sending at 0 VU is important. Check the Aux send VU meters.

b. When you use multitrack returns to send to PQ then you will probably be sending a good level already as most engineers are aware of recording signals at around 0 VU.

2. When starting a session with PQ it is important that the individual Q boxes have their channel and master volumes set at a "good" level (at least 12 o'clock). The tone control should be set flat and pan pots appropriately to what the channel is used for. The maximum gain in each channel is +6dB while unity gain (0 dB) is at 3 o'clock.

II. WHAT DO YOU SEND TO PRIVATE Q

1. The basic rule of thumb for fold back mixes: send signals that are off your monitor but pre monitor fader. In other words send signals that are post multitrack return. If you use Group Outputs (Busses) to send to the PQ they must be after the multitrack returns. You should not use the busses that you are recording to tape as these are off the inputs and there will be no signal there when you play back the tape.

2. The best sources for signals to send to PQ are:

- a. Multitrack return patch points (for individual instruments)
- b. Aux (cue) sends for combined signals (stereo drum mix, effects mix, etc.)
- c. Often it is a good idea to send the control room mix to one of the stereo channels and individual instruments to the other channels. This way musicians can use the engineer mix or update it.

III. TALKBACK

1. We will give an example with the SSL console but it is similar in all consoles:

Talkback to headphones usually occurs inside the SSL and is inserted into Aux sends at the patch point called CUE SENDS or CUE OUTPUTS not the CUE INSERTS. Any time you use the Cue Sends as a way to feed some signal to PQ then talkback to Cues will get to the musicians at some level when the engineer presses the "Cues" talkback button.

2. A good idea if you have a spare channel on the Q mixer is to dedicate that channel as a "Talkback" and patch any of the Cue send/output patch points into it. That way each musician has a level control for talkback and you are not relying on them to have any other specific channel turned up. This does not disable this send as an echo send.

IV. OPERATION

1. Operation of the Private Q mixers is very simple and self explanatory to you. However you cannot assume that it is self-explanatory to every musician who will be using it. Some may have no problems, some may have no idea! A few simple things that the assistant can do at the beginning of the session will help:

- a. Properly label all Q boxes with artist tape and sharpie.

- b. Preset all volume pots at around 12 o'clock, tone controls flat, and pan pots appropriately. As the engineer starts getting sounds assistant can go around with a set of headphones and help the musicians get the mix up. It is a good idea to talk to each musician for a minute and show them how the thing works and what is on each channel.

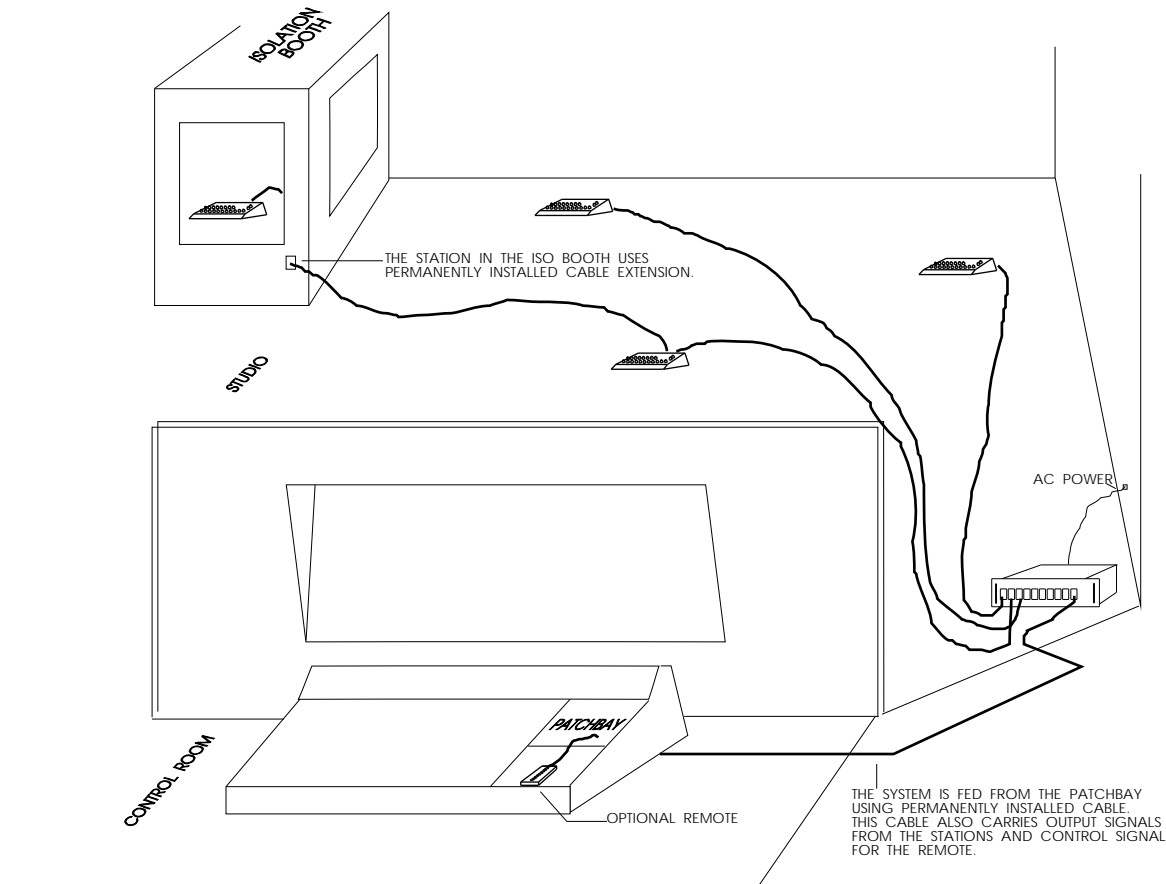
DO NOT EVER HOT PLUG the cue cables !! They carry power for the boxes and occurring sparks will DAMAGE the connectors and possibly the boxes. First set up the system, then power it up. If you have to add a box it is OK to turn off the system.

