

*PAM-16*  
*Production Audio Monitor*

*User Instructions*



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 <p>THE LIGHTNING FLASH AND ARROWHEAD WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF "DANGEROUS VOLTAGE" INSIDE THE PRODUCT.</p>	<p><b>CAUTION</b></p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p> <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>	 <p>THE EXCLAMATION POINT WITHIN THE TRIANGLE IS A WARNING SIGN ALERTING YOU OF IMPORTANT INSTRUCTIONS ACCOMPANYING THE PRODUCT</p>
SEE MARKING ON BOTTOM/BACK OF PRODUCT		
<b>WARNING:</b> APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.		
<b>WARNING:</b> THE MAIN POWER PLUG MUST REMAIN READILY OPERABLE		
<b>CAUTION:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, GROUNDING OF THE CENTER PIN OF THIS PLUG MUST BE MAINTAINED.		
<b>WARNING:</b> TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPRATUS TO RAIN OR MOISTURE.		
<b>WARNING:</b> TO PREVENT INJURY, THIS APPARATUS MUST BE SECURELY ATTACHED TO THE FLOOR/WALL/RACK IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS.		
	This product is AC only.	

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## *Important Safety Instructions*

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



# Table of Contents

---

Important Safety Instructions .....	iii
READ ME FIRST .....	i
<b>POWER-UP AND INITIAL SETTINGS .....</b>	<b>7</b>
Applying Power .....	7
Addressing .....	7
Determine the Address, ADAM and ADAM CS Intercoms .....	7
Determine the Address, Zeus Intercom Systems .....	7
Set the Address .....	7
Power-Up Indications .....	8
Keypanel with Alphanumeric Displays .....	8
Assigned Key: .....	8
Unassigned Keys .....	8
CALL / MENU Indicators .....	8
SPKR/PGM Volume Indicator .....	8
<b>BASIC INTERCOM OPERATION .....</b>	<b>9</b>
Keys and Displays .....	9
Speaker/PRGM Selection and Volume Adjustment .....	10
Copy Call Waiting .....	10
<b>MENU DESCRIPTION .....</b>	<b>13</b>
Top-Level Menu .....	13
General Description .....	13
Display Menu .....	14
General Description .....	14
Display Menu, KEY ICOM .....	14
Display Menu, Key Type .....	14
Display, Port Num .....	15
Display, Version .....	15
Key ASGN Menu .....	15
Key Asgn, Clear .....	15
Key Asgn, Copy .....	15
Key Asgn, Lists, ICOM .....	16
Key ASGN, Lists, PL (Party Lines) .....	16
Key ASGN, P-P (Point-to-Point) .....	16
Key ASGN, Lists, IFB .....	17
Key ASGN, Lists, IFSL .....	18

---

Key ASGN, Lists, ISO .....	19
Key ASGN, Lists, RLY (Relays) .....	19
Key ASGN, Lists, SPCL (Special Lists) .....	20
Key ASGN, Lists, UPL .....	21
Level Menu .....	21
Page (1 – 4) Menu .....	22
Select Control Operation in Service Mode .....	22
Service Menu .....	22
General Description .....	22
Service, Dimmer .....	23
Service, Lock/unlock .....	23
Service, Mod Asgn .....	23
How MODS Work .....	24
Procedure to Assign MODS .....	25
Using Multiple Expansion Panels (PAM-16 Only) .....	26
SERVICE, MODE .....	27
SERVICE, RESET .....	27
SERVICE, SET ADDR .....	27
Determine the Keypanel Address, CS9XXX Intercoms .....	27
Determine the Keypanel Address, ADAM and ADAM CS Intercoms .....	27
Determine the Keypanel Address, Zeus Intercom Systems .....	27
SERVICE, TEST PNL .....	28
<b><i>PAM-16 KEYPANEL QUICK REFERENCE</i> .....</b>	<b>29</b>
Quick Reference Menu .....	29

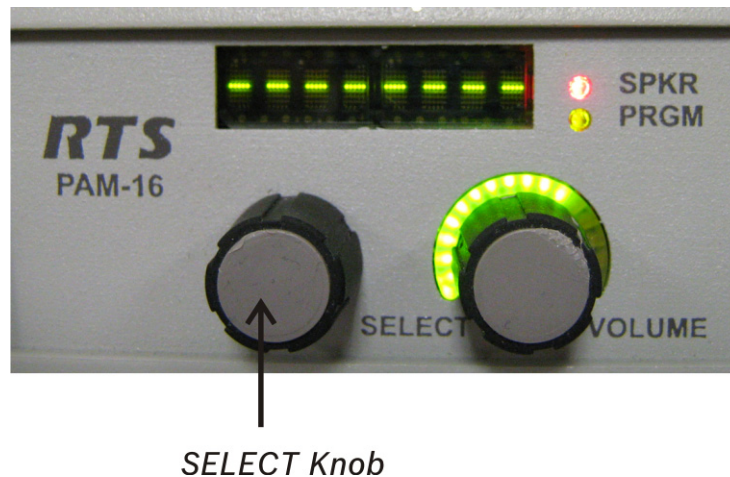
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## *READ ME FIRST*

This manual is designed for two (2) basic types of users:

- Operators – those who are not involved in the setup or maintenance of the keypanel, but simply want to use it to communicate. The first type of user should skip to “Basic Intercom Operation” on page 9.
- Technicians – those who will use the advanced features to modify the keypanel’s operation and key assignments. The second type of user may also be the maintenance person and/or system administrator for the intercom system.

Technicians should become familiar with “Power-Up and Initial Settings” on page 7, as well as “Basic Intercom Operation” on page 9. The advanced features are arranged in a system of menus accessible using the control labeled SELECT on the front panel (see Figure 1).



