

User Manual for  
Amron International, Inc.

**Model 3226**  
**Chamber Communication Routing Panel**



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## 1 INTRODUCTION AND SPECIFICATIONS

### 1.1 INTRODUCTION

The Model 3226 Communication Routing Panel is designed to control communications for a DDC saturation diving system. This involves routing voice audio signals between dive control and the saturation chambers and includes audio signals from bunk boxes, living chamber general communications, as well as entry locks. All signals are routed through helium speech unscramblers for voice correction of helium speech. The CRP also routes audio signals (two channels, four sources) from entertainment sources.

The Model 3226, essentially a switching panel, allows the operator to quickly and simply identify the origin of a signal and its routing. The operator uses the routing panel to interconnect various points throughout the system.

Model 3226 will handle a 12-man diving complex. The arrangement is two 6-man chambers and two entry locks. The chambers are designated chamber "A" and chamber "B". The system can be used with a smaller chamber such as a 4-man chamber; the remaining two bunk stations are merely not used.

The following abbreviations are used throughout the system information.

MLA	Main Lock "A"
MLB	Main Lock "B"
ELA	Entry Lock "A"
ELB	Entry Lock "B"
HSU-A	Helium Speech Unscrambler "A"
HSU-B	Helium Speech Unscrambler "B"
BB1	Bunk Box number 1 (also 2 through 6)
CRP	Communications Routing Panel
ENT BOX	Entertainment Box
COMM BOX	Communications Box

For this application 2 helium speech unscramblers are utilized. Each HSU is connected to the CRP via a single cable with MS connectors, greatly simplifying system installation. The HSU may be located up to 100 feet away from the CRP; cable length is a determining factor. Either HSU may be used as the primary communicator, with the other unit being used as back up, or for private conversations.

A better understanding of the capabilities of this design is enhanced by an explanation of the front panel controls. If you are not familiar with the Bunk, Comm., and Entertainment Boxes, we suggest that you review the tech notes on each of those units. The tech notes are available from Amron upon request.

1.2 **SPECIFICATIONS**

1.2.1 **GENERAL**

Bunk Station Channels.....	12 each
Comm Station Channels .....	2 each
Helium Unscrambler Channels .....	2 each
Entertainment Channels.....	2 each
Call Circuit Channels.....	14 each
Power Requirements.....	115/220 VAC, 50-60 Hz, 1/2 AMP
Inputs/Outputs .....	MS Type Connections

1.2.2 **MATERIALS, WEIGHTS & DIMENSIONS**

Width .....	19 inches wide
Height .....	6.97 inches high
Depth.....	13 inches deep (not including MS Connectors)
Enclosure .....	19 inch, Rack Mount
Panel .....	Anodized Aluminum Epoxy Silkscreen Graphics
Weight .....	10 pounds approximately

## 2 CONTROLS

### 2.1 FRONT PANEL CONTROLS

**Main Lock "A", Bunk Stations "1" Through "6":** Each bunk box is selected via a three position toggle switch. Placing the switch in the upper most position connects Bunk Box One to HSU "A". The center position of the switch disconnects the communication portion of the bunk box. Call capability as well as the entertainment portion of the BB are not affected. Placing the toggle switch in the downward position connects the Bunk Box to HSU "B". Above each toggle switch is the call indicator, actuating the call switch located on the BB activates the call indicator and call annunciator. The call light and annunciator will remain on as long as the BB switch is depressed.

Volume for the box is controlled via the Diver 2 controls on the Amron Amcom III (2830R). Both uplink and downlink controls are provided. For proper operation, the tender controls should be set about midscale and adjust the Diver 2 controls as necessary for the desired volume levels.

For private conversation, place all switches to a single HSU and place the desired station to the other HSU. This allows continued conversation on all other stations with a single or private conversation with a single station.

A conference may be accomplished in much the same fashion by placing two or more stations on one HSU, and all others on the other HSU.

**Main Lock "A" Comm. Station:** Operation is the same as the bunk stations except conversation is via the Chamber Comm. Box (speaker).

Volume level is controlled via Diver 1 controls. Adjustment is the same as for bunk boxes.

**Entry Lock "A" Comm. Station:** Operation is the same as the Main Lock Station.

Volume level is controlled via Diver 3 controls. Adjustment is the same as the Main Lock Comm. station.

Operation of Chamber "B" controls are identical to Chamber "A" controls. If both Chamber "A" and Chamber "B" controls are selected to the same HSU a slight adjustment of the volume may be necessary to accommodate two speakers on the same channel.

**Operator (Tender) Controls:** POWER ON/OFF provides power to the unit. Power is only necessary for the operation of the call circuit. In the event there is a loss of power the entire unit with the exception of the call indicators and call annunciator will function as normal. The presence of power is indicated via the power indicator.

The HSU selector switch allows the operator to remotely control which HSU will be used for communication. Calls may be initiated or answered from this panel. The Model 3226 is provided with a push-to-talk hand held microphone, for convenience in operation. The jacks on the front panel are color coded to match system accessories; headset push-to-talk microphone or remote push-to-talk module.