FIXED INSTALLATION

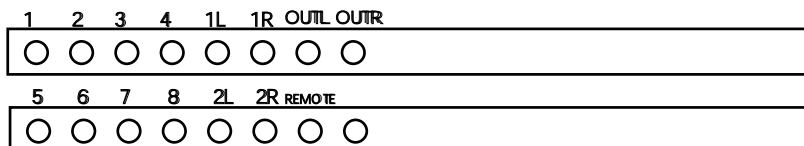
Fixed installation is recommended for a single room studio where the system is permanently installed. Usually the distribution rack sits in one place in the studio and is connected with the patchbay of the console using single 16 pair permanent cable terminated with a DL connector. The patchbay has 12 (or 15 if the remote is used) patchpoints designated for all 12 inputs of the system. The same type of installation can be used in a multiroom facility but requires repeated wiring in all studios.

If there are isolation booths in the studio an elegant solution is to run a booth extension cable for each booth (see "Accessories").

Please refer to "Grounding" section for proper grounding of the system.



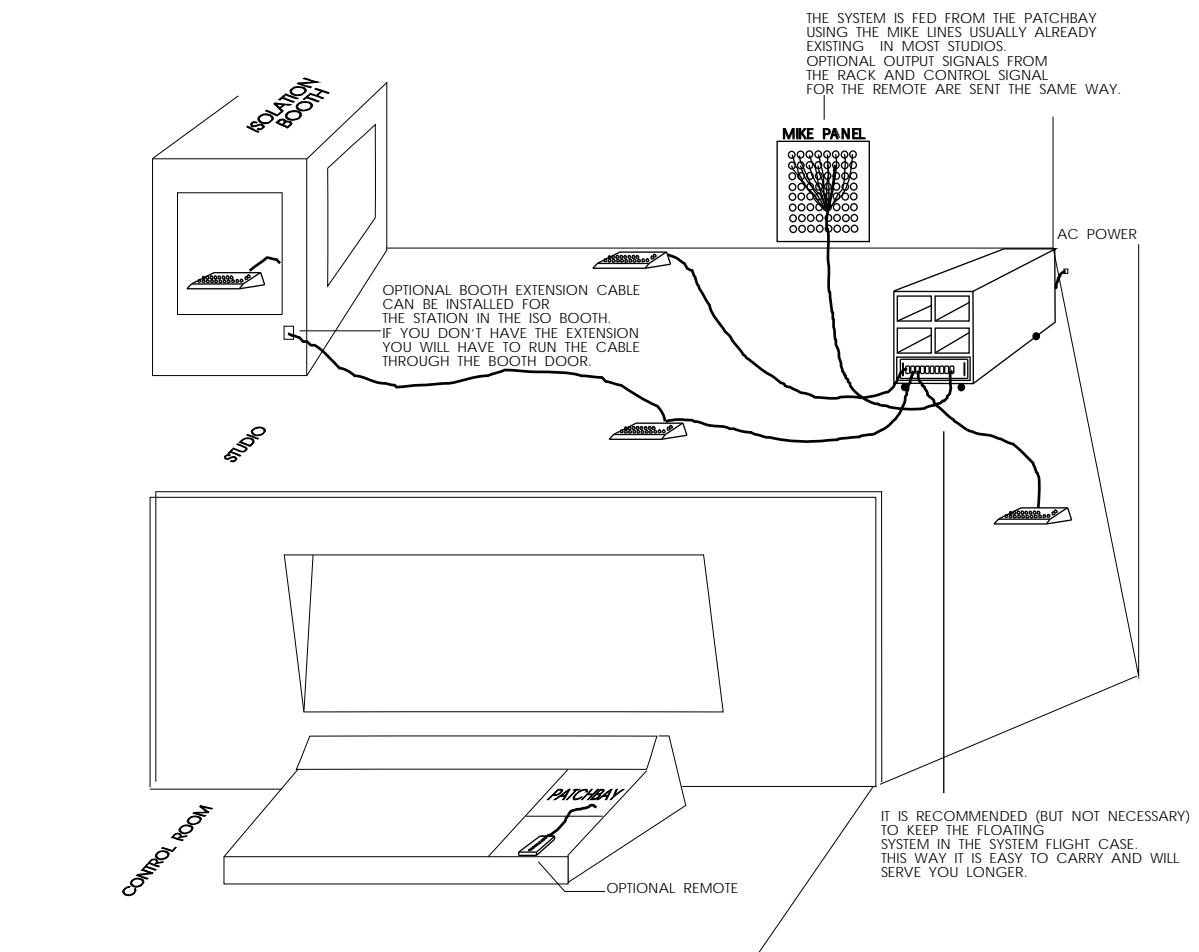
TYPICAL PATCHBAY LAYOUT:



FLOATING SYSTEM

Floating system is recommended for equipment rental companies and those users who prefer not to run any permanent wiring in the studio. A mixed (combination of floating and permanently installed) system is recommended for the multiroom studios where the Private Q is going to be moved between rooms.

Floating system uses existing microphone lines to feed the signals from the patchbay. Mytek will provide a DL to XLR cable for this purpose. If the system is frequently used fixed booth extensions are recommended to avoid inconvenience of running cables through the booth doors. A flight case is strongly recommended for a floating system (a must for a rental system); it will keep whole system neat and clean and Private Q will serve you longer. Please refer to "Grounding" section for proper grounding of the system.