**FIGURE 1.** SELECT knob on the PAM-16 front panel

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The entire menu structure is summarized in “PAM-16 Keypanel Quick Reference” on page 29, with references to the page numbers where you can find detailed information. Use this list as your starting point to become familiar with the advanced features. Be sure to also read any general information supplied at the start of each menu section. At first, the menu system might seem complicated, but navigation through it is actually quite basic, and experience has shown that users catch onto it quickly. For many items, brief instructions are given as you navigate. From any level in the menus, you can double-tap the Select control to proceed to the next higher level.

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# *Power-Up and Initial Settings*

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## *Applying Power*

Versions with an external power supply and DC power jack do not have a power switch.

- > Plug in the **power supply** to apply power.

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## *Addressing*

Normally, when the keypanel is powered-up for the first time, the call waiting window displays SET ADDR. This means that you must set the address prior to first use of the keypanel. The address is based on the intercom port number to which the keypanel is connected.

**NOTE:** If the keypanel displays *MD* in the call waiting window at power-up, this indicates service adjustments must be made before using the keypanel. For information on correcting the MD1 service message, see “Service, Mod Asgn” on page 23.

### **Determine the Address, ADAM and ADAM CS Intercoms**

Determine the keypanel’s address using Table 1 on page 11.

### **Determine the Address, Zeus Intercom Systems**

The address is the number (1-8) printed next to the connector on the back panel of the Zeus Frame. This number repeats for each group of eight (8) connectors. The intercom system is able to distinguish between two (2) keypanels set to the same address by the group where each is connected.

**NOTE:** Cronus system and the AIO-16 MDR card do not require you to set the address because they automatically set the address when installed into the system.

### **Set the Address**

1. While SET ADDR is displayed, tap the **Select control**.  
*ADDR 1 displays in the call waiting window.*
2. Turn the **Select control** to display the address (ADDR 1 through ADDR 10) you determined above.
3. Tap the **Select control**.  
*While the address is being stored, the alphanumeric displays and the call waiting window shows asterisks (\*\*\*\*). Then, the normal power-up indications occur as described below. If you move the keypanel to a new port and need to change the address at a later time, see “SERVICE, SET ADDR” on page 27.*

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## *Power-Up Indications*

After the correct keypanel address has been set, SET ADDR no longer displays at power-up. If the keypanel cannot establish communications with the intercom system, all alphanumeric displays continue to show asterisks. Check the cable connection.

Instead, the following indications appear:

### **Keypanel with Alphanumeric Displays**

#### *Assigned Key:*

During a normal power-up, the alphanumeric display first shows asterisks (\*\*\*\*). After a few moments, the intercom key assignments display.

#### *Unassigned Keys*

For each unassigned key, the display shows dashes (- - - -).

#### *CALL / MENU Indicators*

At power-up, the CALL and MENU indicators should be OFF.

#### *SPKR/PGM Volume Indicator*

At power-up, the selected volume indicator is red, while the rest of them are green.

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## *Basic Intercom Operation*

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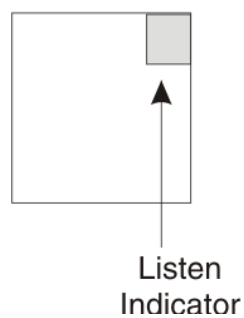
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### *Keys and Displays*

Below describes how to use the keys and displays on the PAM-16.

- Press and hold the desired **key** for momentary activation.
- For latching operation, do the following:
  - a. Tap the **key**; it turns ON and remains ON.
  - b. Tap the **key again** to turn it OFF, when finished.

#### **Push-button Key**



**FIGURE 2.** Panel Keys

The listen indicator turns green while a key is activate.

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## *Speaker/PRGM Selection and Volume Adjustment*

You can select operation and adjust the volume with the internal speaker (SPKR).

To **select SPKR**, do the following:

1. Tap the **VOLUME control** once.  
*The indicator lights red.*
2. Turn the **VOLUME control** to set the level. Turn clockwise to increase volume, and counterclockwise to decrease volume.

To **select Aux**, do the following:

1. Tap the **Volume control** twice.  
*The PRGM indicator lights red.*
2. Turn the **VOLUME control** to set the level.

---

## *Copy Call Waiting*

You can copy a name from the call waiting window to an intercom key to create a new key assignment.

To **copy the call waiting window**, do the following:

1. While the desired name is displayed, press and hold the **Select control**.
2. Then, tap an **intercom key**.
  - If restrictions against key assignments have been imposed, the intercom key ignores the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - All new key assignments you create are automatically uploaded to the intercom system and saved to the online configuration.