With a headset you may converse directly with someone inside the chamber without using the push-to-talk switch. When using the push-to-talk switch you will override conversation originating from within the chamber.

## 2.2 CALL ANNUNCIATOR

A call annunciator is located on the front panel. This unit sounds an audio signal whenever a call switch is activated. The volume level of the annunciator may be adjusted. The volume control is located on the rear panel of the Model 3226.

## 2.3 ENTERTAINMENT

Selector switches are provided on the front panel to allow control of entertainment audio. There are two channels of monaural sound with provision of two sources per channel. This allows the selection of music via the Bunk Boxes. A second source of sound might be audio from TV or movies. This arrangement permits the selection of the audio by switch selection rather than disconnecting wires, or building a larger capacity into the equipment.

All inputs/outputs (interconnects) are done via the rear panel. All connectors are military standard (MS) type. Connector function and reference designations are silk-screened on the rear panel. This identification simplifies installation and initial checkout.

You are invited to contact Amron international for additional information of assistance in selecting your next system.

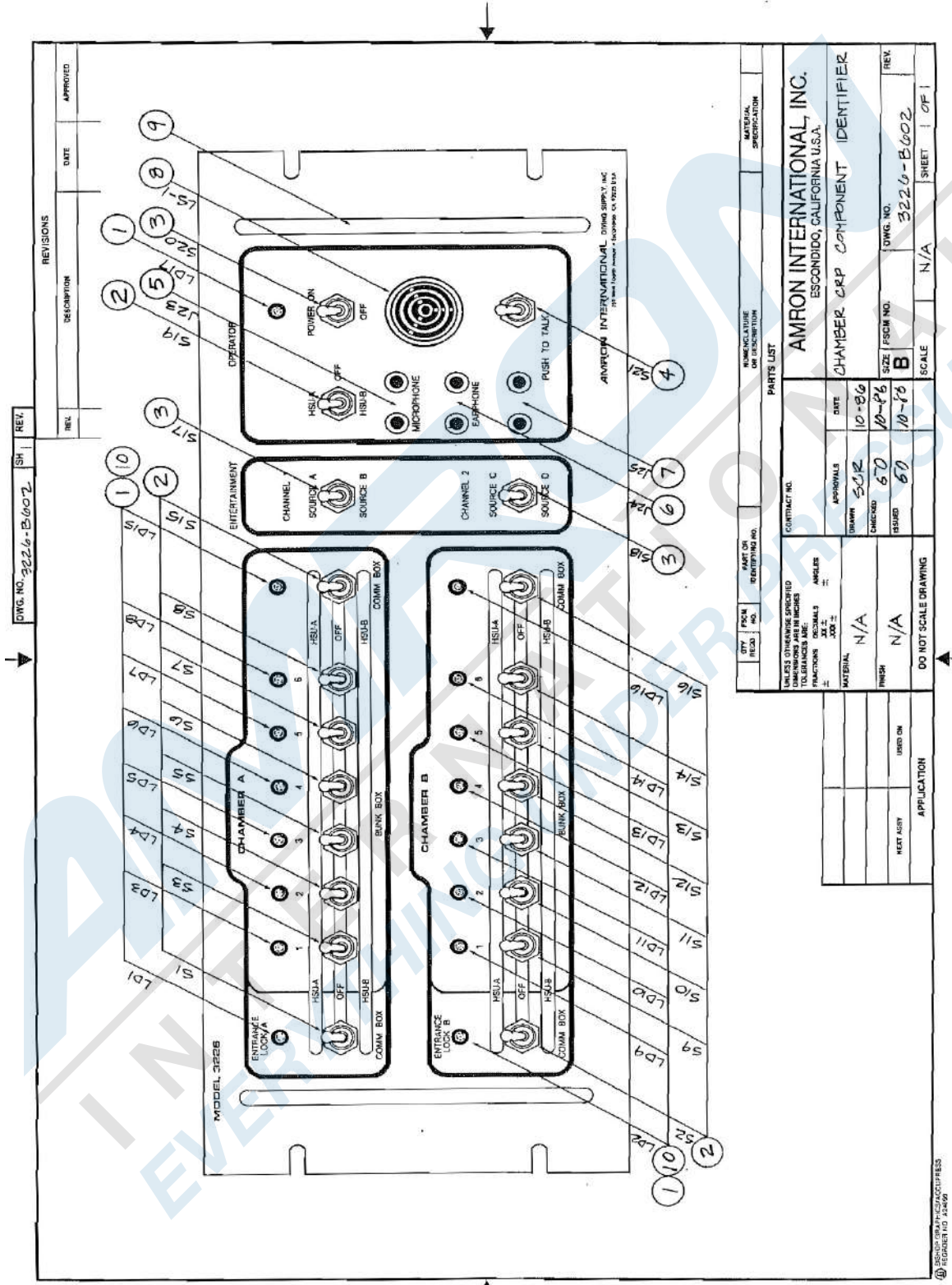
## 3 DRAWINGS

The reference numbers shown on the parts identifier drawings correspond to the parts lists listed in the parts lists section.