GROUNDING

As most professional systems the Private Q uses +4dBm balanced shielded lines and the grounding is configured on the "STAR" principle. This means that all grounds and shields meet in one central point inside the distribution rack and nowhere else to avoid ground loops. For instance:

1. All the cables connecting the PQ mixers have the individual shields connected on both connectors so it doesn't matter which end goes where.

All shields of all the cables are grounded at the rack side.

Inside each PQ mixer the shields are disconnected from the ground and the mixer sees the ground reference only through the main drain wire (called on the schematics GND).

Each PQ mixer chassis is grounded through this drain wire.

2. The second DL on each mixer still feeds the shields through so when few units are daisy-chained all of the individual cable shields are still grounded at the rack side.

3. Rack chassis is always connected to the central ground point inside the rack.

The power plug should be lifted if the input ground is connected to the system ground.

4. In a floating system the shields of the rack's input cable are connected on both sides (DL and pin 1 of all XLRs). The main drain wire is connected to the central ground point and has an "alligator" clip on the other side. This clip should be connected by the user to the studio's ground.

5. In a permanently installed system the shields of the input cable (except the control wire #15) **MUST NOT** be connected. The drain wire however **MUST** be connected to the main studio's ground point. It usually has to be extended using an insulated thick wire.

6. Properly installed system should be absolutely quiet.

7. PQ mixer output XLRs come from the factory with pin 1 disconnected. You may connect it if necessary by opening the mixer and soldering the pin to the designated point on the printed circuit board.

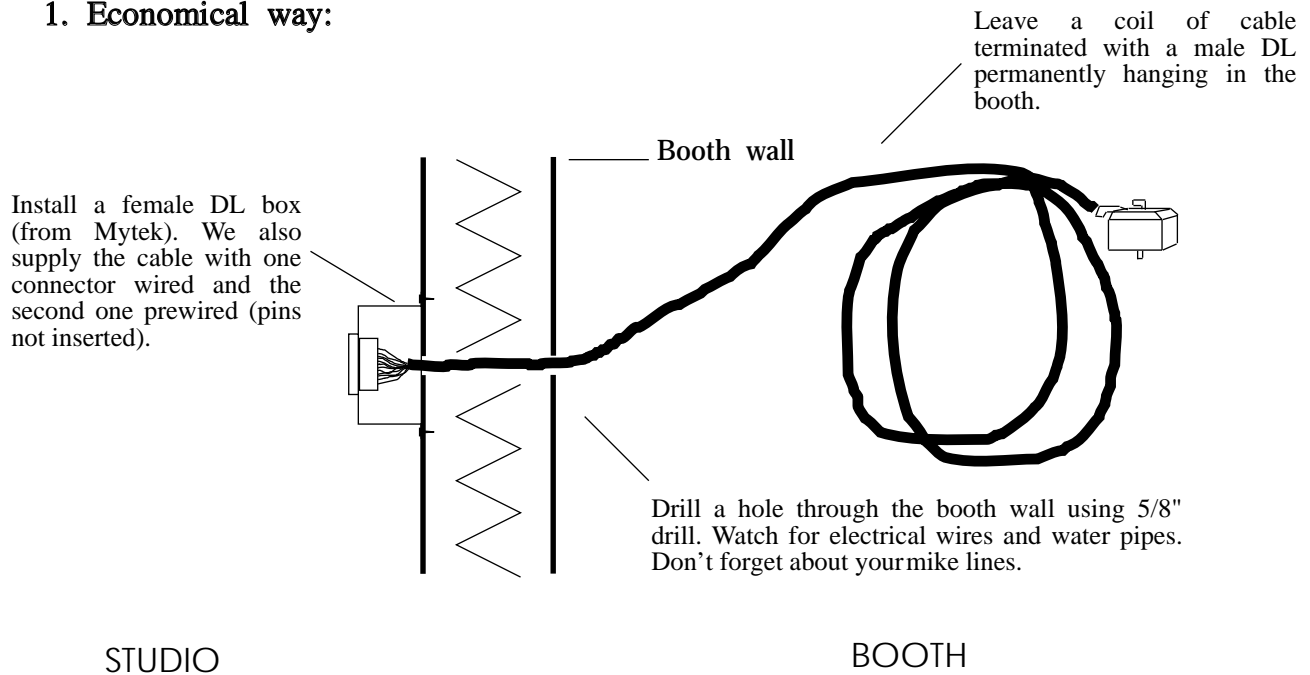
8. If you hear loud hum in one channel of a PQ mixer it is usually not related to grounding but one of the channel wires (either hot or cold) is not making contact.

Try resetting the DL, if it does not help check the cable.

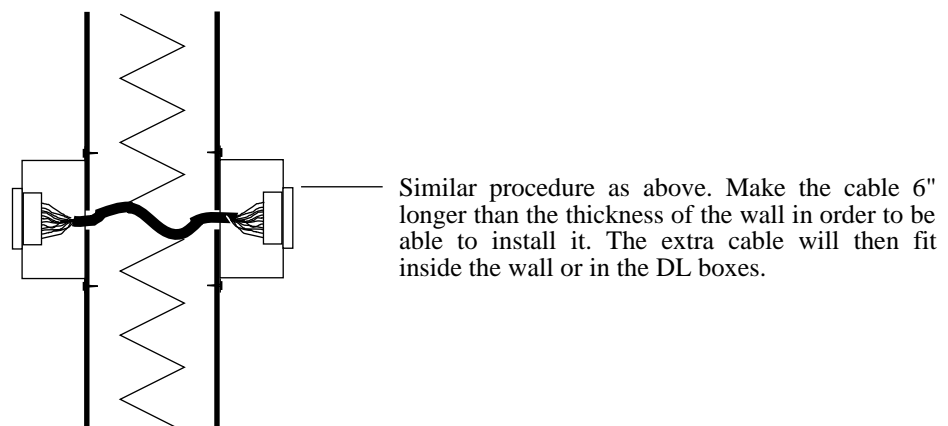
BOOTH EXTENSIONS

Most studios have one or more isolation booths. When installing the Private Q you would probably want to avoid running the PQ cable through the booth door. We recommend to install the booth extension, a cable with appropriate connectors which will extend the PQ cable through the booth wall. There are two ways of doing that:

1. Economical way:



2. Elegant way. The extension consists of two female connectors mounted on the wall. You will need two PQ cables to feed the box in the booth:



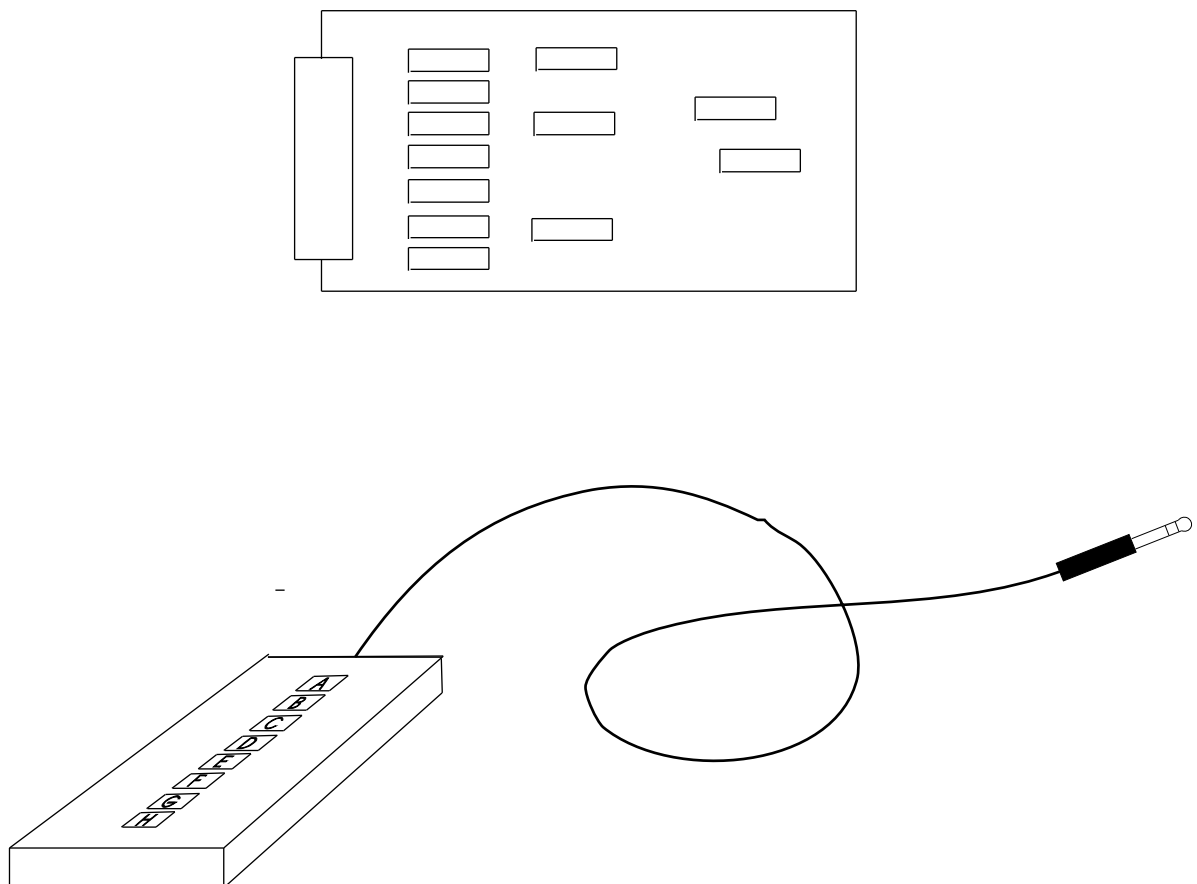
Note: You can use similar layouts to feed the main input cable from the patchbay to the studio.

REMOTE CONTROL

Private Q system offers unique feature of monitoring each musician's mix in the control room. This feature comes as an option but every system is already prewired for that purpose and can be upgraded.

Remote control consists of an output switching card and a remote controller. The card can be installed inside the rack. Card is used to switch the output signals from 8 PQ stations feeding the 8 DLs at the distribution rack. One selected pair of outputs is then fed to the control room and monitored by the engineer. The engineer can select each of the 8 outputs by using the remote controller. The controller plugs into control signal feeding the patchbay.

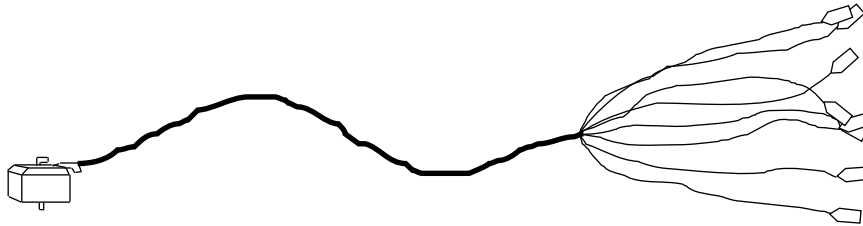
Note: If several PQ stations are daisy chained only the first unit in the chain can be monitored. You have to use one DL at the distribution rack for each station in order to be able to switch between them.