**TABLE 1.** Correspondence between ADDR numbers and intercom port number for ADAM and ADAM CS Intercom Systems

SETTINGS FOR ADDR		INTERCOM PORT NUMBERS																							
1	1	9	17	25	33	41	49	57	65	73	81	89	97	105	113	121	129	137	145	153	161	169	177	185	193
2	2	10	18	26	34	42	50	58	66	74	82	90	98	106	114	122	130	138	146	154	162	170	178	186	194
3	3	11	19	27	35	43	51	59	67	75	83	91	99	107	115	123	131	139	147	155	163	171	179	187	195
4	4	12	20	28	36	44	52	60	68	76	84	92	100	108	116	124	132	140	148	156	164	172	180	188	196
5	5	13	21	29	37	45	53	61	69	77	85	93	101	109	117	125	133	141	149	157	165	173	181	189	197
6	6	14	22	30	38	46	54	62	70	78	86	94	102	110	118	126	134	142	150	158	166	174	182	190	198
7	7	15	23	31	39	47	55	63	71	79	87	95	103	111	119	127	135	143	151	159	167	175	183	191	199
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	168	176	184	192	200
1	201	209	217	225	233	241	249	257	265	273	281	289	297	305	313	321	329	337	345	353	361	369	377	385	393
2	202	210	218	226	234	242	250	258	266	274	282	290	298	306	314	322	330	338	346	354	362	370	378	386	394
3	203	211	219	227	235	243	251	259	267	275	283	291	299	307	315	323	331	339	347	355	363	371	379	387	395
4	204	212	220	228	236	244	252	260	268	276	284	292	300	308	316	324	332	340	348	356	364	372	380	388	396
5	205	213	221	229	237	245	253	261	269	277	285	293	301	309	317	325	333	341	349	357	365	373	381	389	397
6	206	214	222	230	238	246	254	262	270	278	286	294	302	310	318	326	334	342	350	358	366	374	382	390	398
7	207	215	223	231	239	247	255	263	271	279	287	295	303	311	319	327	335	343	351	359	367	375	382	391	399
8	208	216	224	232	240	248	256	264	272	280	288	296	304	312	320	328	336	344	352	360	368	376	383	392	400
1	401	409	417	425	433	441	449	457	465	473	481	489	497	505	513	521	529	537	545	553	561	569	577	585	593
2	402	410	418	426	434	442	450	458	466	474	482	490	498	506	514	522	530	538	546	554	562	570	578	586	594
3	403	411	419	427	435	443	451	459	467	475	483	491	499	507	515	523	531	539	547	555	563	571	579	587	595
4	404	412	420	428	436	444	452	460	468	476	484	492	500	508	516	524	532	540	548	556	564	572	580	588	596
5	405	413	421	429	437	445	453	461	469	477	485	493	501	509	517	525	533	541	549	557	565	573	581	589	597
6	406	414	422	430	438	446	454	462	470	478	486	494	502	510	518	526	534	542	550	558	566	574	582	590	598
7	407	415	423	431	439	447	455	463	471	479	487	495	503	511	519	527	535	543	551	559	567	575	583	591	599
8	408	416	424	432	440	448	456	464	472	480	488	496	504	512	520	528	536	544	552	560	568	576	584	592	600
1	601	609	617	625	633	641	649	657	665	673	681	689	697	705	713	721	729	737	745	753	761	769	777	785	793
2	602	610	618	626	634	642	650	658	666	674	682	690	698	706	714	722	730	738	746	754	762	770	778	786	794
3	603	611	619	627	635	643	651	659	667	675	683	691	699	707	715	723	731	739	747	755	763	771	779	787	795
4	604	612	620	628	636	644	652	660	668	676	684	692	700	708	716	724	732	740	748	756	764	772	780	788	796
5	605	613	621	629	637	645	653	661	669	677	685	693	701	709	717	725	733	741	749	757	765	773	781	789	797
6	606	614	622	630	638	646	654	662	670	678	686	694	702	710	718	726	734	742	750	758	766	774	782	790	798
7	607	615	623	631	639	647	655	663	671	679	687	695	703	711	719	727	735	743	751	759	767	775	783	791	799
8	608	616	624	632	640	648	656	664	672	680	688	696	704	712	720	728	736	744	752	760	768	776	784	792	800

**TABLE 1.** Correspondence between ADDR numbers and intercom port number for ADAM and ADAM CS Intercom Systems

SETTINGS FOR ADDR		INTERCOM PORT NUMBERS																							
1	801	809	817	825	833	841	849	857	865	873	881	889	897	905	913	921	929	937	945	953	961	969	977	985	993
2	802	810	818	826	834	842	850	858	866	874	882	890	898	906	914	922	930	938	946	954	962	970	978	986	994
3	803	811	819	827	835	843	851	859	867	875	883	891	899	907	915	923	931	939	947	955	963	971	979	987	995
4	804	812	820	828	836	844	852	860	868	876	884	892	900	908	916	924	932	940	948	956	964	972	980	988	996
5	805	813	821	829	837	845	853	861	869	877	885	893	901	909	917	925	933	941	949	957	965	973	981	989	997
6	806	814	822	830	838	846	854	862	870	878	886	894	902	910	918	926	934	942	950	958	966	974	982	990	998
7	807	815	823	831	839	847	855	863	871	879	887	895	903	911	919	927	935	943	951	959	967	975	983	991	999
8	808	816	824	832	840	848	856	864	872	880	888	896	904	912	920	928	936	944	952	960	968	976	984	992	1000

## *Menu Description*

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### *Top-Level Menu*

#### **General Description**

When the keypanel is turned ON, it resets to the top-level menu. At this level, the MENU indicator is OFF.

To **access the items in the top-level menu**, do the following:

1. Turn the **Select control**.  
*The top-level menu appears.*
2. Tap the **Select control** on any item in the top-level menu to select one of the following items:

<i>ITEM</i>	<i>DESCRIPTION</i>
---	Clear call waiting. Default condition of display. May be used to clear keys.
DISPLAY	Displays information such as the keypanel's port number, setup page usage, listen assignments, etc.
KEY ASGN	Access the intercom system scroll lists for key assignments.
LEVEL	Lets you adjust the range of VOLUME control or adjust the listen level for selected intercom keys.
PAGE (1-4)	Lets you assign a different page of key assignments
SERVICE	Provides access to less commonly used keypanel features.

The following paragraphs describe the use of the top-level menu items.

## Display Menu

### General Description

When you select **DISPLAY** from the top-level menu, you can access several menu items that display current information about the keypanel using the key displays, and the call waiting window.

### Display Menu, KEY ICOM

When you select **KEY ICOM**, the intercom system names for all key assignments appear in the display above the intercom keys. If there is only one intercom system, the word *LOCL* displays to indicate Local intercom.

The call waiting window also displays TAP KEYS. If the keypanel does not have alphanumeric displays for intercom key assignments, tap any key and the name of the intercom system to which that key is assigned appears in the call waiting window. If the key is not assigned, the call waiting window displays dashes.

To **return to the previous menu level**, do the following:

- > Double-tap the **Select control**.
- OR
- Press and hold the **Select control** for two seconds to clear the call waiting window, if desired.