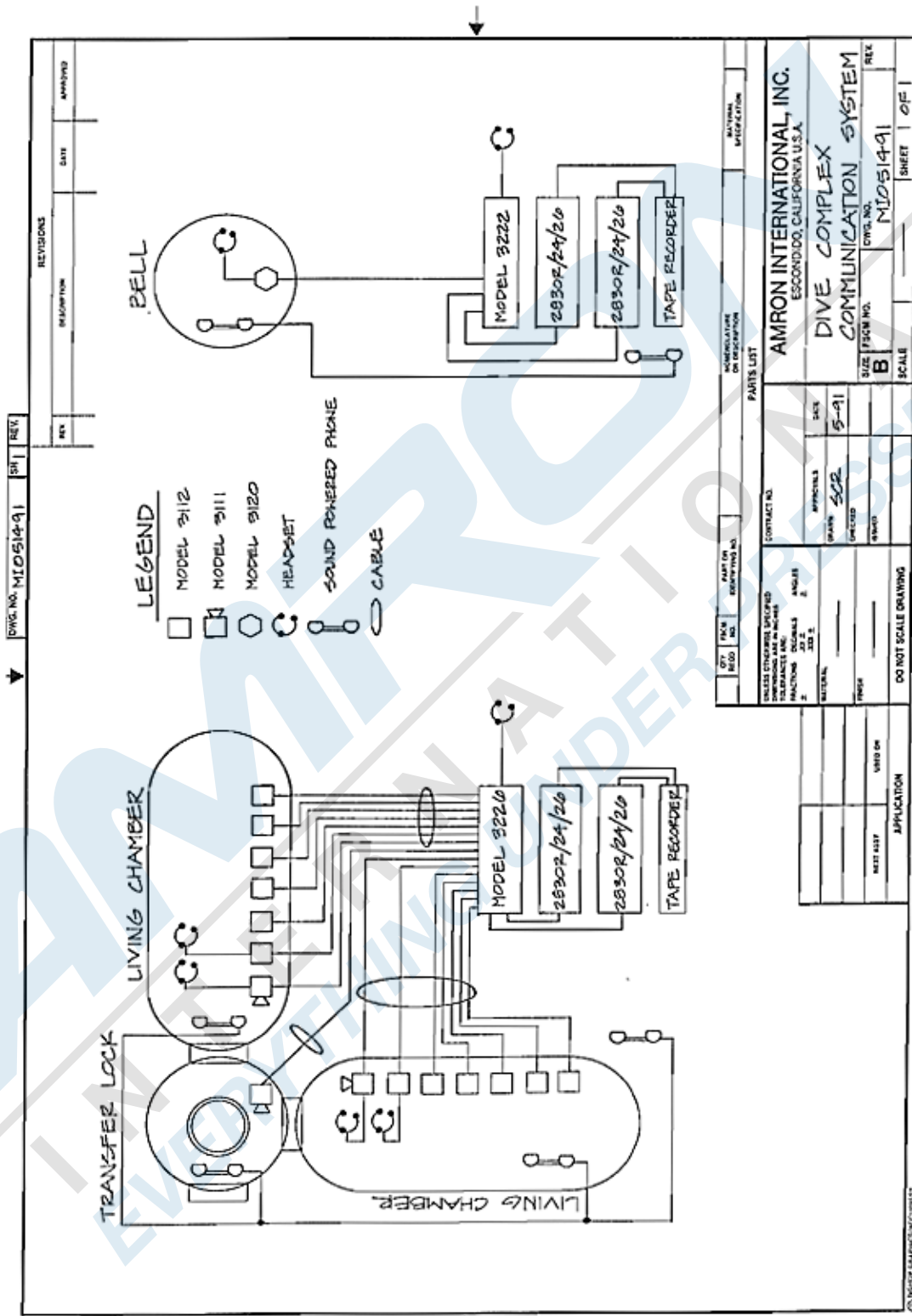
3.3 CHAMBER CRP COMPONENT IDENTIFIER



REV. NO.		REV.		DESCRIPTION		DATE		APPROVED	
DWG. NO. 3226-B-602		SH							
CITY		PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION		MATERIAL SPECIFICATION			
PART NO.		DATE		CONTRACT NO.		AMRON INTERNATIONAL, INC.		ESCONDIDO, CALIFORNIA U.S.A.	
FINISH		APPROVALS		DRAWN		CHAMBER CRP COMPONENT IDENTIFIER		REV.	
MATERIAL		DATE		CHECKED		SIZE / FORM NO.		DWG. NO.	
N/A		5/12		5/10		10-P6		3226-B-602	
N/A		N/A		ISSUED		10-P6		SCALE	
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3.5 DIVE COMPLEX COMMUNICATION SYSTEM