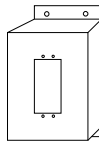
ACCESSORIES

Mytek provides several useful accessories for the Private Q system. They can be ordered as options or upgrades:

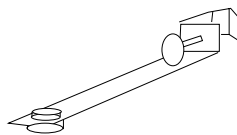
1. Different types of snakes. Mytek will built any custom snake to your specifications. For example: a DL to male XLRs snake can be used for feeding a floating system through the mike lines. A DL to Bantams snake can be used with a single station and the small power supply in the control room for purposes such as submixing etc.



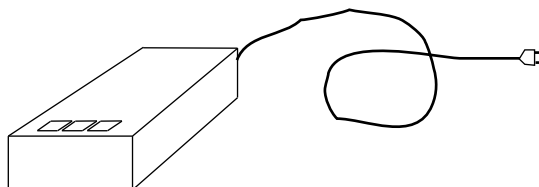
2. Wall mounted DL box. Mytek supplies a wall mounted enclosure for a female DL connector. It is usually used to built the PQ cable booth extensions or generally to feed the cables through the walls. (See: "Booth extensions")



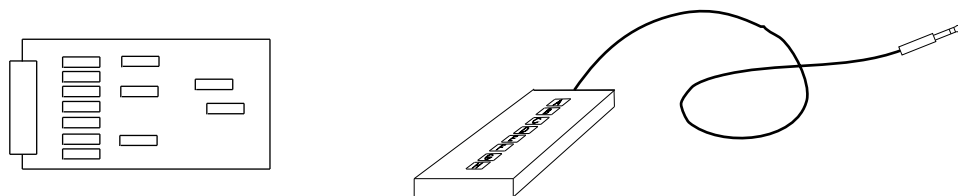
3. Mikestand support. Each station has on the bottom a mike type thread and can be directly screwed ontop of a mike stand. However it is more convenient to use this optional clamp. The station can be then mounted on any stand including music stands and its height can be easily adjusted.



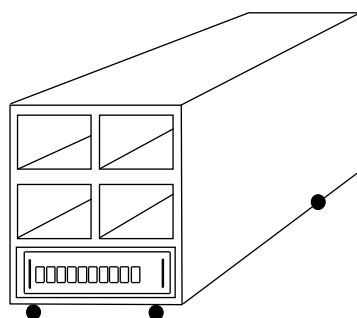
4. Small power supply. This power supply allows using up to three PQ stations without the distribution rack for special purposes such as submixing. The station inputs can be fed independently and it simply performs as a 12 channel line mixer. Its outstanding electrical specs and low noise guarantee the best sound quality. When used with small power supply each station requires its own snake. The snake normally used for a floating system (DL to male XLRs) can be used for this purpose.



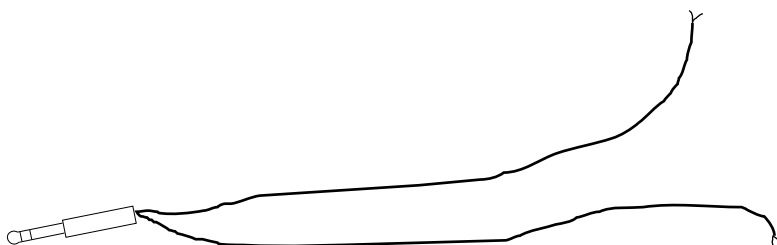
5. Remote output switching. This upgrade consists of an output switching card and a remote controller (see "Remote control" for details).



6. Flight case. This custom built case is designed to hold the whole Private Q system. It is recommended for a floating system. It makes it easily manageable and protects the Private Q against damage and careless handling. The case permanently houses the distribution rack. Available in different sizes.



7. 1/4" jack to 2 speakers. This simple cable allows to plug two speakers to a Private Q station. The type of speaker termination has to be specified when ordering this cable.



8. Other accessories. Mytek will built almost any custom cable or accessorie to your specifications. Please contact Mytek directly.

WIRING - DL CONNECTORS

CUE BOXES, RACK OUTPUTS, AND DL-DL CABLES

FEMALE CONNECTORS SEEN FROM THE FRONT OR MALE FROM THE BACK.

WIRE # SHOWN

CHANNEL # SHOWN

	1	2	3	4	5	6
A	1+	1-	1s	7+	7-	7s
B	2+	2-	2s	8+	8-	8s
C	3+	3-	3s	9+	9-	9s
D	4+	4-	4s	10+	10-	10s
E	5+	5-	5s	11+	11-	11s

	1	2	3	4	5	6
A	1	1-	1s	7+	7-	7s
B	2+	2-	2s	8+	8-	8s
C	3+	3-	3s	1L+	1L-	1Ls
D	4+	4-	4s	1R+	1R-	1Rs
E	5+	5-	5s	2L+	2L-	2Ls

	1	2	3	4	5	6
F	6+	6-	6s	12+	12-	12s
G	13+	13-	13s	14+	14-	14s
H	15	15	15	15	15	15
J	GND	GND	GND	GND	GND	GND
K	16	16	16	16	16	16

	1	2	3	4	5	6
F	6+	6-	6s	2R+	2R-	2Rs
G	⊙L+	⊙L-	⊙Ls	⊙R+	⊙R-	⊙Rs
H	+29V	+29V	+29V	+29V	+29V	+29V
J	GND	GND	GND	GND	GND	GND
K	-29V	-29V	-29V	-29V	-29V	-29V

+ IS HOT
 - IS COLD
 S IS SHIELD

1L+ IS CHANNEL "1 STEREO" LEFT SIDE HOT
 OR+ IS CHANNEL "OUTPUT" RIGHT SIDE HOT

WIRES #15 AND 16# HAVE +,- AND SHIELD SHORTED TOGETHER

GND USES MAIN DRAIN WIRE

WIRING - DL CONNECTORS

BOOTH EXTENSIONS

FEMALE CONNECTORS SEEN FROM THE BACK

WIRE # SHOWN

CHANNEL # SHOWN

	6	5	4	3	2	1
A	7s	7-	7+	1s	1-	1+
B	8s	8-	8+	2s	2-	2+
C	9s	9-	9+	3s	3-	3+
D	10s	10-	10+	4s	4-	4+
E	11s	11-	11+	5s	5-	5+