### Display Menu, Key Type

When you select **KEY TYPE**, the type of key assignment (see below) for each key is displayed in the alphanumeric display above that key. If there is not an assignment, the display shows dashes (----).

The call waiting window also displays TAP KEYS. If the keypanel does not have alphanumeric displays for intercom key assignments, tap any key and the key type for that key appears in the call waiting window. If the key is not assigned, the call waiting window displays dashes.

**TABLE 2.** Key Assignment Types

TYPES OF KEY ASSIGNMENTS	
Key Assignment	Description
PL	Party Lines
IFB	IFBs
IFB SL	IFB Special Lists
ISO	Camera ISOs
P-P	Point-to-Point
RLY	Relays
SPCL	Special Lists
UPL	UPL Resources

To **return to the previous menu**, do the following:

- > Double-tap the **Select control**.
- OR
- Press and hold the **Select control** for two (2) seconds to clear the call waiting window, if desired.



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## Display, Port Num

When you select **PORT NUM**, the port number to which the keypanel is connected displays in the call waiting window.

**NOTE:** You will get a false reading if the keypanel address has not been correctly set using “SERVICE, SET ADDR” on page 27.

To **return to the previous menu**, do the following:

- > Double-tap the **Select control**.
- OR
- Press and hold the **Select control** for two (2) seconds to clear the call waiting window, if desired.

## Display, Version

Select **VERSIONS** to display the keypanel’s software version in the call waiting window.

**NOTE:** The PAM-16 version is easily updated from AZedit. See firmware download in AZedit help or the AZedit User Manual.

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## Key ASGN Menu

### Key Asgn, Clear

The **Clear** menu option is used to clear individual key assignments.

To **clear individual key assignments**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Clear.
4. Tap the **Select control**.  
*Tap Key appears in the call waiting window.*
5. Tap the **key** you want to clear the assignment from.  
*The assignment is cleared from that key.*
6. Double-tap the **Select control** and tap another key to clear its assignment.  
OR  
Press and hold the **Select control** for two seconds to exit.

### Key Asgn, Copy

The **Copy** menu option is used to copy an existing key assignment to another key.

To **copy a key assignment**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Tap the **Select control**.  
*Tap Orig. appears in the call waiting window.*
4. Tap the **key assignment** you want to copy (Orig key).  
*Tap Dest. appears in the call waiting window.*
5. Tap the **destination key or keys** you want to copy the assignment to.
6. Press and hold the **Select control** for two (2) seconds to exit.

---

**Key Asgn, Lists, ICOM**

ICOM displays only if your intercom system is connected to other intercom systems.

To **view the other intercom systems**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to ICOM.
4. Tap the **Select control** to choose ICOM.  
*A list of intercom systems appear in the call waiting window.*
5. Turn the **Select control** to display the desired intercom system.
6. Tap the **Select control**.  
*The call waiting window will display WAIT while the scroll lists are retrieved from that intercom system. Once the lists have been retrieved, you may use them just like the scroll lists for the local intercom system. See the descriptions for IFB, ICO, etc., that follow.*

**NOTE:** ICOM only appears in the menu list when the keypanel is attached to a trunked system.

**Key ASGN, Lists, PL (Party Lines)**

When you select **PL**, the list of party lines is displayed in the call waiting window.

To **locate the desired party line**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Tap the **Select control** to choose PL.  
*A list of party lines appear in the call waiting window.*
6. Turn the **Select control** to display the desired PL.
7. Tap the **Select control**.  
*The call waiting window displays WAIT while the PL scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
8. Turn the **Select control** to locate the desired party line.

To **assign the party line to an intercom key for future use**, do the following:

1. Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - Party line key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the party line list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

**Key ASGN, P-P (Point-to-Point)**

When you select **P-P**, the list of ports is displayed in the call waiting window.

To **locate the desired P-P**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to **P-P**.
6. Tap the **Select control** to choose P-P.  
*A list of P-P assignments appear in the call waiting window.*
7. Turn the **Select control** to display the desired P-P.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the P-P scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired P-P.

To **assign the P-P to an intercom key for future use**, do the following:

1. Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - P-P key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the P-P list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

## Key ASGN, Lists, IFB

When you select **IFB**, the IFB list appears in the call waiting window.

To **locate the desired IFB**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to IFB.
6. Tap the **Select control** to choose IFB.  
*A list of IFB assignments appear in the call waiting window.*
7. Turn the **Select control** to display the desired IFB.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the IFB scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired IFB.

To **assign the IFB to an intercom key for future use**, do the following:

- > Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - IFB key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the IFB list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

## **Key ASGN, Lists, IFSL**

When you select **IFSL**, the IFSL list appears in the call waiting window.

To **locate the desired IFSL**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to IFSL.
6. Tap the **Select control** to choose IFSL.  
*A list of IFSLs appear in the call waiting window.*
7. Turn the **Select control** to display the desired IFSL.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the IFSL scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired IFSL.

To **assign the IFSL to an intercom key for future use**, do the following:

- > Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - IFSL key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the IFSL list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

## Key ASGN, Lists, ISO

When you select **ISO**, the ISO list appears in the call waiting window.

To **locate the desired ISO**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to ISO.
6. Tap the **Select control** to choose ISO.  
*A list of ISO assignments appear in the call waiting window.*
7. Turn the **Select control** to display the desired ISO.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the ISO scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired ISO.

To **assign the ISO to an intercom key for future use**, do the following:

- > Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - ISO key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the ISO list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

## Key ASGN, Lists, RLY (Relays)

**RLY** can be used to activate relays in an FR9528, UIO-256, and GPIO-16 Frame. It may also be used to activate the GPI Outputs on the back of an ADAM CS frame (J903) or on an XCP-ADAM-MC Master Controller Breakout Panel in an ADAM intercom system (J11).

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control** to choose Key Asgn.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to RLY.
6. Tap the **Select control** to choose RLY.  
*The relay scroll list appears in the call waiting window.*
7. Turn the **Select control** to display the desired RLY.