REV	DESCRIPTION	DATE	APPROVED

DWG. NO. MID514-91 SH1 REV

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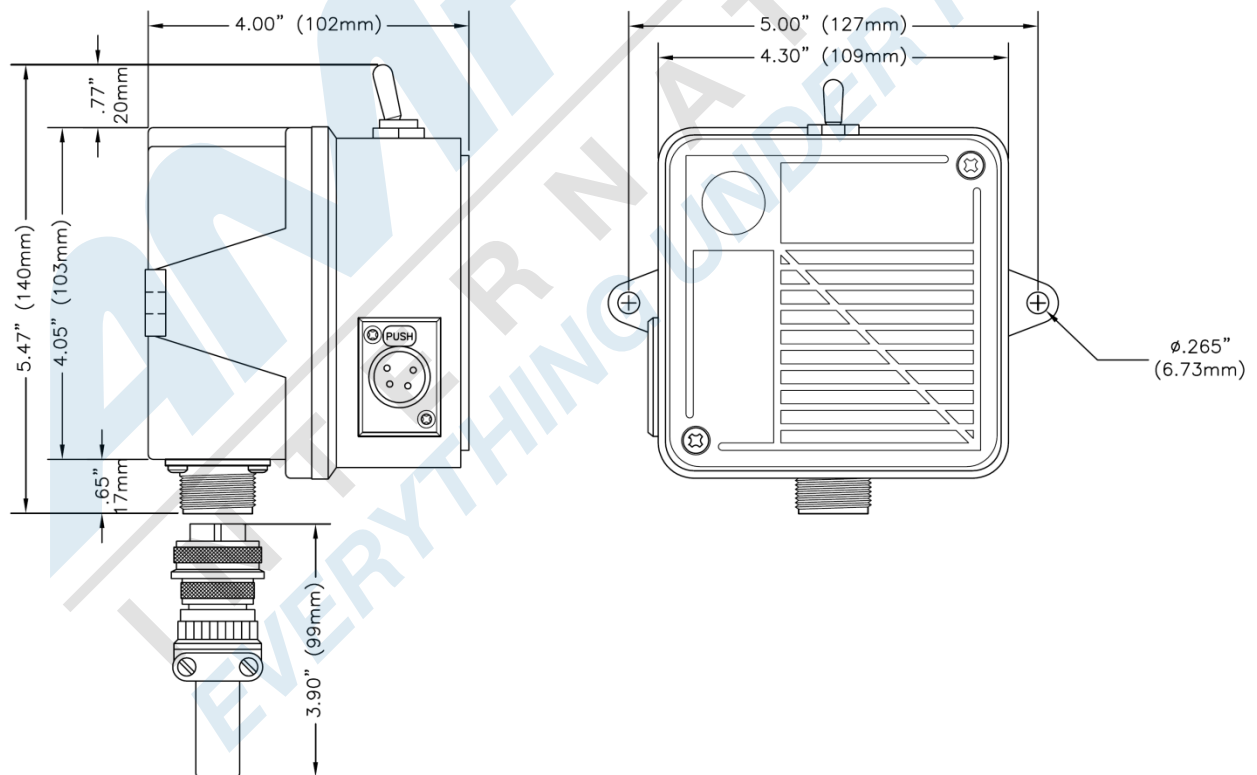
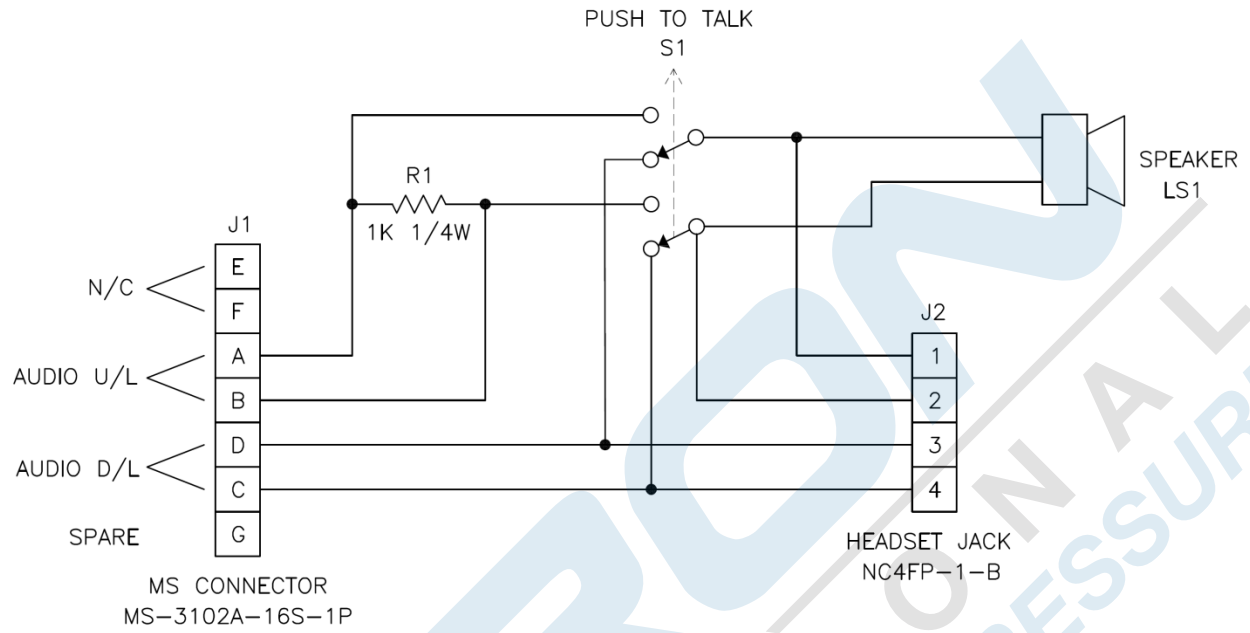
  