	6	5	4	3	2	1
A	7s	7-	7+	1s	1-	1
B	8s	8-	8+	2s	2-	2+
C	1Ls	1L-	1L+	3s	3-	3+
D	1Rs	1R-	1R+	4s	4-	4+
E	2Ls	2L-	2L+	5s	5-	5+

	6	5	4	3	2	1
F	12s	12-	12+	6s	6-	6+
G	14s	14-	14+	13s	13-	13+
H	15	15	15	15	15	15
J	GND	GND	GND	GND	GND	GND
K	16	16	16	16	16	16

	6	5	4	3	2	1
F	2Rs	2R-	2R+	6s	6-	6+
G	0Rs	0R-	0R+	0Ls	0L-	0L+
H	+29V	+29V	+29V	+29V	+29V	+29V
J	GND	GND	GND	GND	GND	GND
K	-29V	-29V	-29V	-29V	-29V	-29V

+ IS HOT
 - IS COLD
 S IS SHIELD

1L+ IS CHANNEL "1 STEREO" LEFT SIDE HOT
 OR+ IS CHANNEL "OUTPUT" RIGHT SIDE HOT

WIRES #15 AND 16# HAVE +,- AND SHIELD SHORTED TOGETHER

GND USES MAIN DRAIN WIRE

WIRING - DL CONNECTORS

CONTROL ROOM FEED, RACK INPUT

MALE CONNECTORS SEEN FROM THE BACK OR FEMALE FROM THE FRONT.

WIRE # SHOWN

CHANNEL # SHOWN

	1	2	3	4	5	6
A	1+	1-	1s	7+	7-	7s
B	2+	2-	2s	8+	8-	8s
C	3+	3-	3s	9+	9-	9s
D	4+	4-	4s	10+	10-	10s
E	5+	5-	5s	11+	11-	11s

	1	2	3	4	5	6
A	1	1-	1s	7+	7-	7s
B	2+	2-	2s	8+	8-	8s
C	3+	3-	3s	1L+	1L-	1Ls
D	4+	4-	4s	1R+	1R-	1Rs
E	5+	5-	5s	2L+	2L-	2Ls

	1	2	3	4	5	6
F	6+	6-	6s	12+	12-	12s
G	13+	13-	13s	14+	14-	14s
H	NC	NC	NC	NC	15+	15-
J	GND	GND	GND	GND	GND	15s
K	NC	NC	NC	NC	NC	NC

	1	2	3	4	5	6
F	6+	6-	6s	2R+	2R-	2Rs
G	⊙L+	⊙L-	⊙Ls	⊙R+	⊙R-	⊙Rs
H					CTL1	CTL2
J	GND	GND	GND	GND	GND	GND
K						

+ IS HOT
 - IS COLD
 S IS SHIELD

1L+ IS CHANNEL "1 STEREO" LEFT SIDE HOT
 OR+ IS CHANNEL "OUTPUT" RIGHT SIDE HOT

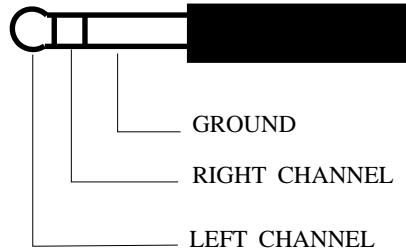
GND USES MAIN DRAIN WIRE

WIRE #15 IS USED FOR REMOTE OUTPUT SWITCHING

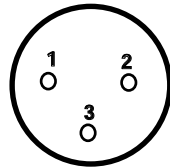
WIRE #16 IS NOT USED

WIRING - ALL OTHER CONNECTORS

HEADPHONE JACKS



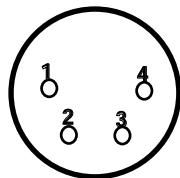
OUTPUT XLRs



1 IS NOT CONNECTED
2 IS COLD
3 IS HOT

PIN 1 IS NOT CONNECTED TO AVOID GND LOOPS.
IT CAN BE RECONNECTED BY OPENING THE BOX
AND SOLDERING PIN #1 TO THE EMPTY HOLE ON THE PCB.

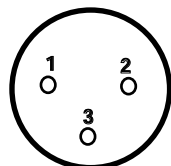
SMALL POWER SUPPLY XLR (OPTIONAL)



THIS XLR IS MOUNTED ON AN OPTIONAL CABLE
WHEN USING THE BOXES SEPARATELY FROM
THE RACK WITH THE SMALL POWER SUPPLY.

1 AND 4 IS GROUND
2 IS -29V
3 IS +29V


CONTROL CABLE (OPTIONAL)



THIS XLR IS USED IN A SPECIAL CUSTOM
APPLICATIONS TO CARRY THE CONTROL
SIGNAL FOR THE OUTPUT SWITCHING
REMOTE.