8. Tap the **Select control**.  
*The call waiting window displays WAIT while the RLY scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired RLY.

To **assign the RLY to an intercom key for future use**, do the following:

- > Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - RLY key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the RLY list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

### **Key ASGN, Lists, SPCL (Special Lists)**

When you select **SPCL**, a list of special lists appears in the call waiting window.

To **locate the desired SPCL**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to SPCL.
6. Tap the **Select control** to choose SPCL.  
*A list of IFB assignments appear in the call waiting window.*
7. Turn the **Select control** to display the desired SPCL.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the SPCL scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired SPCL.

To **assign the SPCL to an intercom key for future use**, do the following:

1. Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - SPCL key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the SPCL list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

## Key ASGN, Lists, UPL

When you select **UPL**, a list of UPL Resources (URs) appears in the call waiting window.

To **locate the desired UPL**, do the following:

1. Turn the **Select control** to scroll to Key Asgn.
2. Tap the **Select control**.  
*Copy appears in the call waiting window.*
3. Turn the **Select control** to scroll to Lists.
4. Tap the **Select control** to choose Lists.  
*PL appears in the call waiting window.*
5. Turn the **Select control** to scroll to UPL.
6. Tap the **Select control** to choose UPL.  
*A list of UPL assignments appear in the call waiting window.*
7. Turn the **Select control** to display the desired UPL.
8. Tap the **Select control**.  
*The call waiting window displays WAIT while the UPL scroll list is retrieved. See the descriptions for IFB, ICO, etc., that follow.*
9. Turn the **Select control** to locate the desired UPL.

To **assign the UPL to an intercom key for future use**, do the following:

- > Press and hold the **Select control**, then tap a **keypanel key**.
  - If restrictions against key assignments have been imposed, the intercom key may ignore the assignment. In this case, contact the intercom system administrator if you need to make a change.
  - UPL key assignment changes are automatically uploaded to the intercom system and saved to the online configuration.
  - If you want to change or add a listen assignment, you must access menu mode and use the “Menus, KEY ASGN, General Description” on page 20.

To **return to the top-level menu from the UPL list**, do the following:

- > Double-tap the **Select control** twice.  
*If no action is taken for 30 seconds, the call waiting window clears.*

---

## Level Menu

The **LEVEL** menu displays crosspoint listen levels for point-to-point or party line key assignments. When you select **LEVEL** the call waiting window displays **TAP KEY**.

To **adjust the crosspoint listen levels**, do the following:

1. Turn the **Select control** until Level displays in the call waiting window.
2. Tap the **Select control**.  
*Tap key appears in the call waiting window.*
3. Press and hold **any key** that has a point-to-point or party line listen assignments, then turn the **Select knob** to adjust the crosspoint listen level ( $-99\text{dB}$  to  $+6\text{dB}$ ).

**NOTE:** The current listen level setting displays in the call waiting window. If the key is not a point-to-point or party line key, or if there is not a listen assignment, the call waiting window displays N/A when you tap the key.

4. Double-tap the **Select control** and tap another key to read its level.  
OR  
Press and hold the **Select control** for two (2) seconds to exit.

---

## Page (1 – 4) Menu

Each keypanel has four (4) setup pages of key assignments. One (1) setup page is used for the keypanel, and one (1) is used for each expansion panel (PAM-16 only). Or, if no expansion panels are connected, setup pages may be switched on the keypanel to provide a completely different set of key assignments for different conditions.

To **change setup pages**, do the following:

1. Turn the **Select control** to select the desired setup page.
2. Tap the **Select control**.
3. Tap **any key** on the keypanel or the expansion panel (PAM-16 only) where you want to assign the new setup page.  
*The new key assignments should appear on that panel.*

To **return to the top-level menu**, do the following:

- > Double-tap the **Select control**.  
*If no action is taken for 30 seconds, the call waiting window clears.*

---

## Select Control Operation in Service Mode

To **enter service mode**, do the following:

- > Turn the **Select control** to display SERVICE, then tap the **Select control**.

**NOTE:** If your keypanel displays (SERV) instead of SERVICE, this indicates that this mode has been locked, and you must enter the previously saved 4-digit passcode to gain access.

- The menus in SERVICE mode are displayed in “PAM-16 Keypanel Quick Reference” on page 29. To choose that menu, turn the **Select control** to display the desired menu in the call waiting window, the tap **SELECT**.
- To exit a selection and return to the previous menu level, double-tap the **Select control**.
- To exit menu mode immediately (from most locations) press and hold the **Select control** for two seconds. If no action is taken in menu mode for 30 seconds, the keypanel will automatically return to the top-level menu.

The following pages describe the Service menu options:

---

## Service Menu

### General Description

Use this menu to set the to set general operating features such as display brightness, etc.



## Service, Dimmer

**Dimmer** sets the brightness for the front panel displays.

To **set the front panel display brightness**, do the following:

1. Turn the **Select control** to Service.
2. Tap the **Select control** to choose Service  
*Dimmer appears in the call waiting window.*
3. Tap the **Select control** to choose Dimmer.  
*>>>>>>>> appears in the display window.*
4. Turn the **Select control** to set the desired brightness (clockwise to increase brightness, counterclockwise to decrease brightness).  
*You can preview the new brightness level in the call waiting window.*
5. Tap the **Select control** to activate the change for all the displays.
6. Double-tap the **Select control** to return to the previous menu level.  
OR  
Press and hold the **Select control** for two (2) seconds to exit menu mode.

## Service, Lock/unlock

Use **Lock/unlock** to lock or unlock menu mode. When menu mode is locked, the menu items under *Service* can only be accessed by entering a 4-digit passcode.