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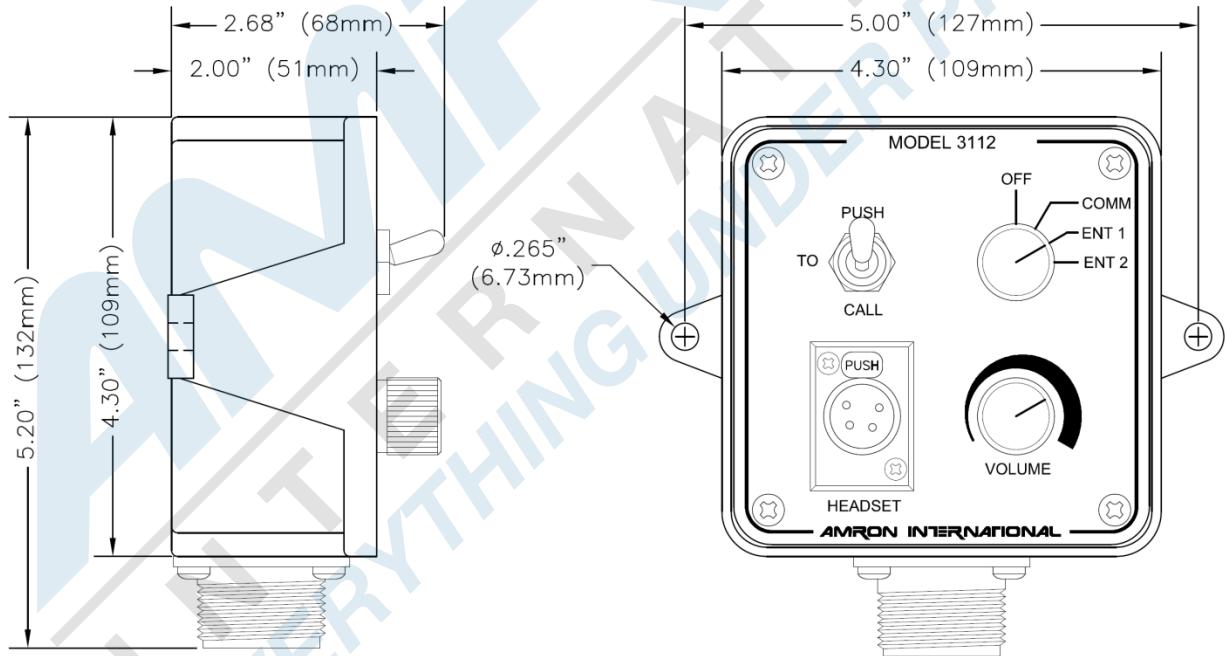
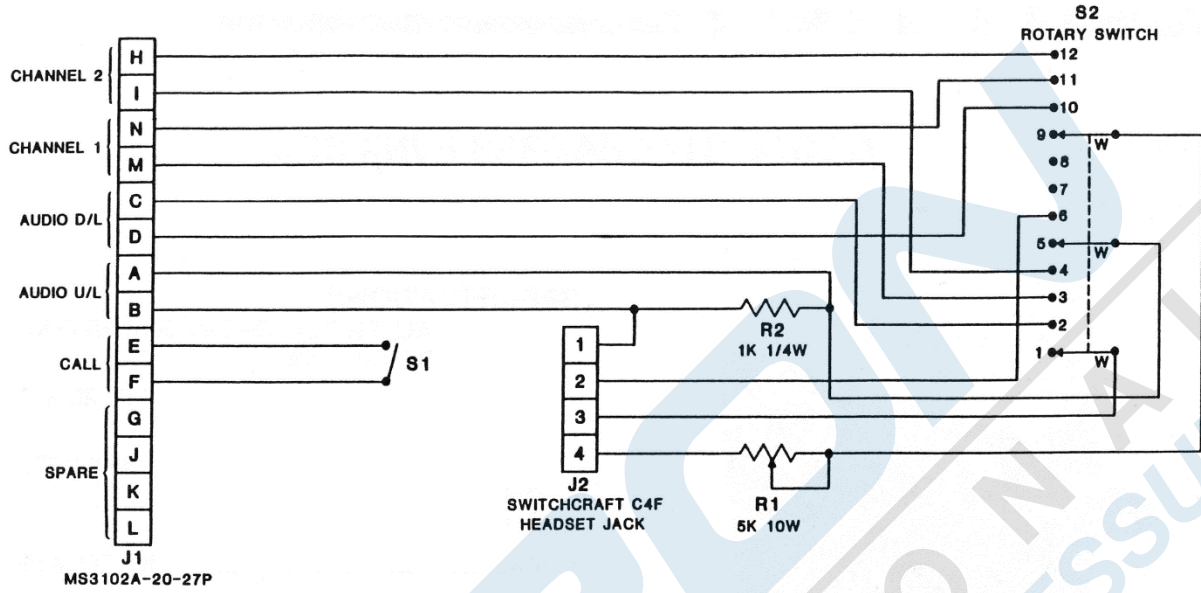
  