1 IS GROUND
2 IS CTL2
3 IS CTL1

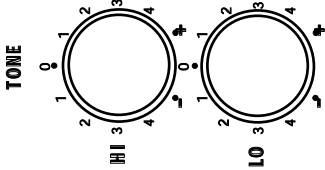
TEMPLATE FOR YOUR RECALLS



Private Q
MULTICHANNEL CUE SYSTEM
MYTEK TECHNOLOGIES *USA

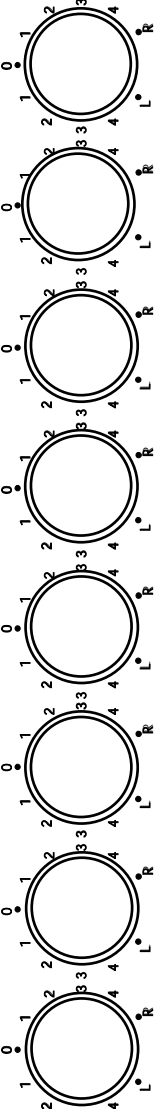
○ +18V
○ -18V

TONE

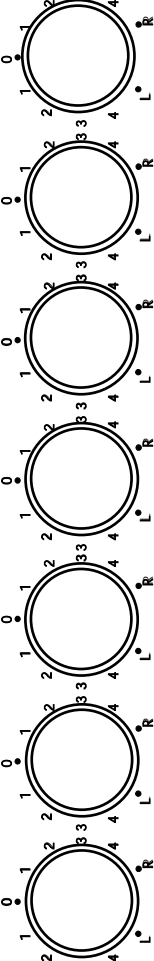


HI LO

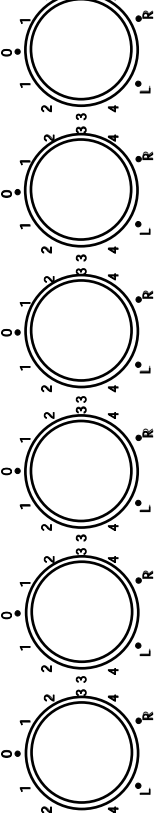
PAN



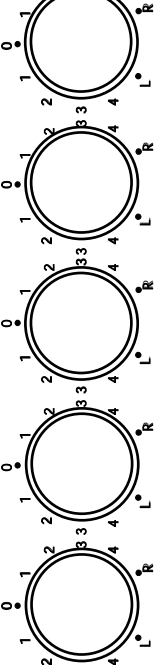
1



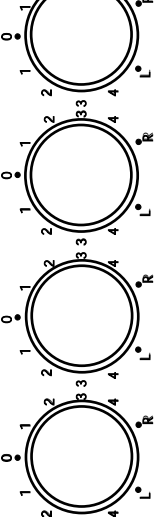
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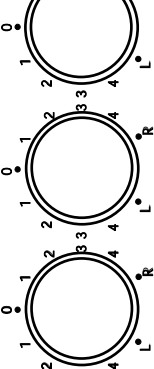
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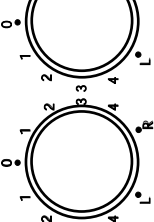
4