To **lock the menu**, do the following:

1. Turn the **Select control** to Service.
2. Tap the **Select control** to choose Service  
*Dimmer appears in the call waiting window.*
3. Turn the **Select control** to scroll to LOCK
4. Tap the **Select control** to choose LOCK.  
*The call waiting window displays TAP CODE.*
5. Using the keypad keys, enter a **4-digit passcode**.  
*When the last digit is entered, all windows briefly display asterisks while the passcode is being stored, then the keypad resets.*

To **unlock the menu**, do the following:

1. Turn the **Select control** to Service.
2. Tap the **Select control** to choose Service  
*Dimmer appears in the call waiting window.*
3. Turn the **Select control** to scroll to LOCK
4. Tap the **Select control** to choose LOCK.  
*Tap Code appears in the call waiting window.*
5. Tap the **keypanel keys** for the code.  
*UNLOCK appears in the call waiting window.*
6. Tap the **Select control** to choose UNLOCK.  
*When you select UNLOCK, asterisks briefly appear on all displays while the 4-digit passcode is being cleared, then the keypad resets.*

## Service, Mod Asgn

The information in this section applies when any of the following occurs:

- The call waiting window displays MD1 at power-up
- Key modules have been replaced

- EKP Expansion Panels and/or LCP Level Control Panels are being used with a PAM-16
- A group of 4 keys do not operate correctly

When any of these situations occurs, you may have to reprogram MOD numbers as described in the following paragraphs.

**How MODS Work**

The keypanels, expansion panels and level control panels in this product line all use a system of MODS (modules). MODS are simply groups of 4 (four) consecutive intercom system keys and their associated displays (or groups of 4 control knobs in the case of LCPs). The PAM-16 keypanel, on the other hand, can be used with various combinations of expansion panels and level control panels. In this case, you need to program each group of four (4) keys on the PAM-16 and any connected EKPs to a unique MOD number. And, if you are using LCP level control panels to adjust listen levels for intercom keys, you want to make sure that the MOD numbers for the level control knobs match the MOD numbers for the intercom keys. The LCP MOD numbers cannot be set from the PAM-16. They must be set by replacing the internal **ROM** (Read-Only Memory). Table 3 shows the default MOD numbers that are programmed into the various LCPs.

The default settings for LCPs will work when one LCP-12 is used with a PAM-16, or when one LCP-16 or LCP-20 is being used with one EKP-16 or EKP-20. However, there are two (2) situations where you will need to change the ROM in an LCP:

- When you want to use an LCP-12 with an EPAM-16
- When you are connecting more than one EKP, and you want to use LCPs with each EKP. If you need to change MOD numbers in an LCP, contact your intercom dealer for assistance.

**TABLE 3.** Default Module Number Assignments

**Keypanel/LCP-12 Default MOD Assignments**

MOD 1	Keys 1-4
MOD 2	Keys 5-8
MOD 3	Keys 9-12
MOD 4	Keys 13-16
MOD 5	Do not assign this MOD. It is used exclusively for the SELECT control and call waiting display on keypanels.

**EKP-16/LCP-16 Default MOD Assignments**

MOD 6	Keys 17-20
MOD 7	Keys 21-24
MOD 8	Keys 25-28
MOD 9	Keys 29-32

**EKP-20/LCP-20 Default MOD Assignments**

MOD 6	Keys 17-20
MOD 7	Keys 21-24
MOD 8	Keys 25-28
MOD 9	Keys 29-32
MOD 10	Keys 33-36

PAM-16 and EKP MOD numbers are setup using the instructions found at the “Procedure to Assign MODS” , below.

### Procedure to Assign MODS

If the keypad is currently displaying MD1 in the left side of the call waiting window, skip steps 1 through 3.

1. Turn the **Select control** to display MENU, then tap the **Select control**.
2. Turn the **Select control** to display SERVICE, then tap the **Select control**.
3. Turn the **Select control** to display MOD ASGN, then tap the **Select control**.  
*The currently assigned MOD numbers now appear in the displays above the keys on the keypad (and any connected EKPs connected to a PAM-16). Also, MD1 displays in the left side of the call waiting window. This signifies MOD1. The right side of the call waiting window indicates where the module is currently assigned. One of the following displays:*

*MAIN indicates the module is assigned to the keypad*

*EXP1 indicates the module is assigned to the first expansion panel*

*EXP2 indicates the module is assigned to the second expansion panel*

*NONE indicates the module is not assigned*

4. Turn the **Select control** until the MOD number you want to assign (MD1, MD2, etc.) is displayed in the left side of the call waiting window. Then, tap the **Select control**.

**IMPORTANT:** Read this instruction completely before proceeding!

> Turn the **Select control** to select the panel where you want to assign the MOD, BUT **DO NOT TAP SELECT YET**.

5. On the selected panel, identify the **group of 4 keys** where you want to assign the MOD.
6. Press and hold **any one of these 4 keys**, then tap the **Select control**.  
*After a few moments, the new MOD number should appear in the displays above the affected keys (if it was not displayed before) and the call waiting window confirms the MOD has been assigned as requested by displaying the MOD number and the panel where it was assigned.*
7. Double-tap the **Select control** to return to the previous menu level, then repeat **step 5** through **step 7** to assign additional MODs.  
 OR  
 Press and hold the **Select control** for two (2) seconds to exit menu mode.

### Using Multiple Expansion Panels (PAM-16 Only)

When using multiple expansion panels, some MOD numbers may have to be reassigned so each group of four (4) keys has its own unique MOD number. Table 3 on page 24 shows the correspondence between MOD numbers, key numbers, and setup pages.

#### EXAMPLE: Connecting one EKP-20 along with a PAM-16

Use the default MOD numbers as shown in Table 3 on page 24. Next, assign setup pages, see “Page (1 – 4) Menu” on page 22. You should assign one setup page as MAIN. This page corresponds to the keys on the PAM-16. Assign a second setup page as “EXP1”. This page corresponds to the first 16 keys on the EKP-20. Assign a third setup page as “EXP2”. The first four (4) keys on this setup page corresponds to the remaining four (4) keys on the EKP-20. The remaining 12 keys on the setup page are not used. If you want to connect LCPs, you can use one LCP-12 and one LCP-20 without changing the ROMs.

