Advanced Instrument Development, Inc.
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705303 Rev. A

3-Field Isolated Remote Pre-amp Installation Kit
AID P/N 705303 Rev. A

Note: When working with the pre-amplifier assembly it is important that electrostatic discharge (ESD) prevention techniques be observed. Before touching the pre-amp assembly, attach an ESD wrist strap to yourself. Be sure to ground yourself and the ion chamber frame to dissipate static charges.

Note: The pre-amp assembly is a very delicate and sensitive device. It is important to keep it as clean as possible. Wash and dry your hands thoroughly before working with it and, when possible, use unpowdered latex or cotton gloves. Take care to touch the pre-amp board as little as possible. Take extra care to avoid touching the three air-mounted field inputs. Oils from your fingers on the air-mounts or their components can cause performance degradation.

Installation Procedure

1. Install the ICX series ion chamber as required and route the remote pre-amp cables to the pre-amp chassis mounting location.
2. Remove the cover from the remote pre-amp chassis by removing the four (4) 4-40 X 3/16 screws.
3. Route the remote pre-amp cables through the strain relief in the remote pre-amp chassis and secure the strain relief using the two (2) 2-56 hex nuts. Refer to Figure 1.
4. Connect the coaxial shield ground of the remote pre-amp cables to the 4-40 stud on the remote pre-amp chassis using the 4-40 hex nut provided.
5. Note that the conductor wires from the ion chamber are marked with tags that match the mating wires inside the pre-amp assembly. Connect the wires as follows.

Tag	Remote Cable Wire Color	Pre-amp Assembly Wire Color	Description
A	White	White	Field A Output
B	Red	Red	Field B Output
C	Black	Black	Field C Output
GND	Cable Shield	Green	Ground
HV	White Coaxial	Blue	Bias Voltage
None	Coaxial Shield	Chassis Ground Stud	Chassis Ground

6. Mount the remote pre-amp assembly as required. Refer to Figure 2.
7. Reinstall the cover to the remote pre-amp chassis using the four (4) 4-40 X 3/16 screws removed in Step 2.
8. Calibrate the pre-amp according to the calibration instructions included with the ion chamber.

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Additional cabling will be required to run from the pre-amp to the x-ray generator AEC. The following table lists cables that are available from AID. These cables are available in 45, 65 and 85 foot lengths. Specify cable length as a suffix to the cable part number (-XX). For example, "75035-45" is a 45-foot length of the standard 9-pin sub-d cable.

AID Part Number	Description	Ion Chamber Connector	AEC Connector
75030-XX	GE compatible (MSI, MST & DXS generators)	Female 9-pin sub-d	Male 15-pin AMP Mate-N-Lock (1-480324-0)
75035-XX	Standard ICX cable	Female 9-pin sub-d	Male 9-pin sub-d
75043-XX	RMS/Fischer compatible	Female 9-pin sub-d	Male 14-pin AMP M Series (201355-1)
75045-XX	GE compatible	Female 9-pin sub-d	Male 14-pin AMP M Series (201355-1)
75047-XX	Picker compatible	Female 9-pin sub-d	Female 15-pin Molex (1625-15P)
75048-XX	GE Compatible (MPX generators)	Female 9-pin sub-d	Female 15-pin AMP M Series (205606-3)
75049-XX	ICX cable with flying leads	Female 9-pin sub-d	Supplied by installer
75054-XX	Picker Compatible	Female 9-pin sub-d	Male 3-pin Molex (03-06-1032) And Male 9-pin AMP (1-640511-0)
75059-45	Bennett Compatible (45 foot length only)	Female 9-pin sub-d	Female 11-pin in-line
75061-XX	ICX cable with fork lugs	Female 9-pin sub-d	#6 fork lugs
75062-XX	ICX interconnection cable	Female 9-pin sub-d	Male 9-pin sub-d with fixed mounting hardware
75066-XX	GE Compatible (European Pin-Out MPH Generators)	Female 9-pin sub-d	Male 14-Pin AMP M Series (201355-1)
75067-60	HMC Compatible (60 foot length only)	Female 9-pin sub-d	Female 10-Pin 0.1-Inch Center Line AMP (102387-1)
75090-XX	Shimadzu Compatible	Female 9-pin sub-d	Female 9-pin in-line

A complete list of ion chamber cables offered by Advanced Instrument Development, inc. is available on line at http://www.aidxray.com/ionchcables.htm.