5



6

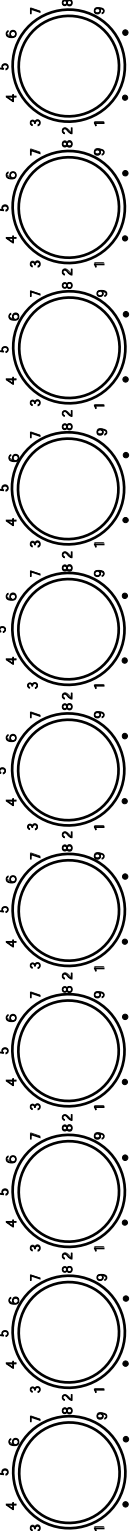


7

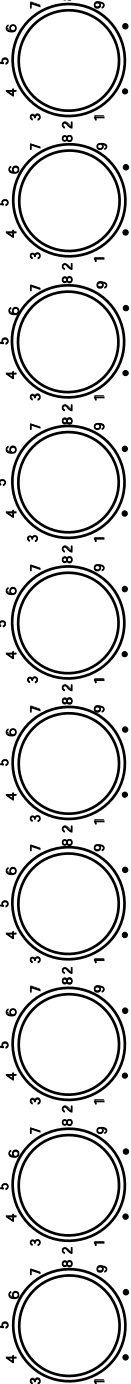


8

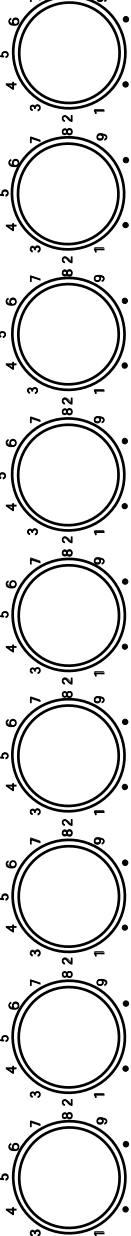
VOL



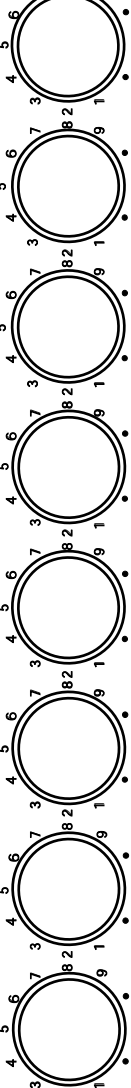
1



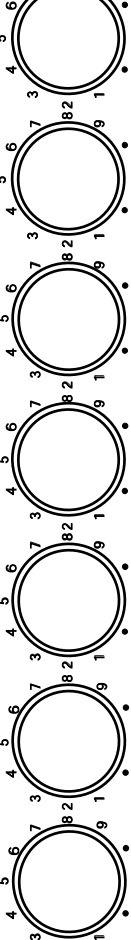
2



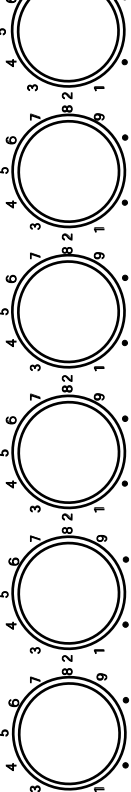
3



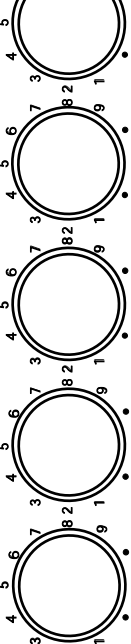
4



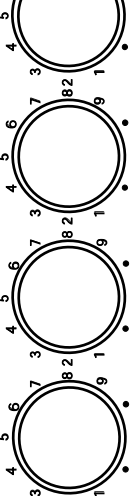
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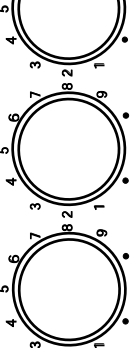
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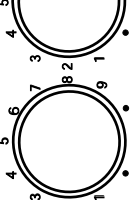
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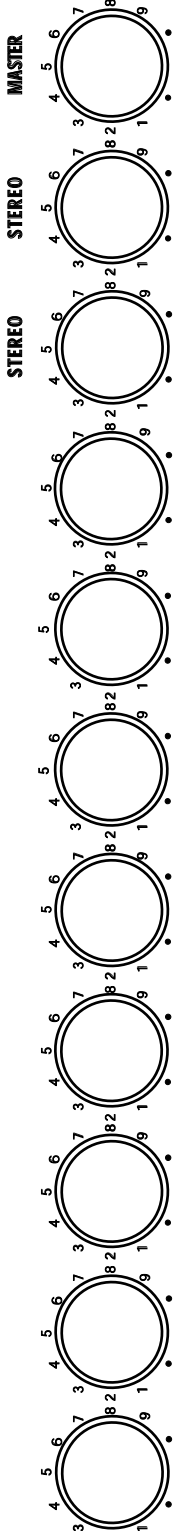
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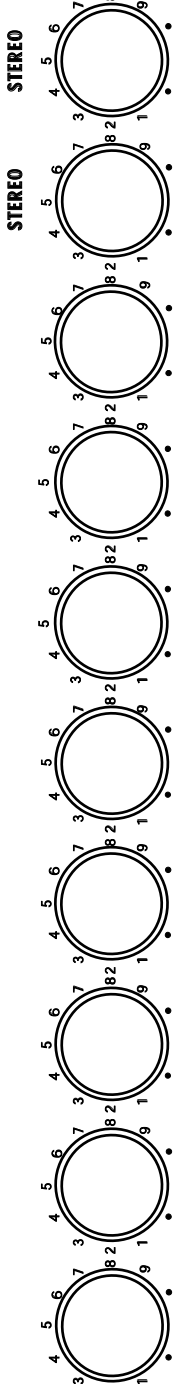
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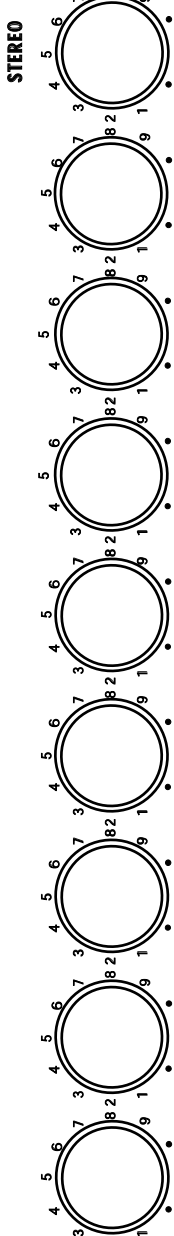
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1



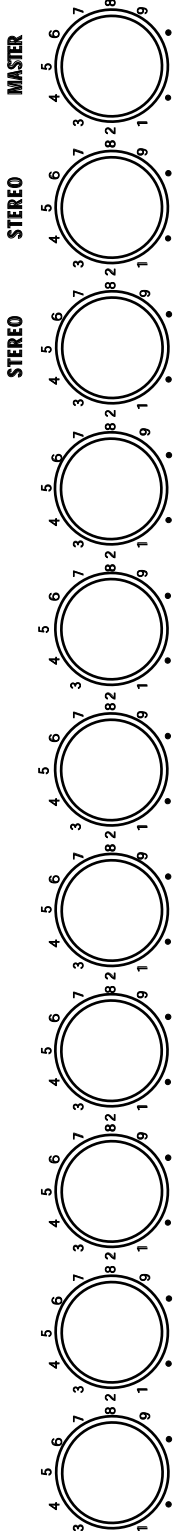
2



PEAK



MASTER



WARRANTY

This Private Q system is warranted by Mytek to the original purchaser, against defects in workmanship and materials used in manufacture for a period of one year, from the date of shipment, except for the cables which are warranted for 90 days.

Faults due to purchaser misuse, unauthorized modifications or accidents are not covered by this warranty.

No other warranty is expressed or implied.

Any faulty unit should be sent, shipping prepaid, to the manufacturer. The serial number of the unit should accompany any request for service.

This system listed below was sold to:

on _____

authorized signature _____

	ITEM	QUA	SERIAL NUMBERS

THIS PRODUCT WAS MADE BY MYTEK TECHNOLOGIES A COMPANY SPECIALIZING IN ADVANCED STUDIO SYSTEMS. OTHER MYTEK PRODUCTS INCLUDE A SONY-SSL-LYNX TRANSPORT INTERFACE, THE DIGIPOT- DIGITAL MOTORIZED OPTICAL POTENTIOMETER AND A DIGITAL AUDIO MULTICHANNEL FORMAT CONVERTER. PLEASE CALL MYTEK AT 212-388 2677 OR WRITE TO: PO BOX 1023, NEW YORK, NY 10276