#### EXAMPLE: Connecting two EKP-20 Expansion Panels along with a PAM-16

From Table 3 on page 24 you can see the EKP-20 has default MOD numbers 5 through 9. One of the EKPs must therefore be reprogrammed to use MOD 10 through 14. Also, assign one setup page a *MAIN*. (To assign setup pages, see “Page (1 – 4) Menu” on page 22) This page corresponds to the keys on the PAM-16. Assign a second setup page as *EXP1*. This page corresponds to the first 16 keys on the first EKP-20. Assign a third setup page *EXP2*. The first four (4) keys on this setup page corresponds to the first 12 keys on the second EKP-20. The remaining 12 keys on this setup page corresponds to the first 12 keys on the second EKP-20. Assign the last setup page as *EXP3*. The first eight (8) keys on this page corresponds to the remaining 8 keys on the second EKP-20. The remaining eight (8) keys on the setup page are not used. If you want to connect to LCPs, you can use one LCP-12 for the PAM-16 and one LCP-20 for the first EKP-20 without changing the ROMs. You must change the ROM in the second LCP-20, however, to match the MOD number for the second EKP-20.

**TABLE 4.** The relationship between setup pages, key numbers and MOD numbers.

#### Setup Page 1

Keys 1-4	MOD 1
Keys 5-8	MOD 2
Keys 9-12	MOD 3
Keys 13-16	MOD 4

#### Setup Page 2

	MOD 5 Do not assign this MOD ever! It is used exclusively for the SELECT control and call waiting display.
Keys 17-20	MOD 6
Keys 21-24	MOD 7
Keys 25-28	MOD 8

#### Setup Page 3

Keys 29-32	MOD 9
Keys 33-36	MOD 10
Keys 37-40	MOD 11
Keys 41-44	MOD 12

#### Setup Page 4

Keys 45-48	MOD 13
Keys 49-52	MOD 14

**TABLE 4.** The relationship between setup pages, key numbers and MOD numbers.

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<b>Setup Page 1</b>	
Keys 53-56	MOD 15
Keys 57-60	MOD 16

---

## SERVICE, MODE

The **Mode** menu determines how the keypanel handles active keys.

There are three (3) modes of operation:

*Many* –MANY mode gives preference to many keys being on at once. Tap any key to latch it in the ON position. The green LED is lit while the key is ON. You can tap several keys to latch them ON.

In MANY mode, if a key is held down for 2–3 seconds, this key becomes active and turns OFF any latched keys currently latched ON. Upon release of the held key, the previous latched ON key returns to the ON state.

*Monitor* –MONITOR mode allows the user to listen (monitor) to any crosspoint on the PAM-16 when the key is active.

*One* –ONE mode gives preference to a single active key. Tap a key to turn it ON. The green LED lights. When you tap another key, the first key turns OFF and the second key turns ON.

In ONE mode, if a key is held down for 2–3 seconds, this key latches ON and does not turn OFF when the next key press occurs. It remains latched ON until it is pressed again, returning it to normal ONE mode operation.

## SERVICE, RESET

**RESET** restores all items on the SERVICE menu (except MOD ASGN) to the factory default settings. RESET also resets the VOLUME to minimum at power-up. RESET does not affect any of the key assignments you create using KEY ASGN menu: these assignments are saved at the intercom system and not the keypanel.

1. After you select **RESET**, the displays show asterisks for a few moments.  
*SET ADDR displays as if the keypanel is being powered up for the first time.*
2. You must reenter the correct keypanel address. “SERVICE, SET ADDR” on page 27.

## SERVICE, SET ADDR

**SET ADDR** must be used during installation or whenever the keypanel is reset or moved to a new port.

### *Determine the Keypanel Address, CS9XXX Intercoms*

For intercom port numbers ending in 1 through 9, the keypanel address is the last digit of the port number. If the last digit of the port number is 0, use 10 as the keypanel address.

### *Determine the Keypanel Address, ADAM and ADAM CS Intercoms*

See, Table 1 on page 11.

### *Determine the Keypanel Address, Zeus Intercom Systems*

The address is the number (1–8) printed next to the connector on the back panel of the Zeus Frame. This number repeats for each group of eight (8) connectors. The intercom system is able to distinguish between two (2) keypanels set to the same address by the group where each one is connected.

To **set the keypanel address**, do the following:

1. While SET ADDR is displayed, tap the **Select control**.  
*ADDR 1 appears in the call waiting window.*
2. Turn the **Select control** to display the desired logical keypad address (ADDR 1 through ADDR 10), then tap the **Select control**.  
*The new setting is automatically saved, and after a few moments, the alphanumeric displays change from asterisks (\*\*\*\*) to dashes (----).*
3. Double-tap the **Select control** to return to the previous menu level.  
OR  
Press and hold the **Select control** for two (2) seconds to exit menu mode.

## **SERVICE, TEST PNL**

**TEST PNL** lets you check operation of indicators and controls.

When you select TEST PNL, the following sequence occurs:

- a. Percent (%) symbols appear on all alpha-numeric displays to verify operation.
- b. All tri-color indicators will flash green—yellow—red—off. All single-color indicators will flash green-off. This verifies the operation of all indicators displays.
- c. The call waiting window will display TAP KEYS.
- d. If you tap **any intercom key**, the display above that key briefly displays OK.  
*If you turn either the SELECT or VOLUME control, the alphanumeric display above the control increments or decrements by ones at each detente. If you tap the SELECT or VOLUME control, the call waiting window displays OK. This verifies operation of all controls.*
- e. Double-tap the **Select control** to return to the previous menu level.  
OR  
Press and hold the **Select control** for two (2) seconds to exit menu mode.