CONTRACT NO.	AMRON INTERNATIONAL, INC.
DATE	ESCONDIDO, CALIFORNIA U.S.A.
APPREVALS	DIVE COMPLEX COMMUNICATION SYSTEM
DRWN	5-91
CHECKED	5-91
REVISED	5-91
SCALE	B
SIZE	11x17
DWG. NO.	MID514-91
REV.	1 OF 1

3.6 CHAMBER COMM BOX 3110/3111

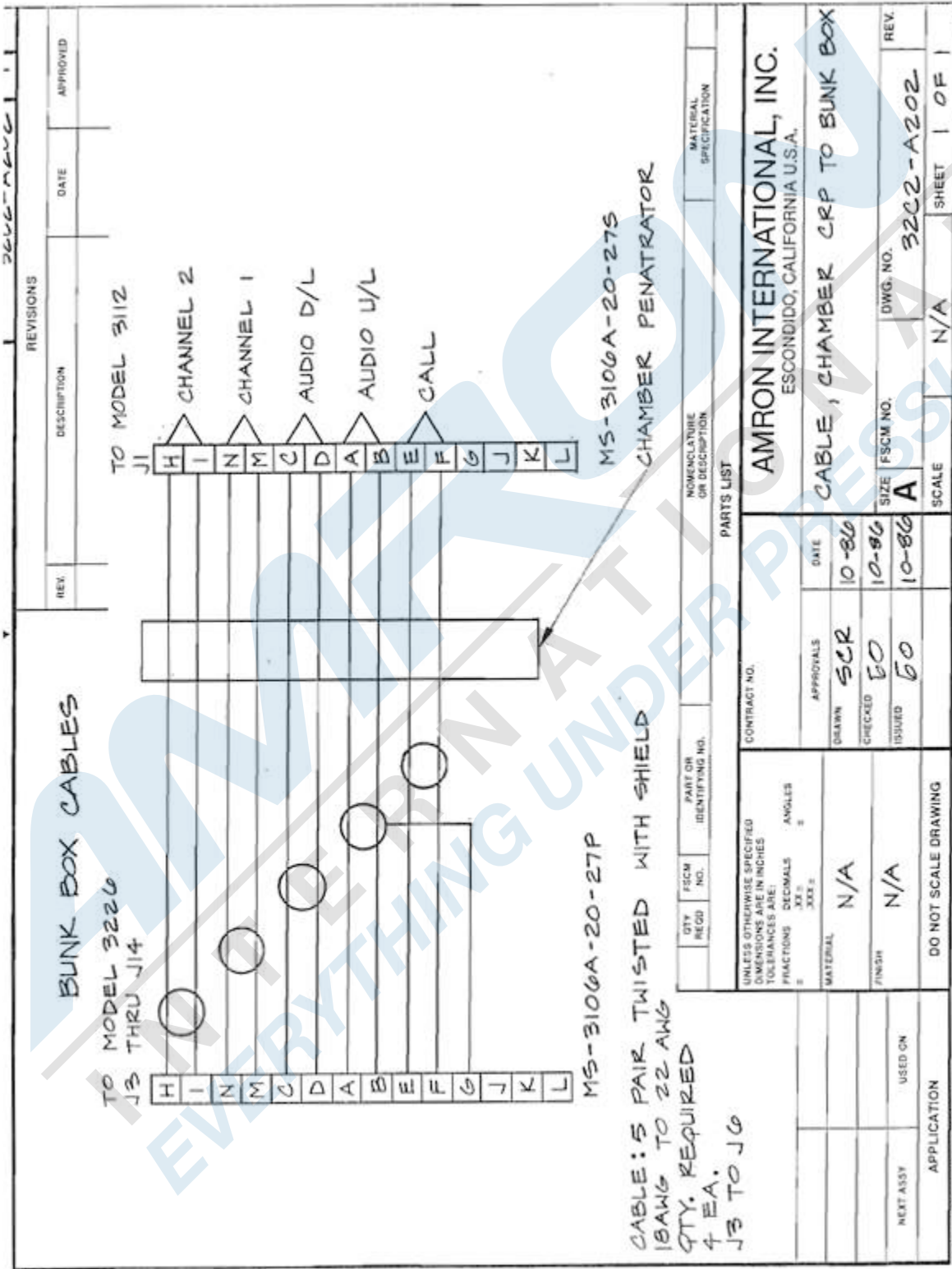


3.7 CHAMBER BUNK BOX 3112



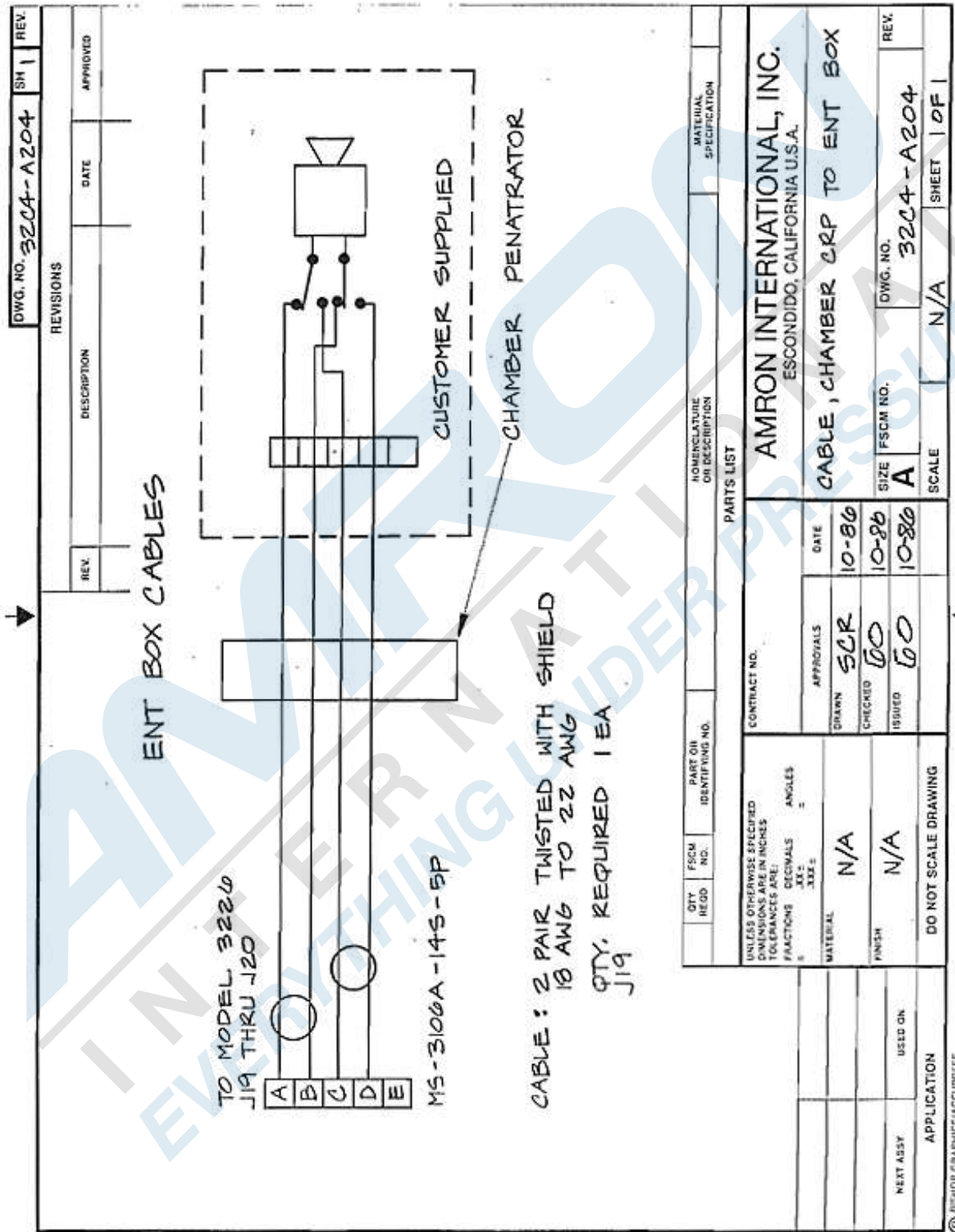


3.9 CHAMBER CRP TO BUNK BOX CABLE





3.11 CHAMBER CRP TO ENT. BOX CABLE



## 4 PARTS LISTS

The parts lists include both mechanical and electrical parts. The following information will be useful in interpreting data which is not self-explanatory.

### REVISIONS

The parts lists in this manual are for the current model of diver communicator as of the printing date.