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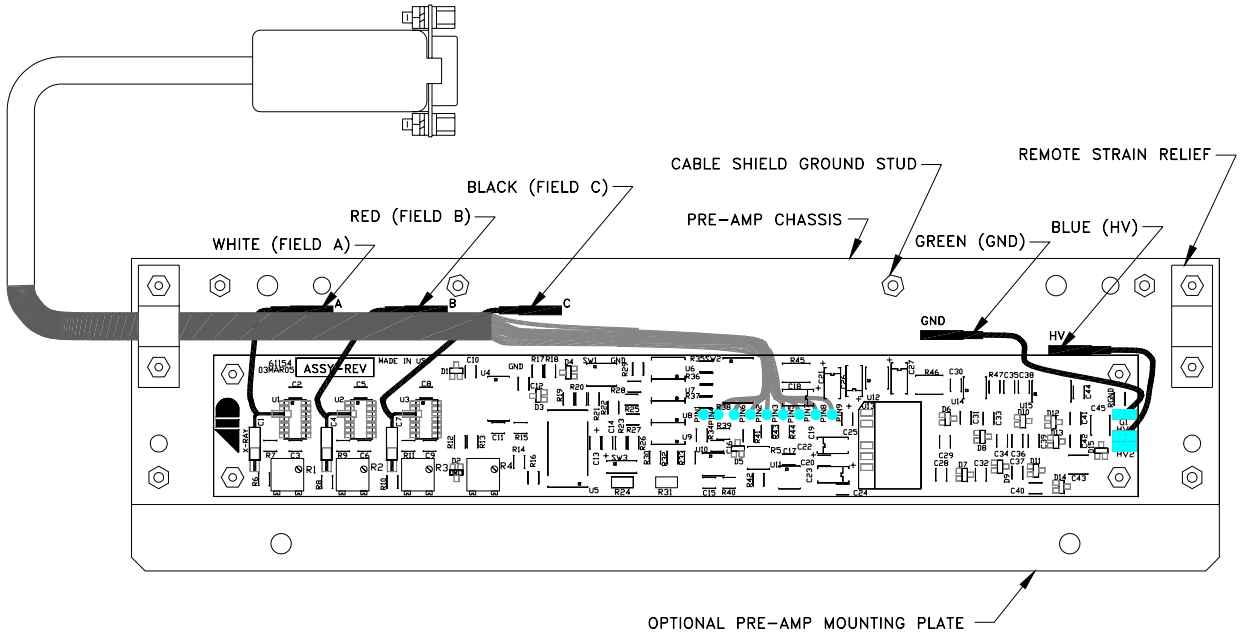
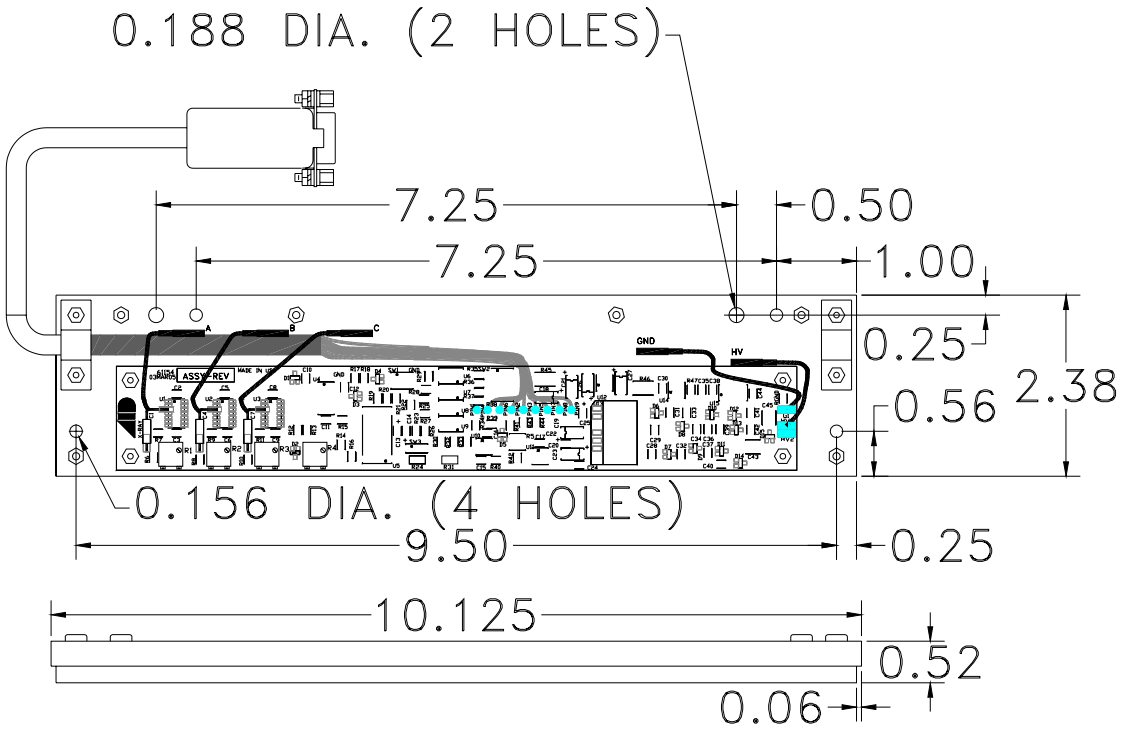
Figure 1



The pre-amp chassis offers four (4) 0.156-inch diameter mounting holes and two (2) 0.188-inch diameter mounting holes as shown in Figure 2.

Figure 2



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An optional mounting plate may be used to provide two (2) 0.188 diameter mounting holes that can be accessed without having to remove the pre-amp chassis cover as shown in Figure 3.

Figure 3