# *PAM-16 Keypanel Quick Reference*

## *Quick Reference Menu*

<i>MENU ITEM</i>	<i>DESCRIPTION</i>
<b>DISPLAY Menu</b> See “Display Menu” on page 14.	
<b>KEY ICOM</b>	Displays intercom system to which each key is assigned.
<b>KEY TYPE</b>	Displays type of key assignment for all assigned keys (P-P, PL, IFB, etc.)
<b>PORT NUM</b>	Displays the intercom port number that the keypad is connected to.
<b>VERSION</b>	Displays the firmware version for the keypad.
<b>KEY ASGN Menu</b>	
<b>CLEAR</b>	Clears talk/listen assignments. (Does not clear key options, see “CLR OPT” in KEY OPT menu.)
<b>COPY</b>	Copies one key’s assignment to another key
<b>LISTS</b>	
<b>ICOM</b>	Accesses another intercom system for key assignment (trunked intercoms only).
<b>PL</b>	Accesses party line list for key assignment
<b>P-P</b>	Accesses point-to-point list for key assignment.
<b>IFB</b>	Accesses IFB lists for key assignment
<b>IFSL</b>	Accesses IFSL lists for key assignments
<b>RLY</b>	Accesses the intercom system’s list of relays for key assignment.
<b>SPCL</b>	Accesses special lists for key assignment.
<b>UPL</b>	Accesses UPL resources for key assignment.
<b>LEVEL</b> See “Level Menu” on page 21.	Lets you adjust the listen level for any key assigned to an intercom port or party line.
<b>PAGE 1-4</b> See “Page (1 – 4) Menu” on page 22.	Changes setup pages on the keypad or any connected expansion panels.
<b>SERVICE Menu</b>	
<b>DIMMER</b>	Adjusts brightness of displays.
<b>LOCK</b>	Locks out access to all SERVICE menu items, and locks HDST / SPKR / PRGM selection.
<b>MOD ASGN</b>	Defines which keys occupy which positions on the keypad and expansion panels.
<b>MODE</b>	Defines the listen key operation mode: Many, Monitor, or One.
<b>RESET</b>	Clears all settings that are saved locally at the keypad.
<b>SET ADDR</b>	Sets the logical keypad number, or keypad address.
<b>TEST PNL</b>	Tests keys, controls and displays.

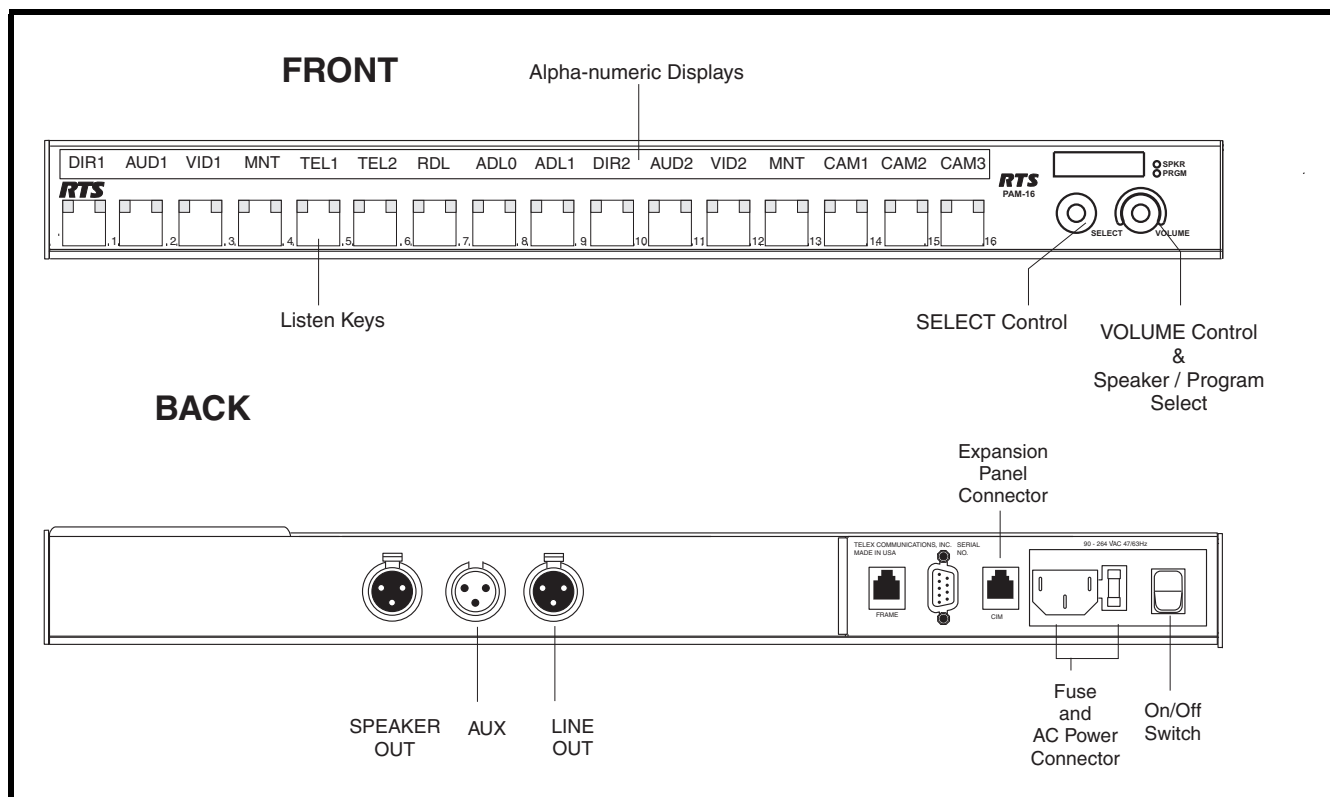


FIGURE 3. PAM-16 Reference View