To Order Replacement Parts Contact:

Amron International, Inc.  
 1380 Aspen Way, Vista, California, 92081 U.S.A.  
 Telephone: (760) 208-6500 Fax: (760) 599-3857  
 Email: [sales@amronintl.com](mailto:sales@amronintl.com)  
 Web: [www.amronintl.com](http://www.amronintl.com)

When ordering replacement parts, you should give as much information as possible to enable us to supply the correct part. This information should include the part number, description, reference designator, value, radio model number, and serial number. Failure to provide sufficient information may hinder our ability to fill your parts orders promptly and correctly.

#### 4.1 PARTS IDENTIFIER

REF	PART NO.	DESCRIPTION
NS	3226-001	PANEL, FRONT CHAMBER CRP
NS	3226-005	PANEL, CHASSIS WRAP AROUND
NS	3226-006	PANEL, SUB-FRONT
NS.	2825R-002	LID, RACK MOUNT TOP & BOTTOM
J1-2	MS-3102A-28-16S	MS CONN. BULKHEAD, 20 PIN FEMALE
J3-14	MS-3102A-20-27P	MS CONN. BULKHEAD, 14 PIN MALE
J15-18	MS-3102A-16S-1S	MS CONN. BULKHEAD, 7 PIN FEMALE
J19-20	MS-3102A-14S-5S	MS CONN. BULKHEAD, 5 PIN FEMALE
J21-22	MS-3102A-14S-2P	MS CONN. BULKHEAD, 4 PIN MALE
P3-14	MS-3106A-20-27S	MS CONN. CABLE, 14 PIN FEMALE
P15-18	MS-3106A-16S-1P	MS CONN. CABLE, 7 PIN MALE
P19-20	MS-3106A-14S-5P	MS CONN. CABLE, 5 PIN MALE
LS1	273-068	SONALERT, 12 VDC 2900 HZ
NS	2405-28	MICROPHONE, PUSH-TO-TALK
NS	2823-6003	BATTERY CHARGER ASSY.
1	LEDHOLDER-BLK.25	MOUNTING CLIP FOR 5MM LED
LD1-17	LEDGREEN	LED, GREEN BRITE
J23	1498-102	JACK, BANANA RED
J24	1498-103	JACK, BANANA BLACK
J25	1498-107	JACK, BANANA YELLOW
S1-14, 19	SW-403	SWITCH, TOGGLE 4P ON-OFF-ON
S21	SW-208	SWITCH, TOGGLE DPDT-MOM.

REF	PART NO.	DESCRIPTION
S17,18,20	SW-201	SWITCH, TOGGLE DPDT
NS	3500	CABLE TIE, NY, 3/32" X 3.5"
P1	P-2392	CORD, AC EURO 3 COND.
9	#492	HANDLE, ROUND
P21-22	MS-3106A-14S-2S	MS CONN. CABLE, 4 PIN FEMALE
NS	MS-3057-12A	MS CABLE CLAMP 20 & 22 SHELLS
NS	MS-3057-8A	MS CABLE CLAMP 16S-1 SHELL
NS	MS-3057-6A	MS CABLE CLAMP 14 SHELL
R18	91A1AB24B15	POTENTIOMETER, 10K, LINEAR
R1-14, 17	29MF250-681	RESISTOR, 681 OHMS 1% 1/4W
D1-14	1N4003	DIODE, 1A 200V
T2	42TM003	TRANSFORMER, 1200 OHM/8 OHM
TB1	568-6-140	TERMINAL, BLOCK 6 POSITION
NS	M-2786	NUT, A/B POTS

\* NS = Not Shown

**5 LIMITED WARRANTY AND SERVICE POLICY****Amron International, Inc.****LIMITED WARRANTY & SERVICE POLICY****LIMITED WARRANTY**

AMRON INTERNATIONAL, INC., (Amron) warrants that its manufactured products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment as described in Amron's literature covering this product. Oxygen Treatment Hoods and accessories are excluded and limited to 90 days. Amron's obligation under this warranty is limited to the repair or replacement, at Amron's option, of defective material. This warranty shall not cover defects which are the result of misuse, negligence, accident, repair or alterations.

**SERVICE POLICY**

For technical assistance or to request a repair, please complete one of the following:

- *Amron Communicator Repair*: <https://www.amronintl.com/communicator-repair-form>
- *Repair Request* (all other products): <https://www.amronintl.com/repair-form>
- Call (760) 208-8500, Monday – Friday, 8 a.m. to 5 p.m. PST.

Both MODEL NO. and SERIAL NO. are required fields to be entered on the *Amron Communicator Repair Request* form and can be found on the products identification label as shown below.

"Sample" Product Identification Label



Do not return any product without obtaining a RMR (Return Materials Request). Detailed return instructions will be provided at the time of request.

1380 Aspen Way, Vista California 92081-8349 U.S.A  
Phone: (760) 208-8500 Fax (760) 599-3857  
Email: [sales@amronintl.com](mailto:sales@amronintl.com) Web: [www.amronintl.com](http://www.amronintl.com)